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Eco² 2010 Yokohama

International Conference on Eco² Cities

21–22 October 2010

Workshop for East Asia Pilot Eco² Cities

23 October 2010



PACIFICO Yokohama, Japan



CONFERENCE PROCEEDINGS



Ministry of Finance Japan



Ministry of the Environment

Cities Alliance
Cities Without Slums





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ABBREVIATIONS

3R	reuse, reduce, recycle
ADB	Asian Development Bank
APEC	'Asia-Pacific Economic Cooperation
ASEAN	Association of South East Asian Nations
BRT	<i>Bus Rapid Transit</i>
CDIA	Cities Development Initiative for Asia
CLC	Centre for Liveable Cities
CO ₂	carbon dioxide
COP	conference of the parties
DDP	department-to-department partnership
Eco ² Cities	ecological cities as economic cities
ESC	Environmentally Sustainable Cities
FEURR	Finance, Economics and Urban Development
FY	fiscal year
GDP	gross domestic product
GHG	greenhouse gas
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit GmbH
HCMC	Ho Chi Minh City
HLS	High Level Seminar
IR3S	Integrated Research System for Sustainability Science
JICA	Japan International Cooperation Agency
JPY	Japanese Yen
LGU	Local Government Unit
METI	Ministry of Economy, Trade and Industry
MLIT	Ministry of Land, Infrastructure, and Transport
MOE	Ministry of Environment'
MOF	Ministry of Finance
MOFA	Ministry of Foreign Affairs
MOU	<i>Memorandum of Understanding</i>
MRT	Mass <i>Rail</i> Transit
NEDO	New Energy and Industrial Technology Development Organization
NGO	non government organizations
PPP	Public Private Partnership
U.K.	<i>United Kingdom</i>
UN ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNIDO	United Nations Industrial Development Organization.
USD	US dollar
WB	World Bank
YCG	Yokohama City Government
Y-PORT	Yokohama Partnership for Resource Transfer

Yokohama Declaration International Conference on Eco² Cities Joint Declaration on Sustainable Urban Development

Act Now, Act Together, Act Differently

The first international conference on Eco² Cities (Ecological Cities as Economic Cities) was jointly organized by the World Bank and the Japan International Cooperation Agency (JICA), co-sponsored by the City of Yokohama and supported by Japanese ministries including the Ministry of Land, Infrastructure, Transport and Tourism, the Ministry of Finance, the Ministry of Economy, Trade and Industry, the Ministry of Foreign Affairs and the Ministry of Environment, as well as the New Energy and Industrial Technology Development Organization of Japan (NEDO), Cities Alliance, CITYNET and Yokohama City University (YCU) and held in Yokohama, Japan, on October 21 and 22, 2010, to promote sustainable urban development, including the construction of climate resilient cities in terms of both mitigation and adaptation. Mayors, chairpersons, national and local government officials, municipal associations, businesses, academia and bilateral and international development organizations came together to learn and discuss the wide perspectives of sustainable urban development issues, including adaptation and mitigation of the impacts of climate change and building on the concept of the Eco² (Ecological Cities as Economic Cities) Initiative that helps cities achieve economic and ecological sustainability while promoting social equity. The conference allowed the participants to learn good practices from both developed and developing countries as well as from the public and private sector and to deliberate on ways to achieve sustainable urban development.

The participants thank the Japanese Government for supporting the first East Asia Eco² program as well as the Eco² 2010 Yokohama conference, through the Cities Alliance Noncore Fund Program, and thank the City of Yokohama for hosting the conference.

Acknowledging the need for a united and concerted effort among key stakeholders in the materialization of sustainable urban development, the participants of the conference declare the following joint statements based on the proposals and discussions coming out of the conference.

1. Challenge and Opportunity of Unprecedented Scale of Urbanization in Developing Countries

The participants recognize that global urban expansion poses a fundamental challenge and opportunity for cities, nations and the international development community to plan, develop, build and manage cities that are ecologically sustainable, economically sustainable and socially equitable.

- a. Cities are engines of economic growth, accounting for 75% of global GDP. Urbanization, therefore, can be a driving force for poverty reduction.
- b. At the same time, urbanization creates environmental and socioeconomic challenges with cities accounting for 67% of global energy consumption and over 70% of global greenhouse gas emissions while housing more than 810 million slum dwellers, or one third of the urban population in developing countries.
- c. Cities are reliant on biodiversity to provide ecosystem services such as clean water and pollination; however they also impact negatively on biodiversity by destroying habitats and contributing to climate change.
- d. Cities in developing countries are vulnerable to the impacts of climate change due to their concentration in coastal areas as well as their limited financial, institutional and technical capacities to mitigate and adapt to these impacts.
- e. Rapid urbanization combined with the predicted changes to climatic and ecological systems pose cities, nations, businesses, local communities and the international development community with an extraordinary challenge.
- f. This challenge is also an opportunity to plan, develop, build and manage cities that are more ecologically sustainable, economically sustainable, socially equitable and resilient to diversified risks.
- g. Cities in developing countries can achieve environmental sustainability while promoting development and reducing poverty by building on the concept of Eco² Cities, but this requires them to have strong political commitment to their tailor made programs, developed based on sound analysis, taking account of specific local conditions and needs together with strong support from national governments. Cities in developed countries must also work on the huge task of making existing cities sustainable and climate resilient by retrofitting inefficient systems and promoting innovative new systems and technologies.
- h. Financial and technical assistance from the international development community can facilitate sustainable development. This is especially true given the magnitude and complexity of the challenges faced by rapidly growing cities, including the need for mitigation and adaptation to climate change.

2. Strategy Leading to Sustainable Urban Development

The participants agree that it is critical to ensure balanced approaches that bring together economic, ecological and social planning and management. For cities today these systems are so interconnected that success in one area requires success in the other in the short and long term. The strategy leading to sustainable urban development needs to embody this powerful synergy and interdependence as its conceptual foundation.

- a. By adopting a strategy that builds on the synergy and interdependence of ecological, social and economic sustainability and their fundamental ability to reinforce each other, cities can create economic values and opportunities and enhance social assets while fully harnessing the benefits of ecological systems and protecting them for future generations.

- b. Adopting this strategic approach requires that local governments:
- lead a development process that takes into account their specific circumstances, including their local economies, societies and ecology in full collaboration with and guidance from national governments.
 - accomplish sustained synergy in urban planning and management by coordinating and aligning the actions of a wide range of key stakeholders through an expanded platform for collaboration.
 - plan, design, and manage the whole urban system by integrating and optimizing its key subsystems, including its ecological systems.
 - adopt an investment framework that values sustainability and resiliency by incorporating and accounting for lifecycle analysis, the value of all capital (manufactured, natural, human, and social) and a broader scope of risk.
 - collaborate with other organizations, entities and their citizens to promote sustainable urban development.
 - ensure that their key players, including private sector and citizens, continually work on capacity building with national governments and the international development community.

This strategy can be materialized by promoting and adopting innovative urban planning and design practices and new technologies such as compact urban development, integration of public transport systems and land use plans, energy efficient buildings and infrastructure, smart grid systems that integrate centralized and decentralized energy sources, comprehensive water and waste water systems and recycling and conversion systems.

3. Roles of Key Stakeholders

The participants encourage all stakeholders to proactively contribute to the achievement of sustainable urban development with each recognizing their areas of key responsibilities and comparative advantages.

- a. National governments play a leading role in mainstreaming sustainable urban development by strong political will and commitment, adopting sound policy, regulatory, financial and institutional frameworks to enable local governments to adopt innovative, self-reliant solutions, and by providing assistance to local governments.
- b. Local governments play a primary role for managing change and leading an integrated approach at the city level. Only at the city level is it possible to integrate the many layers of site-specific information (including ecological conditions) and to work closely with stakeholders.
- c. Municipal associations promote city to city cooperation by building networks with national and local governments, NGOs, international agencies and by contributing to knowledge and experience sharing. In promoting sustainable urban development it is important to promote international partnerships among cities to learn and share good practices and experiences.
- d. The private sector contributes to the achievement of sustainable urban development by

mobilizing the required financial, technological and managerial resources, while mainstreaming the principles of ecological and economic sustainability and equity in their respective activities. This sector could concert with local governments through a Public-Private Partnership (PPP) scheme. By investing in green growth, the private sector can also contribute to economic growth and create green jobs.

- e. Academia can play an important role in helping cities and their supporting organizations formulate and implement the policies and strategies to achieve sustainable urban development based on their knowledge and analytical capacities. Academia also works to foster cooperation among different stakeholders to promote sustainable urban development, by creating and sharing knowledge and by promoting discussions, research, education and training.
- f. Citizens and civil society organizations can raise awareness of sustainability, engage meaningfully and continuously in decision-making processes, monitor implementation, and take joint actions with city partners to positively mobilize both individuals and their communities in promoting positive behavioral changes.
- g. The international development community should support national and local governments that have demonstrated strong ownership of and commitment to pursue sustainable urban development. The support ranges from policy dialogues and information exchange, as well as providing technical and financial support. The international development community can also support national and local governments with knowledge and experience sharing through global partnerships among cities to learn and share good practices and experiences.

4. Message to APEC

The participants appreciate that APEC member economies are considering sustainable growth as one of the five attributes of their regional growth strategy. The participants request the national governments participating in the international APEC Leaders meeting to be held in Yokohama in November 2010 to mainstream sustainable urban development and low carbon economies and societies in their national priorities.

We further request the national governments participating in the international APEC Leaders meeting to adopt policies and pass regulatory, financial and institutional frameworks while expressing commitment to enable local governments to attain sustainable urban development and low-carbon economies and societies.

ACT NOW, ACT TOGETHER AND ACT DIFFERENTLY

To conclude this declaration, the participants urge that we must Act Now, Act Together and Act Differently to materialize sustainable urban development, including the construction of climate resilient cities in terms of both mitigation and adaptation.

Ü **Act Now**, because what we do today shapes the climate, ecological systems and habitat of tomorrow and the options available to future generations. We have a unique

opportunity to plan, develop, build and manage cities that are concurrently ecologically sustainable, economically sustainable and socially equitable. The decisions we make together today can lock in systemic benefits for the present and future generations. The cost of delay or inaction is too high. We only have a short time horizon within which to impact the trajectory of urbanization in a lasting and powerful way.

- ü ***Act Together***, because no country on this planet is immune to the consequences of ecosystem degradation and climate change caused mainly by human activities concentrated in urban areas. Acting together is key to keeping the costs down and effectively tackling both adaptation and mitigation of climate change and the protection of the ecological systems that we rely on for our survival. Cities are important in this action as they are a large part of the sources of these challenges as well as the sources of solutions. In addition to this, the majority of the world's population living in urban areas, especially the urban poor, will suffer most from climate change and ecosystem degradation.
- ü ***Act Differently***, because new and innovative approaches are required to enable a sustainable future in a changing world. In the next few decades the world's cities and energy and resource management systems must be radically transformed so that global emissions drop, resource waste reduces drastically and ecological systems flourish. We propose to promote innovative urban planning, design and management, such as well-integrated compact urban design and diversified energy/resource efficiency and renewable energy and waste recycling technologies. Infrastructure must be built to withstand the increase in natural disasters caused by our changing climate.

Participants of the International Conference on Eco² Cities

October 22, 2010, Yokohama Japan

- Keynote Speech- Ms. Inger Andersen

Good Morning:

Mr. Oshima, Senior Vice President of JICA;

Honorable Mayor Hayashi;

Mr. Taketoshi, Vice Minister of the Ministry of Land, Infrastructure, Transport and Tourism;

Excellencies, Ministers and Mayors from cities and countries across the world;

Delegations of Eco2 pilot countries and cities from East Asia; and

Distinguished speakers, guests, ladies and gentlemen.

I am very pleased to be at this opening of Eco2 2010 here in Yokohama to discuss sustainable urban development. I believe it is one of the biggest challenges we face this century.

We are particularly grateful to the city of Yokohama for hosting this conference. Your city, Madame Mayor, is a shining example of what cities can achieve. Yokohama has a GDP equal to that of New Zealand. It is the largest port of Japan. Yet it is very livable city.

From a tiny fishing village 150 years ago, Yokohama has become the largest incorporated city in Japan, with 3.6 million people. More than being a large well-managed city with a strong economy though, Yokohama is known for other things and they should be of interest to us.

For one, city leaders have shown great foresight in the way they have built resilience within Yokohama to the typhoons and earthquakes that have devastated the city in the past. Also, in the 1960s, like other industrialized urban areas in Japan, Yokohama was a polluted city. But that has changed. I understand that the beautiful place where we are gathered today, called PACIFICO, used to be an old shipbuilding dockyard.

At this conference, we are very interested to learn more how you have successfully managed this process, overcoming the many challenges of rapid population influx, pollution and natural disasters. We would also like to know more about how you have re-structured your economy, moving from a manufacturing base to a city today powered by high technology and service industries. You have much to share with us, and we have much to learn.

My native country is Denmark at the northern edge of Europe. In Europe, countries have built relatively compact cities over the long time period since the medieval age when cars did not exist. Our model of compact cities, with citizens living and working in the same areas, is one model for urban development.

The United States and Canada, on the other hand, with the advantage of vast land areas, have pursued another model, building cities in large spaces and using the automobile to connect far-flung residential suburbs with economic and industrial city centers. In Japan, you have had other challenges. In this country, there are 128 million people occupying 30% of the available land, and sharing this space with agriculture, commerce, and industry. This has created one of the highest population densities in the world. Your experience in urban development, here in Yokohama and across Japan, is relevant to many cities in developing countries that are also

experiencing rapid urbanization under similar conditions.

We can also learn from Japan's private sector. Japan imports almost 100% of its oil and many other mineral resources. In addition, much industry here operates in high density areas. This has led Japanese businesses to develop highly energy- and resource- efficient manufacturing and industrial systems, along with state-of-the-art pollution control technologies. As a result, Japan's CO2 emissions per capita are the lowest of the G-7 countries. At this conference, we look forward to hearing of Japanese experiences in sustainable urban development, and the cutting-edge performance of Japanese businesses.

Let me turn for a moment to some of the climate and ecosystem challenges that we, the global community, are facing today. This year, Japan experienced the hottest summer on record. In Russia, smog from intense forest and peat fires shrouded the capital city of Moscow, threatening the health of its citizens. In Pakistan, devastating floods killed more than 1,750 people and seriously affected 18 million more.

Scientists tell us that 22% of plant species on this planet are threatened with extinction. The International Union for the Conservation of Nature tells us that one in four mammals also face extinction, as well as one in eight birds and one in every three amphibians and corals. Furthermore, new research indicates that higher rates of extinction of species are expected in the future.

Despite much progress in environmental protection, we are losing the productivity of the land, the seas, and ecosystems that we all rely on. We are losing the buffering capacity of our natural environment as climate change accelerates.

Next week, I will be in Nagoya at the United Nations conference on biodiversity, and I will be discussing these issues. We know that these climate and biodiversity anomalies are caused or aggravated by human activities, especially activities originating in urban areas. Many scientists have warned that the human ecological footprint has already exceeded the limit that one planet can sustainably support.

Developing countries are expected to bear most of the cost of the damages arising from the changes to our natural and ecological systems caused by human activities. In particular, developing countries will be among the first to suffer the impact of climate change—yet those are the very countries that have done the least to cause climate change, and they are also the least prepared for its impacts.

Many people in developing countries, especially the poor, live in physically exposed locations and economically precarious conditions. Their financial and institutional capacity to adapt is limited. The earth's warming climate is making the challenge of development more complicated, and the Millennium Development Goals more difficult to achieve. And this is occurring even as one in four people still live on less than USD1.25 per day, and over a billion people do not have sufficient food to meet their daily basic needs.

Destruction of the ecosystem such as rainforest affects poor people proportionally more than wealthy people because poor people depend more directly on the food and energy provided by

the ecosystems in which they live.

Some 1.5 billion people in the developing world still lack access to electricity. This means that these developing countries need a huge expansion in their energy, transport, and urban systems. They also need a huge expansion in agricultural production to produce the food they need. But the traditional way of increasing access to energy and increasing agricultural production will mean increasing greenhouse gas emissions even more.

The challenge we face is nothing less than the survival of the human race and our planet. The question to ask ourselves then is “how can we, developed and developing countries, working together, create a sustainable development path, mitigating or reversing degradation of the environment and ecosystem? And, how can we seize this global transition as an opportunity to simultaneously achieve three aspects of sustainable development: economic growth, social equity, and ecological balance?”

While this task is difficult, the good news is that sustainable development is possible. It is possible—but only if, together, we mobilize all possible measures: political will, sound policy, institutional responsiveness, new technology, robust finances, continuing education, and even behavior change.

There are examples where progress is being made. For instance, investing in energy efficiency and renewable energy yields significant returns which have multiple beneficial impacts—not just on greenhouse gas reductions, but on the economy as a whole.

We know that it is possible to cut energy consumption in cities by 20–30% without sacrificing growth. In fact, this “green investment” can create many jobs in urban areas, and thus stimulate growth.

China is now the second largest producer of wind power in the world and the biggest exporter of photovoltaic systems. China’s renewable energy sector employs 1.5 million people alone—1.5 million people who were not working in this sector a decade ago.

Another piece of good news is that many developing countries are also following your example, as seen by the participation of high level government and city officials from many important East Asian countries that are here with us today.

I think we all share the belief that developing countries can promote development and reduce poverty while achieving environmental sustainability. But this depends on strong commitment to, and ownership of, this agenda by governments and cities in developing countries, combined with financial and technical assistance from high-income countries.

Green growth for all requires a partnership and a moral contract. Advanced economies, like Japan, the US, and Europe, must act to reduce their own footprints and greenhouse gas emissions by investing in research and development in energy- and resource-efficient technologies, and by changing consumption patterns.

Developing countries, on the other hand, must receive adequate financial and technical assistance from the international community to reduce water or air pollution in growing cities,

while also launching on a path of low carbon, energy efficient growth. Cities play a fundamental role in making these things happen, and the Eco2 Cities agenda you will all be deliberating on will enrich our collective insight on how to move forward on this agenda, faster and more inclusively.

Ladies and gentlemen, I don't need to tell you that urbanization in developing countries is a defining feature of the 21st century. Over 90% of all urban growth worldwide is taking place in developing countries. By the middle of this century, within the lifespan of many in this room, Asia alone will host 63% of the world's urban population, an astonishing 3.3 billion people.

In the World Development Report 2009: Reshaping Economic Geography, we highlighted "agglomeration economies" as the rationale for this rapid urbanization process. Urbanization has enabled economic growth across all regions and liberated millions of people from poverty. Urban areas currently account for three quarters of global economic production. Urban areas are the engine of growth in most countries of the world.

At the same time, we also know that urbanization is not neutral in its impact. It causes environmental degradation: cities consume about two-thirds of all global energy, and they produce over 70% of global greenhouse gas emissions.

Urbanization can cause social degradation: while millions of people have risen out of poverty in cities, others have been condemned to a life of poverty in slums as cities struggle to keep up with massive population inflows. More than 810 million people, or one out of every three people living in cities in developing countries, are living in a slum. If no firm and concrete actions are taken, the number of slum dwellers will increase to 2 billion over the next 25 years.

Over the past week, I have had the privilege of being in Vietnam and China to see for myself the enormous challenges faced by cities in this region. Yesterday, I met with the Vice Minister of Ministry of Housing, Urban and Rural Development of China in Beijing, discussing urbanization and the challenge of leapfrogging to green growth. China is experiencing an unprecedented scale of urbanization. It is estimated that 350 million people will be added to China's urban population by 2025, more than the population of the United States today. One billion people will live in China's cities by 2030.

In addition to this urbanization movement, there is growing concern about the vulnerability of urban populations in many coastal cities: vulnerability to sea level rise, to stronger and more frequent typhoons, and to unpredictable floods. Many of the largest Asian cities are situated in flood plains, making the risks of physical destruction of infrastructure as great a concern as the risk to populations.

I was in Can Tho City in Vietnam's Mekong delta last Sunday. There, I was very impressed with the strategic thinking and planning that city officials have already carried out. In China, I saw the impressive strides made in energy efficiency in cities and in industries. I am pleased to inform you that the Bank's Board has just approved GEF Tianjin Eco City Project to support China's effort in building energy efficient and low carbon city.

Both these aspects—building resilience to uncertain natural events and helping cities launch low carbon strategies—are important pillars of sustainable development. In this context, the idea of Eco2 ecological cities as economic cities makes perfect sense. I congratulate the organizers of this conference for bringing together a “comprehensive” perspective that encompasses the urban, transport, energy, water, social, and environmental dimensions of economic development.

The Eco2 Cities’ integrated, cross-sectoral approach to achieving economic and ecological sustainability, as well as social equity, is one of the most important elements of the World Bank’s new Urban and Local Government Strategy. The challenge is obviously in implementation. What we see is the need for each city to chart its own unique action plan, its own sustainable Eco2 City pathway. This will encompass policy reforms, investments in strategic or catalytic projects, and capacity building within organizational structures.

The good news is that innovative cities around the world have demonstrated that, with an appropriate strategic approach, they can greatly enhance their energy and resource efficiency while simultaneously decreasing pollution and waste. By doing so, they have improved the quality of life for their citizens, enhanced their economic competitiveness and resilience, strengthened their fiscal capacity, and created a lasting culture of sustainability.

At the same time, many of their interventions have also significantly benefited the poor. Urban sustainability of this kind is a powerful and enduring investment that will pay compounding dividends. I am sure you will agree with me that, in the fast-paced, globalized world we live in today, with uncertainties in the global economy, and with unpredictability in climatic and ecological conditions, sustainable cities are the most likely to survive shocks, attract businesses, manage costs, prosper, and reduce poverty.

During this conference, we will learn valuable lessons on sustainable development from Eco2 global good-practice cities: Stockholm, Malmo in Europe, but also Curitiba, Singapore, and Ahmedabad, as well as several Japanese cities, including our host city today, Yokohama. It is because we want to enable all cities in developing countries to move to a more rewarding and sustainable growth trajectory, while the window of opportunity is still open to them, that the World Bank has supported the Eco2 Cities initiative.

This is a forum for exchanging information and experiences, for showing others what works, and what doesn’t – and for learning from each of you. Whether you come from my old continent of Europe or from the strong and rising economies of Africa, Latin America, or Asia, you each have a story to tell and an experience to share.

Ladies, and gentlemen, to materialize sustainable development and to build low carbon economies and societies, I can look no farther than the words of our recent World Development Report on climate change. We need to act now, act together and act differently.

Act Now because what we do today shapes the climate, ecological systems, and habitats of tomorrow, as well as the options available to future generations. The cost of delay or inaction is too high.

Act Together because no country on this planet is immune to the consequences of ecosystem degradation and climate change. We must act together to keep costs down and to tackle effectively the mitigation of greenhouse gasses, the adaptation to climate change, and the protection of the ecological systems that we rely on for survival.

Act Differently because new and innovative approaches are required to enable a sustainable future in a changing world.

In the next few decades, the world's cities and energy and resource management systems must be rapidly transformed so that global emissions drop, resource waste is reduced drastically, urban sprawl is controlled and infrastructure is built to improve resilience to our changing climate. We must do nothing less than go through a revolution in thinking, in approaches, in implementation, and in impact.

It will not be easy, but it will be necessary. And it is through conferences like this, and people like you, that we can make it happen.

Ladies and gentlemen, allow me to conclude by expressing my appreciation to the Government of Japan for supporting this first "Eco2 East Asia & Pacific Program" including this Eco2 2010 Yokohama conference. Let me also thank JICA and the City of Yokohama, who have made this conference possible at such critical time and in such a dynamic city. I would also like to extend my thanks to the speakers and delegations from all over the world, including several Japanese cities, for joining us here to share valuable experiences and insights.

I hope you will have very productive learning sessions and constructive discussions today and tomorrow. I look forward to hearing of the outcomes in the form of the Yokohama Declaration, and I look forward to working with you and my colleagues at the World Bank as we advance together this idea of economically, socially, and ecologically vibrant, sustainable cities.

Thank you.

1 THE CONFERENCE

1.1 Background and Objective

Eco² 2010 Yokohama: International Conference on Eco² Cities, the first international conference on Eco² Cities, was held on 21–22 October 2010 in Yokohama, Japan. Organized by the World Bank (WB) and Japan International Cooperation Agency (JICA), co-sponsored by the Yokohama City Government (YCG), and supported by key Japanese ministries and agencies, such as the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Ministry of Finance (MOF), Ministry of Economy, Trade, and Industry (METI), Ministry of Foreign Affairs (MOFA), Ministry of the Environment (MOE), New Energy and Industrial Technology Development Organization (NEDO), City Alliance, CITYNET, as well as by Yokohama City University, the conference gathered some 250 participants, comprising government policy makers, urban managers and planners, researchers, corporate representatives, and students from some 24 cities and 14 countries.

Eco² Cities, which stand for ecological cities as economic cities, is the World Bank's approach to sustainable and integrated urban development and was launched in 2009 as part of the Bank's new corporate strategy.

Eco² 2010 Yokohama: International Conference on Eco² Cities, which was free and open to the public, had three objectives, as follows:

- (i) **Global Dissemination of Eco² Cities Initiative:** To disseminate the operational and analytical framework, especially the methodology and tools, of the Eco² Cities initiative. During the conference, the draft “Eco² Operations Guide” was introduced and discussed, together with various case studies.
- (ii) **Learning from Global Good Practices:** To introduce good practices of sustainable urban development, resource and energy efficiency, as well as greenhouse gas (GHG) reduction from global good-practice cities. This included learning from Japanese cities that have experienced rapid urbanization with high population density, as well as those vulnerable to various natural disasters such as earthquakes and typhoons. The Japanese private sector also shared their knowledge of innovative technology related to pollution control, resource and energy efficiency, as well as GHG reduction.
- (iii) **Learning from Pilot Eco² Operations in Asia:** To learn from the cities in East Asia where the World Bank has initiated pilot Eco² operations (i.e., Indonesia, Philippines, and Vietnam) about their experiences in formulating Eco² projects in terms of setting goals and objectives, preparing plans, building institutions, and meeting the challenges they faced in the initial stages of the Eco² operations.

At the end of the conference, the sponsors and participants adopted the **Yokohama Declaration** which called for the commitment to “act now,” “act together,” and “act differently” in pursuing the objectives of the Eco² Cities initiative.

1.2 Program

Eco² 2010 Yokohama:
International Conference on Eco² Cities (October 21 -22, 2010)
and
Workshop for East Asia Pilot Eco² Cities (October 23, 2010, by invitation only)

Venue: PACIFICO Yokohama, Japan

Visit the Conference Website for Details and Registration
<http://go.worldbank.org/KRP47JLUZ0>

Day One: Thursday, October 21, 2010 (09:00–17:50)

<i>Time</i>	<i>Session Title and Content</i>	<i>Presenter Name and Title</i>	<i>Room #</i>
8:00-9:00	Registration		Foyer
9:00-9:50	1: Opening		501-502
9:00-9:05	Welcome Remarks	Ms. Abha Joshi-Ghani Urban Sector Manager, Urban and Local Government Unit, Finance, Economics and Urban Department (FEUUR), World Bank	
9:05-9:20	Opening Remarks	Mr. Kenzo Oshima Senior Vice President, JICA	
9:20-9:35	Opening Remarks	Ms. Fumiko Hayashi Mayor, City of Yokohama, Japan	
9:35-9:50	Opening Remarks	Mr. Makoto Taketoshi Vice-Minister of Land, Infrastructure, Transport and Tourism (MLIT), Japan	
9:50-10:10	2: Keynote Speech Sustainable Development in the Century of Urbanization	Ms. Inger Andersen Vice President, Sustainable Development Network (SDN), World Bank	501-502
10:10-10:15	3: MOU Signing Ceremony WB -New Energy and Industrial Technology Development Organization (NEDO)	Ms. Inger Andersen Vice President, SDN, World Bank Mr. Seiji Murata Chairman, NEDO	
10:15-10:35	4: Eco² Cities <i>This session introduces the analytical and operational framework of Eco² including its four principles and their application method, which help cities in developing countries achieve greater ecological and economic sustainability.</i>	Mr. Hiroaki Suzuki Lead Urban Specialist, FEUUR, World Bank	501-502
10:35 - 10:50	Coffee Break		Foyer
10:50-11:20	5: Sustainable Green Growth		501-502
10:50-11:05		Mr. Takeshi Hikiyama Ambassador /Secretary-General for the Japan APEC Meetings in 2010, Ministry of Foreign Affairs (MOFA), Japan	
11:05-11:20		Mr. Haruhisa Somaya Councilor for APEC Ministry of Economy, Trade, and Industry (METI), Japan	

11:20-12:40	6: Global Eco² Cities <i>This session presents specific cases from global good practice cities and programs that are achieving ecological and economic sustainability in their local contexts.</i>	Chair: Mr. Vijay Jagannathan Infrastructure Sector Manager, Transport, Energy, Urban, Sustainable Development Unit, East Asia and Pacific Region (EASIN), World Bank	501-502
11:20-11:40	Swedish SymbioCity Program (with reference to Stockholm and Malmo)	Mr. Ola Göransson Deputy Director, Division for Sustainable Development, Ministry of the Environment, Sweden	
11:40-12:00	Integrated Transport- Land Use Planning, Curitiba, Brazil	Mr. Osvaldo Navaro Alves Former President, Institute for Research and Urban Planning of Curitiba (IPPUC), Brazil	
12:00-12:20	Emerging Sustainable City in South Asia – Experiences of transformation and challenges, Ahmedabad, India	Mr. H. M. Shivanand Swamy Professor and Associate Director, CEPT University, Ahmedabad, India	
12:20-12:30	Perspective of a Real Estate Developer in Asia	Dr. Alexis Onofre Corpuz Vice President, Ayala Land Inc., Philippines	
12:30-12:40	Q & A		
12:40- 13:40	Lunch Break	Lunch is not provided for general participants (Cafeteria on the 6 th floor will be available for all participants)	
	Global Partnership Luncheon (by invitation)		Room 512
	Lunch for invited delegates and speakers (by invitation)		6 th Floor
13:40-15:00	7: Programs Supporting Sustainable Urban Development <i>This session introduces innovative programs and approaches to support sustainable urban development by bilateral and multilateral agencies.</i>	Chair: Mr. William Cobbett Manager, Cities Alliance	501-502
13:40-14:00	ADB Program	Mr. Norio Saito Senior Urban Development Specialist, Urban Development Division, South Asia Department, Asian Development Bank (ADB) Ms. Priyanka Sood Urban Development Specialist, Regional and Sustainable Infrastructure Division, Regional and Sustainable Development Department, ADB	
14:00-14:20	JICA Program	Mr. Akihito Sanjo Director, Urban and Regional Development Division 2, Economic Infrastructure Department	
14:20-14:40	CLC Program	Mr. Hsing Yao Cheng Deputy Executive Director, Centre for Liveable Cities, Singapore	
14:40-15:00	Promotion of Environmentally Sustainable Cities under the Framework of the East Asia Summit	Mr. Akira Nitta Director, International Cooperation Office, International Strategy Bureau, Ministry of the Environment (MOE), Japan Mr. Toshizo Maeda Senior Researcher/ Acting Director, Kitakyushu Urban Centre, Institute for Global Environmental Strategies (IGES), Japan	

15:00-17:45	8: East Asia Eco² Pilot Operations <i>This session aims to learn from cities in East Asia, where the World Bank has initiated preparations for pilot Eco² operations (Indonesia, Philippines, and Vietnam), about their experiences in formulating Eco² projects: their visions, objectives, plans, institutional settings, and challenges at the initial stage of Eco² project preparation.</i>	Chair: Mr. Victor Vergara Urban Sector Leader, EASIN, World Bank Mr. Arish Dastur Urban Specialist, EASIN, World Bank	501–502
15:00-15:10	Indonesia's Urban Development Towards Inclusive and Sustainable Economic Growth	Mr. Peter Ellis Senior Urban Economist, Indonesia Sustainable Development Unit (EASIS), World Bank	
15:10-15:25	Indonesian Government	Mr. Max Hasudungan Pohan Deputy Minister for Regional and Local Autonomy, Bappenas/ State Ministry of National Development Planning	
15:25-15:40	Best Practice City Sharing: Waste Management Model, Surabaya Study Case	Mr. Ifron Hadi S. Head of International Relations, Cooperation Division, Surabaya City Government	
15:40-15:50	Q & A		
15:50 -16:05	Coffee Break		Foyer
16:05-16:15	Introduction of the Philippines' Eco ² Pilot Operations	Ms. Yan Zhang Country Sector Coordinator, Philippines Sustainable Development Unit (EASPS), World Bank	501–502
16:15-16:30	Towards Sustainable Urban Development in the Philippines	Mr. Nestor R. Mijares IV Deputy Director-General of the National Economic Development Authority, Government of the Philippines	
16:30-16:45	Philippine City	Mr. Ramon Asprer Chief of the Urban Poor Affairs Office, Quezon City	
16:45-16:55	Q & A		
16:55-17:05	Introduction of Vietnam's Eco ² Pilot Operations	Mr Andre Bald Sr. Infrastructure Specialist, World Bank	
17:05-17:20	Urban Development Strategy for Vietnam Cities System to 2050	Mr. Ngo Trung Hai General Director, Vietnam Institute for Architecture, Urban and Rural Planning, Ministry of Construction, Vietnam	
17:20-17:35	Can Tho: Planning and Sustainable Development	Mr. Nguyen Thanh Son Vice Chairman, Con Tho City People's Committee	
17:35-17:45	Q & A		
17:45-17:50	Closing and Announcement of Day Two Schedule	MC	
18:00- 19:00	Reception (by Invitation)		315

Day Two: Friday, October 22, 2010 (09:00–17:40)

Time	Title and Content	Name and Title	Room #
9:00-9:30 9:00-9:20	Plenary 1: Eco² Operations Guide <i>This session presents the outline of a practical and user-friendly operations guide currently being developed. It explains how to develop and implement Eco² operations, taking into account specific local conditions and needs.</i>	Mr. Sebastian Moffatt Eco ² Advisor, Consensus Institute	502
9:20-9:30	Q & A		
9:30-10:40	Plenary 2: Japanese Program for Sustainable Urban Development <i>This session introduces Japanese experiences with sustainable urban development and innovative systems and technologies that contribute to the development of highly energy/resource efficient and low carbon economies and societies.</i>	Chair: Mr. Hironori Hamanaka Chair, Board of Directors, Institute for Global Environmental Strategies (IGES), Japan	502
9:30-9:50	Summary of the Study of Japanese Experiences on Sustainable Urban Development	Dr. Shizuo Iwata Director, ALMEC Corporation	
9:50-10:10	Low-carbon City Development Guidance	Mr. Shuichi Kamata Senior Deputy Director, City Planning Division, City and Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan	
10:10-10:30	Sharing Economy and Co-Creation Society – A Vision from 2050 WG	Mr. Shinsuke Ito Deputy Director, Infrastructure and Advanced Systems Promotion Office, Manufacturing Industries Bureau, Ministry of Economy, Trade and Industry(METI), Japan	
10:30-10:40	Q & A		
10:40 - 10:55	Coffee Break		Foyer
10:55 - 12:55	3: Breakout Sessions A and B		
	3A: Breakout A Experiences of the Japanese Cities <i>Japanese cities have experienced rapid urbanization with high population density and have developed in geographical/ climatic conditions vulnerable to natural disasters. This session aims to learn from Japan's experiences that are relevant to cities in developing countries undergoing similar experiences.</i>	Chair: Dr. Shizuo Iwata Director, ALMEC Corporation	501
10:55-11:45	Gray to Green <i>This session discusses how two heavily polluted industrial cities have transformed their cities and economies to become technology- and knowledge-oriented, clean cities, leading the world in building low-carbon societies.</i>		
10:55-11:15	Kitakyushu City's Approach to a Low-carbon Society	Ms. Mayumi Oda Director, International Environmental Strategies Division, Environment Bureau, City of Kitakyushu, Japan	

11:15-11:35	Environmental Technology from Kawasaki to the World	Mr. Yukihiro Koizumi Director General, Economic and Labor Affairs Bureau, City of Kawasaki, Japan	
11:35-11:45	Q & A		
11:45-12:55	Innovative and Liveable Cities <i>This session introduces the cases of three innovative and liveable cities (Yokohama and Toyama have been nominated as Eco-Model Cities by the Japanese government, and Koshigaya Lake Town has been awarded the Built Project Gold Award from LivCom Award 2009), which are achieving environmental and economic sustainability by adopting innovative urban designs and management practices.</i>		
11:45-12:05	Yokohama: Dynamic, Creative and Smart City achieved through City and Citizen Partnership	Ms. Mikiko Uchiyama Manager, Climate Change Policy Headquarters, City of Yokohama, Japan	
12:05-12:25	Toyama's Response to Demographic Evolution: Developing Transport-oriented, Compact, and Livable Cities	Mr. Kazuo Matamoto Manager, Urban Policy Division, City Improvement Department, City of Toyama, Japan	
12:25-12:45	Smart and Sustainable Urban Life with the Lake, Koshigaya Lake Town	Mr. Shigeru Mashimo Director, New Town Development Department, Saitama Regional Branch Office, Urban Renaissance Agency, Japan	
12:45-12:55	Q & A		
10:55-12:55	3B: Breakout B Knowledge and Technology of the Private Sector <i>Japan's CO₂ emission per GDP is the lowest among the G7 countries. Japan's private sector maintains a high reputation for cutting-edge technology and practical systems in the areas of pollution control, energy efficiency, and GHG reduction. This session introduces knowledge and technology relevant to sustainable urban development and GHG reduction and explores the roles of the private sector in achieving a sustainable urban development.</i>	Chair: Mr. Yoshiaki Ohisa Director General, International Affairs Department, New Energy and Industrial Technology Development Organization (NEDO), Japan	502
10:55-12:05	Energy Efficiency and Renewable Energy		
10:55-11:15	Smart & Compact Community -A Key Concept of Recent Urban Development for Developing Countries	Mr. Akitoshi Yokota Group Leader, Smart City Development Group, Urban & Infrastructure Development Department, Business, Promotion & Execution Division, JGC Corporation	
11:15-11:35	Approach to the Smart House and Community	Mr. Fumio Kimura Superintendent, Comprehensive Housing R & D Institute, Sekisui House	
11:35-11:55	Shimizu Carbon Management Approach—from Microgrid to Smartgrid	Mr. Atsushi Denda Deputy Director, Institute of Technology, Shimizu Corporation	
11:55-12:05	Q & A		

12:05-12:55	Resource Efficiency		
12:05-12:25	Contribution of Kawasaki Green Technologies to the Global Environment	Mr. Takashi Shimakawa Senior Associate Officer, Kawasaki Heavy Industries, Ltd.	
12:25-12:45	Decentralized Water Supply System utilizing Rainwater and Wastewater	Mr. Atsushi Okamoto General Manager, Engineering Department, International Business in Environmental Solution Sector, JFE Engineering Corporation	
12:45-12:55	Q & A		
12:55 - 13:55	Lunch Break	Lunch is not provided for general participants (Cafeteria on the 6 th floor will be available for all participants)	
	Lunch for invited delegates and speakers (by invitation)		6 th Floor
13:55-14:55	Coastal City Study Team Meeting	(by invitation)	512
13:55-14:55	Plenary 4: Lessons Learned for Pilot Eco² Cities <i>This session reviews the discussions from the two breakout sessions.</i>	Prof. Ryokichi Hirono Counselor, IGES/ Professor Emeritus, Seikei University	502
13:55-14:15	Report on Session 3A on Japanese Cities	Dr. Shizuo Iwata Director, ALMEC Corporation	
14:15-14:35	Report on Session 3B on Private Sector Contribution	Mr. Yoshiaki Ohisa Director General, International Affairs Department, NEDO, Japan	
14:35-14:55	Discussions and Q & A		
14:55-15:45	Plenary 5: Adaptation to Climate Change: Coastal City Study <i>Coastal cities are highly vulnerable to a range of climate-related risks including accelerated sea level rise, increased temperature and precipitation, and increased frequency and intensity of extreme events. This session presents the major findings from city case studies and highlights the importance of addressing climate-related risks as part of urban planning consistent with the Fourth Principle of Eco², i.e., an investment framework that values sustainability and resiliency.</i>	Chair and Moderator: Mr. James Warren Evans Sector Director, Environment Department, World Bank	502
14:55-15:05	Opening Remarks	Mr. Hiroto Arakawa Senior Special Advisor, JICA	
15:05-15:15	Climate Risks and Adaptation in Asian Coastal Mega Cities	Dr. Megumi Muto Research Fellow, JICA Research Institute	
15:15-15:25	Panel/Open Discussions: Climate-resilient City Planning and Development	Dr. Megumi Muto Research Fellow, JICA Research Institute Dr. Kensuke Fukushi Associate Professor, Integrated Research System for Sustainability Science (IR3S), University of Tokyo Representatives from coastal mega-cities	
15:25-15:35	Q & A		
15:35-15:45	Closing Remarks	Mr. James Warren Evans Sector Director, Environment Department, World Bank	
15:45 - 16:00	Coffee Break		Foyer

16:00-16:45	Plenary 6: City-to-City Collaboration <i>This session discusses the value of city-to-city collaboration in the areas of knowledge sharing and capacity building to promote sustainable urban development and enhance such collaboration.</i>	Chair: Mr. William Cobbett Manager, Cities Alliance	502
16:00-16:10	International Academic Consortium for Sustainable Cities (IACSC)	Mr. Tsutomu Fuse President, Yokohama City University (YCU), Japan	
16:10-16:15	Exchange of MOU World Bank- YUC/ IACSC	Ms. Abha Joshi-Ghani Urban Sector Manager, World Bank Mr. Tsutomu Fuse President, Yokohama City University (YCU), Japan	
16:15-16:30	Yokohama's City-to-City Collaboration: Experiences and Prospects, Working with Private Sector, International Networks, and Academe	Mr. Toru Hashimoto Senior Project Manager, Co-Governance and Creation Task Force, City of Yokohama, Japan	
16:30-16:40	Network of Cities for Sustainable Urban Development	Ms. Mary Jane Ortega Secretary General, CITYNET	
16:40-16:50	Q & A		
16:50-17:40	Closing Session		502
16:50-17:00	Message from the Next Generation	Members of Blue Seminar Yokohama City University (YCU), Japan	
17:00-17:10	Yokohama Declaration	Ms. Fumiko Hayashi Mayor, City of Yokohama, Japan	
17:10-17:20	Appreciation from World Bank/JICA/ Yokohama/ MLIT- Eco ² 2010 Yokohama Joint Committee	Mr. Hiroaki Suzuki Lead Urban Specialist, FEUUR, World Bank	
17:20-17:30	Closing Remarks	Mr. Hiroto Arakawa Senior Special Advisor, JICA	
17:30-17:40	Closing Remarks	Ms. Abha Joshi-Ghani Urban Sector Manager, World Bank	

Saturday, October 23, 2010 (09:00–13:00)

Workshop for East Asia Pilot Eco² Cities (by Invitation)

<i>Time</i>	<i>Title and Content</i>	<i>Name and Title</i>	<i>Room #</i>
9:00 – 9:30	Session 1: Feedback on Draft Eco² Implementation Guide	Moderator: Mr. Sebastian Moffatt Eco ² Advisor, Consensus Institute	
9:30 – 10:30	Session 2: Breakout country team meetings	Moderators: Yan Zhang, Philippines Andre Bald, Vietnam Peter Ellis, Indonesia World Bank Country Coordinators	411-412
10:30 – 10:45	Coffee Break		
10:45 - 11:30	Session 3: Summary Presentations by Country Teams	Moderator: Mr. Arish Dastur Presenters from Indonesia, Philippines, and Vietnam	
11:30- 12:00	Next Steps and Schedule	Mr. Victor Vergara & Mr. Arish Dastur EASIN, World Bank World Bank Country Coordinators	411-412
12:00 - 13:00	Lunch Break		411-412
13:00 – 17:00	<i>Internal EAP World Bank Urban Team Meeting</i>	<i>World Bank staff and consultants</i>	<i>424</i>

2 RESULTS OF THE CONFERENCE

2.1 Introduction

The speeches, presentations¹, and discussions included in this document were presented at the *Eco² 2010 Yokohama: International Conference on Eco² Cities*. A wide range of stakeholders, comprising government policy makers, urban managers and planners, researchers, corporate representatives, and representatives of development agencies gathered to share and discuss the World Bank's Eco² Cities initiative and innovative sustainable urban development practices from around the world.²

Over the two-day conference, representatives from the Eco² global good practice cities of Stockholm and Malmo in Sweden, Curitiba in Brazil, Singapore, and Ahmedabad in India, as well as from the Eco² East Asia pilot operations in Surabaya City in Indonesia, Quezon City in the Philippines, and Can Tho City in Vietnam shared their respective programs and projects under the Eco² Cities initiative.

For local good practices hewing closely to the Eco² Cities principles, representatives from the Japanese cities of Yokohama, Kitakyushu, Kawasaki, Toyama, and Koshigaya Lake Town presented their valuable experiences in sustainable urban development, while those from private Japanese companies shared their cutting-edge technology and systems on energy and resource efficiency.

Besides the conference, a *Global Partnership Luncheon* on 21 October, a *Coastal City Study Team Meeting* on 22 October, and a *Workshop for East Asia Pilot Eco² Cities* on 23 October were conducted among concerned delegates and sponsors.

2.2 Summary of Presentations and Discussions

DAY 1 PLENARY 4	ECO ² CITIES
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In this session, Mr. Hiroaki Suzuki, lead urban specialist and team leader of the Eco² initiative at the Finance, Economics and Urban Development (FEURR) Department of the World Bank, introduced the analytical and operational framework of the Eco² Cities initiative.

Suzuki presented the Eco², or ecological cities as economic cities, concept, explaining the continued perils of unsustainable growth of most cities in the world and the need to emphasize the principles of ecological cities, such as achieving ecological and economic sustainability in synergy, integrated cross-sector approach, optimal urban planning, and the combination of multiple financial instruments. He cited global good practices models in Stockholm, Sweden (integrated, cross-sectoral approach and incentive-based demand management); Curitiba, Brazil (integrated transport, land use, and environment); Yokohama, Japan (waste reduction); Singapore (integrated, innovative water management and incentive-based demand management); Brisbane, Australia; London, U.K. (incentive-based demand management); and Ahmedabad, India (comprehensive planning approach). He laid down the four principles of the Eco² Cities concept which are: a city-based approach, expanded platform for collaborative design and decision making, one-system approach, and a sustainable and resilient investment approach. He also introduced the principal tools to implement Eco².

¹ Chapter 3 of this document presents the speeches and presentations according to the order of the Conference Program.

² A complete list of conference participants is shown in Chapter 3.

DAY 1 PLENARY 5

SUSTAINABLE GREEN GROWTH

*In this session, **Ambassador Takeshi Hikihara**, secretary-general for the Japan APEC meetings in 2010, MOFA, and **Mr. Haruhisa Somaya**, APEC councilor from METI's Trade Policy Bureau, presented APEC 2010's progress and priorities that complement the Eco² concept.*

Hikihara said the theme for APEC 2010 is "Change and Action," stemming from the idea that in this period of significant changes in the global political and economic arena APEC should ensure that it will continue to play an important role in the 21st century. For 2010, APEC has focused its efforts on the following areas: (i) promoting regional economic integration; (ii) formulating its first-ever growth strategy for the Asia-Pacific region to secure the region's economic growth following the global financial and economic crises; (iii) enhancing human security; and (iv) strengthening APEC's capacity to advance these agendas. In the runup to the APEC Economic Leaders' Meeting held in Yokohama in November 2010, various discussions on trade, energy, tourism, SMEs, and food security have resulted in great successes. At the Meeting of APEC Ministers Responsible for Trade held in Sapporo in July, the ministers identified the five attributes of economic growth under the Growth Strategy, which are balanced, inclusive, sustainable, innovative, and secure. At the APEC Growth Strategy High-Level Round Table held in Beppu in August, the participants agreed that APEC should further promote energy efficiency and the development of a low-carbon energy sector, improve access for environmental goods and services, develop environmental goods and services sectors, and promote energy conservation through green information and communications technologies. To implement the growth strategy, Hikihara said APEC will formulate a multi-year action plan which employs APEC's strengths, including its specialized system of subforums, the accumulated knowledge and wisdom from APEC's past activities in economic and technical cooperation, and its robust network of connections with industry and academia.

Meanwhile, **Somaya** laid down Japan's National Strategic Projects that impact both the domestic and regional strategies, as well as the timetable of the national strategic projects under the New Growth Strategy. The various regional economic aggrupations within Asia and how they impact on Japan's growth were explained, specifically APEC's significance as a vehicle for free trade and economic development in the Asia-Pacific region. Somaya emphasized the importance of the APEC Japan 2010 meeting with the listing of its agenda and its goals. He explained the organizational structure of APEC, its growth strategy, the APEC Low-carbon Model Town project, its Green IT, and its environmental goods and services.

DAY 1 PLENARY 6

GLOBAL ECO² CITIES

*This session chaired by **Mr. Vijay Jagannathan**, Infrastructure Sector Manager of the Transport, Energy, Urban, Sustainable Development Unit, East Asia and Pacific Region of the World Bank, presented specific cases from global good-practice cities and programs that are achieving ecological and economic sustainability in their respective local contexts. Representatives from governments, university, and a private firm presented tangible examples of how cities are responding locally to global challenges.*

*The presenters were: (1) **Mr. Ola Goransson**, deputy director, Division for Sustainable Development of Sweden's Ministry of the Environment; (2) **Mr. Osvaldo Navaro Alves**, former president of the Institute for Research and Urban Planning of Curitiba in Brazil; (3) **Mr. H.M. Shivanand Swamy**, professor and associate director of CEPT University in Ahmedabad, India; and (4) **Dr. Alexis Onofre Corpuz**, vice president of Ayala Land Inc. in the Philippines.*

Goransson talked in great length about the Eco² cities in Sweden, especially Stockholm and Malmo, including Hammarby Sjostad as a unique environmental project, explaining how total environmental impacts have been lowered by half and how proper environmental programs on areas such as land use, soil pollution, energy, water and sewage, garbage, building materials, transportation, noise, and green areas, are being properly utilized in Sweden, including the

holistic ecological innovations being implemented for the Royal Seaport and the Hammarby Sjostad. Goransson laid down the sustainable city success factors, such as (i) the integrated approach to urban development; (ii) strong local political leadership, governance and vision; (iii) partnerships with citizens and business; (iv) good examples; (v) adaptation to local conditions; (vi) correct price signals and regulations; (vii) state support; and (ix) trust and cooperation.

Alves gave an overview of the evolution of the urban growth of Curitiba and the resulting master planning as an answer to its growth, citing the 3-stage planning process showing the synergy between land use, public transportation, and road system and how they relate to economic and social development as well as environmental preservation. The improvement of the public transportation system and integrated transit network were cited due to their combined impact on the environment and improved social conditions in the city.

Swamy laid down the virtues of an ideal sustainable city and how Ahmedabad has slowly evolved into such a city through various landmark transformations. The first significant transformations in Ahmedabad were brought about by the strategies to integrate land use and transportation (land management, land management process, town planning) and overhaul the public transportation system (interventions in public transportation and para-transportation, the JANMARG bus rapid transportation system and corridor phasing). Also cited was the waterfront development of the Kankaria lakefront which included landscaping, improvement of public places, and the connection to the BRT system. The city's transformation also included the development of the Sabarmati riverfront which involved the creation of embankments, roads, gardens, promenades, and other public spaces and their impacts such as the improvement of the aquifer, diversion of the city sewer, flood elimination, relocation of slums, provision of greeneries along the river, and the strengthening of the local transportation system. Swamy also highlighted changes in the city's social fabric through the city's mainstreaming of the urban poor program using a multi-approach strategy that includes slum improvement, new public housing, livelihood generation, street vendor integration, better transportation, and housing/land-sharing.

Corpuz presented various views from the perspective of Ayala Land, Inc., a highly diversified private developer involved in land development projects in Asia and North America. The lessons he cited was the complementary factor in sustainability and business objectives, striking a balance between rigid sustainability design and flexibility in interpretation, tapping the global pool in designing and planning, not overlooking existing cities in the pursuit of sustainability for new eco cities, and the ideal synergy between the public and private sectors in shaping Eco² cities.

Q&A Portion

1. **Kenji Kobayashi, India Pacific Energy Center:** Mr. Goransson, why was your city not able to achieve its target of reducing CO₂ by half? How could you have achieved it?

Goransson: There are several reasons for us not reaching our goal. One, the climate agenda when the SymbioCity Program was designed back in 1995 was not as strong as it is now. Private developers strongly opposed the strict energy regulations for the buildings, which, to some extent, were linked to the economic realities at that time. Two, overcoming the idea that it was difficult to build low-energy houses was difficult. So, the housing in Hammarby Sjostad is not as energy-efficient. Third, it's also due to design principles which used a lot of windows and glazing in houses. Reaching the target is something that is going to be worked on for new developments in Sweden. Certainly, the atmosphere for focusing on the climate issue has increased, becoming better in the last few years.

2. **Maria Anna Ignacio, Partnership of Philippine Support Service Agencies:** To Mr. Swamy or Mr. Alves, how did you handle communities or residents who refused to be transferred to a relocation site in order to redesign congested city areas?

Swamy: In Ahmedabad, there were about 3–4 thousand people who were living in slums located on the road alignment. They were given an option of moving into fully built two-room

houses in a nearby area. We continuously talked to them and they saw the benefits of moving there. Moving the communities did not cause a major problem for us. What did was moving hundreds of religious structures built along the road alignment. What we did was to integrate some into the design of the subways, while transferring many of them with the help of local cooperators, local municipal engineers, and the contractor. However, we also went to court because a temple resisted the move and the alignment had to be changed. The community has to be engaged all the time. You don't make a plan and implement it; you need to keep changing the plan.

3. **Masa Ichimura, United Nations ESCAP:** The speakers pointed out political leadership and other factors which have made some cities succeed. Why are others not experiencing the same success? Could you share some insight on what prevents other cities to follow these beautiful experiences?

Swamy: The pace of other cities is maybe just a little slow. In India, there are quite a few cities which are transforming at a very rapid pace, where things are happening; but there are also other states where things are not happening at the same pace. In addition to leadership, there's also competition among cities now. It will just be a matter of time till you see many more good stories coming up. I'm very optimistic about the way the world is moving.

DAY 1 PLENARY 7	PROGRAMS SUPPORTING SUSTAINABLE URBAN DEVELOPMENT
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*This session, chaired by **Mr. William Cobbet**, manager of the Cities Alliance, introduced innovative programs and approaches to support sustainable urban development by bilateral and multilateral agencies. Representatives from the Asian Development Bank, Japan International Cooperation Agency, Centre for Liveable Cities, Japan's Ministry of Environment, and the Institute for Global Environmental Strategies presented their respective programs for cities and national governments.*

*The presenters were: (1) **Ms. Priyanka Sood**, urban development specialist in the Regional and Sustainable Infrastructure Division of ADB's Regional and Sustainable Development Department; (2) **Mr. Norio Saito**, senior urban development specialist, Urban Development Division of ADB's South Asia Department; (3) **Mr. Akihito Sanjo**, director of the Urban and regional Development Division 2 of JICA's Economic Infrastructure Department; (4) **Mr. Hsing Yao Cheng**, deputy executive director of Singapore's Centre for Liveable Cities; (5) **Mr. Akira Nitta**, director of the International Cooperation Office, International Strategy Bureau of Japan's Ministry of Environment; and (6) **Mr. Toshizo Maeda**, senior researcher with the Kitakyushu Urban Centre and acting director of IGES.*

Sood explained ADB's Strategy 2020 toward an Asia-Pacific region free of poverty. She cited the developing member countries' urban challenge and urban strategy, which could be operationalized through innovative programs backed by coherent financial support such as the Cities Development Initiative for Asia (CDIA) and the Carbon Market Program.

Saito elaborated ADB's program in the urban sector, mentioning two examples. One is the Kathmandu Sustainable Urban Transport Project with its four components of public transportation improvement, traffic management, improvement of walkability, and improvement of air quality. The other is the Climate-proofing Urban Infrastructure Project in Khulna, Bangladesh, which assessed the impacts of climate change on the urban drainage system and surface water supply system, as well as provided adaptation options to climate-proof the proposed investments.

Sanjo presented JICA's various projects in Asia, Africa, and the Middle East, including how it tackles rapid urbanization and promote urban development and disaster reconstruction. He said that JICA's approach to promoting low-carbon cities is to be done with a long-term view to creating compact, public-transportation-centered, and green cities supported by a recycling

society and existing within a balanced national/regional development. He referred to relevant JICA's projects such as the urban development program in Ulaanbatar, Mongolia; the comprehensive urban development program in Hanoi, Vietnam; the spatial plan and urban development program for East Java, Indonesia; and the urban development project in Africa. He cited the challenges that governments and JICA face, such as the need for institutional building and capacity development, a proper evaluation of low-carbon cities, and the means to encourage the stakeholders to get involved in urban transformation. Sanjo said that JICA plans to provide development assistance in accordance with Japan's "New Growth Strategy," launch a study on the creation of low-carbon cities in developing countries, and collaborate with the World Bank's Eco² Cities initiative.

Cheng described the Centre for Liveable Cities' (CLC) liveability framework and its focus on policy and research, executive programs, and international partnerships. Its executive programs include regional workshops, the World Cities Summit 2010, the WCS Mayors' Forum, the Leaders in Governance Program, as well as the CLC's international partnerships with key regional and international organizations, cities and centers of excellence.

Nitta gave details on the East Asia Summit which was participated in by environment ministers from ASEAN+6 (Australia, China, India, Japan, Korea, and New Zealand) and the High-Level Seminar on Environmentally Sustainable Cities (ESC) with key participants from various East Asian countries and global organizations.

Maeda elaborated the recommendations of the High-Level Seminar, focusing on the proposal for initiating a Model Cities Program complete with an overall organizational chart, indicative work plan, and intraregional coordination, as well as implementation arrangement and structure in each participating country.

Q&A Portion

1. **Mr. Premakumara Jath Dickella Gamaralalage, IGES Sri Lanka:** We always see that support systems are mostly focused on the national and local governments. Today also a lot of the programs focus on city support systems. Does your agency support a complete city-wide approach to development which incorporates all of the population, poor or not?

Sood: I don't think there's a question of whether you're taking one part of the city into consideration and not the other. The whole idea of integrated planning and integrated urban infrastructure is that you take each and every component of the population into account. I'm sure all the donor agencies and development banks are looking at it in that way. I'm not speaking just for ADB; but ADB for sure is looking at community organizations or even community-led initiatives as not in any way to be sidelined. The whole idea is to integrate them into the larger picture of urban planning. Through dialogues wherever there are differences it can be done. So, there is no question on excluding certain sections of the population. Through some of our existing initiatives as shown in my slide, I mentioned that there are existing deficiencies in how, for example, slums are taken care of. You take care of those deficiencies through remedial investments. But taking a longer-term view, you plan your cities or whatever part of the city is still available for planning and you integrate that section into the city plan.

Saito: I think it is true that in many cases we work with national or local governments; but there are ways that we work with the civil society. Sometimes we directly engage NGOs to do the community development work or to do socioeconomic surveys to identify where the poor people live in particular cities or areas. Under the loan assistance for investment support, there are many cases where the national or local governments engage local NGOs or the civil society to do the community development work. But when ADB provides a loan under public sector funding, our loan goes to the national government. On those occasions, normally our support for local NGOs or civil society organizations will mostly be indirect, through local governments. There are many cases when we collaborate closely with the local

civil society. When we formulate investment projects with national or local governments, we try our best to make the projects more inclusive so that the people living in peripheral areas or in slums will also benefit from the investment projects.

DAY 1 PLENARY 8**EAST ASIA ECO² PILOT OPERATIONS**

*This session, chaired by **Mr. Victor Vergara**, Urban Sector Leader, EASIN, World Bank, aimed to learn from cities in East Asia, where the World Bank has initiated preparations for pilot Eco² operations (Indonesia, Philippines, and Vietnam). The experiences of national and city governments in formulating Eco² projects, i.e., their visions, objectives, plans, institutional settings, and challenges at the initial stage of Eco² project preparation, were presented by representatives from the national and city governments of Indonesia and Surabaya, Philippines and Quezon City, as well as Vietnam and Can Tho.*

Country 1**Indonesia**

*The presenters were: (1) **Mr. Peter Ellis**, senior urban economist, WB Indonesia's Sustainable Development Unit; (2) **Mr. Max Pohan**, deputy minister for regional and local autonomy at Indonesia's State Ministry of National Development Planning; and (3) **Mr. Ifron Hadi Susanto**, head, International Relations, Cooperation Division in Surabaya City Government.*

Ellis explained Indonesia's robust economic growth, the high economic density in Java and Indonesia's urbanizing elements, such as the de-concentration of its urban population, the expansion of economic development in smaller urban areas. Opportunities and challenges were also laid down such as the fact that Indonesian cities accommodate half of the country's population, account for a big chunk of the nation's GDP, and need substantial public investment to address infrastructure demand. He also cited projects in Eco² cities which have proven to be catalysts such as the mass rapid transit and flood mitigation projects in Jakarta; the waterfront and green space development projects, as well as community composting program in Surabaya; waterfront development and drainage improvement projects in Makassar; and the BRT and solid waste management projects in Palembang.

Pohan described the challenges Indonesia currently faces such as regional disparities, globalization, and climate change, as well as their impacts on water resources, forestry, marine and fishery, agriculture and health. He said that government policies on climate change include the creation of the national action plan on climate change, reduction of greenhouse gas emissions, and development of cross-sectoral adaptation and mitigation measures. He enumerated the issues plaguing the country's urban development such as incomplete urban development policy, high poverty rate and social vulnerability, low utilization of social and cultural capital, lack of inter-city cooperation, low government capacity, low investments, and environmental management, low public service quality, and low urban land use. He cited national policy and strategies on urban development which include urban-led development, decentralized connection, socio-cultural and demography-oriented development, strengthened local economic development, infrastructure and housing provision, sprawl control, improvement of environmental quality and climate change adaptation, as well as human resource development. He also explained the urban development targets, the policies, strategies and practices on climate change for urban areas and Eco² cities.

Susanto presented Surabaya's experience in waste management and the challenges it initially faced such as the lack of financing, limited involvement of civil society, and poor waste management practices. To improve the condition, he said the government launched a community-based waste management and the proper implementation of the 3Rs, which resulted in a clean and green city, improved incomes and livelihoods among the city's communities, and replication of the waste management model in other cities in Indonesia and elsewhere.

Q&A Portion

1. **Andan Dahadi, student, Department of Environment and Energy Engineering, Waseda University:** Can Mr. Pohan suggest one topic that needs immediate attention and which as a student I concentrate on? Mr. Hadi I'm very interested in waste management and I found that the case study of Surabaya is very impressive, what I would like to as is, Surabaya City produce 1,500 Tons of waste per day and I would like to know what is the composition of wastes generated in Surabaya? What is its share of biomass, plastic or industrial wastes? Have you considered building a biogas plant to utilize wastes better?

Pohan: At the national level we have a long list, while cities have their own priorities. But the most pressing is the lack of capacity or ability among certain cities. What we have here today is an outstanding mayor, but the cities are all competing against each other for all these programs of Eco² cities. They need capacity building. The rest of the priorities consist of infrastructure, environmental protection and others, which are all on the list of the cities.

Hady: From the data I got 80% of the waste in the final disposal site is generated from domestic activities and only 20% is plastic, metal, etc. From 1,500 tons/day, we can reduce 120 tons, 80 tons is composed of compost, 40 tons from households, 40 tons from individuals, and 20 tons as waste from recycling and reuse. The final disposal site is only 26 ha. It is very limited from our point of view, because the number of population increased and the economy grew. Maybe within 2 years the final disposal site will be full. Finding a new one is very difficult because there is very strong resistance from the population. Biogas is not the solution. We have an offer to procure and this year we would like to find a final winner. There are four investors from other countries who would like to invest their money and solve our waste problem including using biogas.

2. **Norio Saito, ADB:** How will the WB change the way it undertakes business with this Eco² cities initiative?

Ellis: In Indonesia the percentage of our funding is insignificant. If we left Indonesia tomorrow, it doesn't matter to Indonesia, to be honest. The model we are engaged in Indonesia is one of partnership. We come in behind programs that Indonesia develops. We don't come up with new programs. For example, at the central government level we're doing a program on intergovernmental transfers as a support to government reforms. Similarly at the city and community levels, the Bank comes in behind their programs and supports them. If their priorities don't overlap with ours, we go elsewhere and engage some other cities; but if there's an overlap, then we try and support their programs. We start at the national level and work down to the city level. It's really one of partnership with the cities' in the driver's seat. And we see that in all the cities that are here; they've come up with their priorities and they have identified what priorities we can support. In terms of instruments, we're obviously limited by our lending instruments and by whatever grants we give them; but we try and accommodate that into this partnership model. We don't see ourselves as a donor to Indonesia. We're sort of the junior partner.

Mr. Ichimura Masakazu, UNESCAP: Surabaya's success is remarkable and many other cities are trying to follow. So far so many attempts have already been done in Indonesia by many cities. Now they're trying to get together to influence the national government to think on how best they can help those local initiatives. Actually UN ESCAP is working with Kaita, IGES, JICA, Kitakyushu to conduct a training workshop for government people as a trainee, inviting at the same time people from local government as trainers. That very interesting interaction will happen next week in Kitakyushu.

Dastur: The question about the WB's role links in very well with what Mr. Pohan answered to the student there: that investment projects—building one more bridge, one more wastewater treatment plant, more pipes for water supply—puts no added value. If we can truly engage on the capacity building agenda or the knowledge agenda, that's where we'll really be catalytic.

Vergara: We take the concepts and the principles behind Eco² very seriously. The idea of having baselines to what we have been doing, that's always been part of the way we want to work and understand the problem. One very significant difference of what we're proposing is the point of view that the city matters as a whole not just as a sector. How can a sector be a catalyst to transformational change, in improving a city rather than improving a sector? That's the challenge and if we go project by project, sector by sector the cities will not be able to meet the challenge of true transformational change. That is the new perspective that we have already outlined in the publication and in our dialogue. The trick is how to do this. The solution is in this room, with the heroes that are really operationalizing these ideas and learning from one another.

Pohan: I wish we could hear more of the weaknesses or problems faced by cities or the agony of going through all these, instead of just success stories. This is what we would like to hear and share with each other.

Vergara: There are a couple of important points to frame in this work. First, the collaborative platform for working together is critically important in the case of the Philippines, given its very vibrant democratic tradition and incredible fragmentation that exist in metropolitan areas as a result of that, the multiple central government institutions that work in the urban areas, the very vibrant NGOs that are also there, and a strong private sector. We would like to point out the importance of this principle of collaborative approach of Eco². Second, the cover of the Eco² book is very symbolic of the needs of a place like the Philippines where you are working within the ecosystem and not against it. We saw what it means as far as savings from Hiro's presentation. In the case of Manila, there are tremendous benefits that could be derived from such an approach.

Country 2	Philippines
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The presenters were: (1) Ms. Yan Zhang, country sector coordinator, WB Philippines's Sustainable Development Unit; (2) Mr. Nestor Mijares IV, undersecretary, National Economic Development Authority; (3) Mr. Ramon Asprer, chief, Urban Poor Affairs Office, Quezon City Government; and (4) Dr. Alexis Onofre Corpuz, vice president, Ayala Land Inc.

After introducing the members of the Philippine delegation, **Zhang** explained the context of urbanization in the Philippines as well as its challenges and prospects. She highlighted the presentation's key messages such as the pursuit of sustainable urban development as the only answer there is to survive, the need to pilot investments that value sustainability and resiliency, the need for a strong political will and sustained institutional and financial innovations. She posed key questions on how to encourage private sector participation in an inclusive sustainable development, how to operationalize the social dimension of the Eco² framework, and how to achieve sustainable urban development in a highly decentralized and fragmented environment.

Mijares laid down the critical urban challenges in the Philippines, such as infrastructure gaps, strained basic urban services, inefficient land management, fiscal constraints, declining urban competitiveness, and the growth of slums and informal settlements. To act on the challenges, he said that some of the actions made by the Philippine government included the formulation of an urban and housing framework, provision of housing and securing tenure of assistance, and implementation of socialized housing on idle government lands as well as resettlement programs. He also cited model LGU housing programs, such as the housing projects in Taguig and Makati cities, an integrated shelter and land tenure in Las Pinas City, and the transformation of the Payatas dump site in Quezon City. He mentioned ongoing and planned public-private partnerships in urban renewal projects such as the Quezon City North and East Triangle Project, the Old and New Bilibid Prison Reservation Project, Mandaluyong City Welfareville Project, the Gawad Kalinga Program and the Habitat for Humanity programs. As next steps, the Philippine government, he said, will be formulating a national slum upgrading strategy and complete the Philippine development plan.

Asprer talked about the urbanizing experience of Quezon City, the largest city in the Philippines. He explained the city's approach in addressing informal settlements, such as creating a database to aid planning and policy making, transforming blighted areas into vibrant communities, resettling communities, and developing cleared areas into parks, as well as complementary initiatives such as piloting greening policies and harnessing private capital for green development, in whose key features include the adoption of non-carbon-emitting transportation modes, conformity with green building guidelines, and provision of open spaces.

Corpuz explained the challenges facing the private sector in urban renewal in the Philippines such as lack of urban renewal policies and consistency, lack of enforcement of property rights, lack of shared objectives and coordination among agencies, and unrealistic expectations of the property market. He emphasized the conditions that would encourage private sector participation in urban renewal projects, such as the proper enforcement of property rights, streamlining of objectives among disparate agencies, local government participation and cooperation, and the realistic recognition of land market conditions and private sector objectives.

Q&A Portion

1. **Wini Lar, India:** There are three issues. One, do you take into account all the components that should go into the budget when you make the resource plan and then implement it? Second, if there's no partnership among different divisions in the same organization, we introduce the department-to-department partnership or DDP before going into PPP so that both the private sector and the public sector stand on an even footing. Third issue is database; while we look at the dimension of the problem, its components, etc., we never generate data on why projects have a time and cost order, the road blocks in implementing programs. We should know the causative factors, so that these data can be used in the next cycle of plan and change the components of the project. I would like to know the lessons from the Bank, Indonesia, and the Philippines.

Mijares: On the question from India on land use, all facets of land use planning is not always incorporated in project development because the orientation and degree of understanding of the implications of the various land use components are not well appreciated by every department. That leads me to PPP. You are correct in saying that government and particularly the bureaucracy must be able to sort out and pull its act together. That's one specific reform that we are doing now in redesigning our PPP. We realized that for it to function well, the government must be able to sort out what components are within government control or what components are within the competencies of government so that it becomes attractive and the only decision that the private sector will have to make is to decide whether or not it is a good investment. Based on our research, we found that project development alone will take us a good part of two years before it becomes an investment for PPP offering. That's the direction we're going; nevertheless, the Philippines has a very good experience in the earlier part of the PPP and some lessons including by the WB came from PPP operations in the Philippines. On the database, certainly there is a need for a lot of quality control and security. On the question of the variability in the responses and effectiveness of local governments, that's because you likewise have a variability in terms of the environment, the conditions, the quality and capacity of both the institution and the leadership of the different areas.

Corpuz: I'd like to add a little bit on the data and land-use planning, maybe a slightly contrarian perspective from the private sector. In my experience I've seen a lot of land use plans, some of them good, some better, and some are not. My favorite definition of planning from a colleague of mine is that planning is the art of making decisions with incomplete information because the situation demands it. If you wait for all the information to be there, then it's probably going to be outdated or somebody has already done something to address the situation whether for the better or the poorer. So while you'd like to have as much data as you want, there's also the time element that needs to be attended to, wherein you have to make a decision. On the variability, I agree because urban development strategy in the

Philippines has been delegated to the local government. You have variability based on the individual local government capacities.

2. **Marie Danielle Guillen, Ateneo de Manila University, Philippines:** Why do some cities in Metro Manila do well in their resettlement programs or projects, for example Makati and Quezon City, while others are not?

Asprer: That's why we bought large parcels of land inside Quezon City so they would not resist any more. They're always saying that if they are relocated outside the city, they will always resist. That's why our plan now is to develop a relocation site within the city.

Country 3	Vietnam
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The presenters were: (1) Mr. Dean Cira, lead urban specialist at WB Vietnam's Sustainable Development Unit; (2) Mr. Ngo Trung Hai, general director, Vietnam Institute for Architecture, Urban and Rural Planning of the Ministry of Construction; (3) Mr. Nguyen Thanh Son, vice chairman, Can Tho City People's Committee; and (4) Mr. Andre Bald, WB senior infrastructure specialist.

After introducing the members of the Vietnamese delegation, **Cira** referred to a statement made by Standing Deputy Prime Minister Nguyen Sinh Hung at a national urban forum in Vietnam. Hung reportedly said Vietnam has one opportunity to urbanize. If it fails to urbanize properly, it will fail at industrialization, and it will fail at modernization—which sums up the challenges that face most of the countries in the region, the people who work for these governments, and the international community which is helping these countries in their urbanization process.

Hai presented an overview of Vietnam's urban development and the role of urban centers in the socio-economic growth of the country, citing as well the various urban problems faced by its cities such as traffic, flooding, and urban blight. In counterpoint, he explained Vietnam's Urban Development Orientation and Strategy with Vision up to 2050 which has a scenario for each development phase, i.e., urbanized regional scenario and metropolitan regional scenario by 2025 and networking regional scenario by 2050. He said that what is needed for future urban systems are suitable approaches or proper synergies between regions and their surrounding areas, between the mega city and small cities, between environmental conservation and development, between infrastructure and population, between technology and tradition, between way of life and basic needs, and between climate change and forecast. For all this, Vietnam needs support in research and planning and piloting in medium-sized cities, among others.

Son gave a brief background on Can Tho and explained its master plan up to 2030, including the main challenges that face the city such as environmental pollution, hydrographic changes, and climate change. He said that the city's solutions include environmental protection, protection of the Mekong River, and formulation of plans on climate change adaptation. He said that short-term activities include training in climate change and environmental protection, application of modern techniques to support a green eco-city development plan, and funding to implement new construction and upgrade infrastructure.

Bald underscored the pros and cons of urbanization in Vietnam, saying Vietnam can learn from China's urbanization experience. He said that Eco² Cities pilot activities in Ho Chi Minh City focus on sustainable urban development and integrated transportation planning as well as on leveraging of Eco² Cities funds with other sources for scaling up. He further said that the key challenges in Ho Chi Minh City are strengthening capacity and developing institutions, improving coordination, optimizing impacts of investments, as well as planning for the short and medium terms. Given the growing importance of medium-sized cities in the country, they are also focus areas for Eco² activities. One item he highlighted in his presentation is the need to properly address the motorcycle issue in Vietnam.

Q&A Portion

1. **Armand Comandao, Mandaluyong, Philippines:** Have you computed the pollution index of the motorcycle and how it impacts the environment?

Hai: Some strategic analysts recommend not using motorcycles in Vietnam for transportation in the future. But some analysts said motorcycles are very suitable to the current transport or road system in Vietnam. People move from rural to urban areas easily, from very small roads to big roads. Now, the problem is we could not provide separate lanes for motorcycles and cars, resulting in many accidents between cars and motorcycles. In big cities we would like to reduce the number of motorcycles. Perhaps JICA or the Japanese will not like it because they want to build more Japanese motorcycle factories in Vietnam. But in Hanoi we now plan to increase public transport through BRT, metro, or urban light rail for the urban area. In medium and small cities, we encourage people to use motorcycles, bicycles, and walking. We try to plan these for a modern, compact city. For small urban areas people can park their cars or motorcycles in public spaces then walk to their houses. There are ongoing discussions in Vietnam about motorcycle use.

2. **Eli Santana, Palembang, Indonesia:** Do you have local or national regulations on how to rapidly reduce the number of motorcycles before you install your MRT or BRT?

Hai: Now, we can only register one motorcycle under our name. There is also a heavy penalty imposed on people breaking the rules on the allowed number of motorcycle riders. If there are four, they have to pay a heavy fine.

3. **Mr. Premakumara Jath Dickella Gamaralalage, IGES:** How is the master plan prepared now in Vietnam after reorganization? Is there any influence from the traditional planning system?

Hai: About participation in planning in Vietnam, the urban planning law gives the people a chance to be involved in the whole process and not only at the end of the process of master planning. Before, after finalizing the master plan we show it in an exhibition. Now, we have to show it to the people in the middle of the planning process so the people can be involved and give their comments.

4. **Participant, Indonesia:** Is there a study in Vietnam showing the comparative costs of using motorcycles and buses in going to/from work?

Dastur: There is no such comprehensive study done in Vietnam. But what we have found from Danang City is that even with a very strong government subsidy and a grant from GTZ, it was about 2 or 3 times more cost effective for people to use motorcycles than public transport, which in this case comprised ordinary buses. Motorcycles also give them the added convenience of being able to make multiple trips in one journey, among other benefits.

Vergara: It really boils down to the questions of how do we learn from the lessons learned from the projects presented today? How do we pursue a new urbanism so that we satisfy the needs of the poor and at the same time protect the environment and promote economic development? How do we make a transition from motorcycles to some other solution? Holland did not throw away their bicycles—they have lots of them along with cars. I think we need to stop thinking about a model that everyone should follow. We need to think about our differences and how we can build solutions around our respective strengths. There is no convergence: each city should think differently. Cities work because there is decentralized thinking and solutions. With that, we're going to have a work session on Saturday, giving each team more time to think together as a team then reconvening to sum up their ideas.

DAY 2 PLENARY 1

ECO² OPERATIONS GUIDE

In this session, Mr. Sebastian Moffatt, Eco² advisor from Consensus Institute, presented the outline of the Eco² Operations Guide which is currently under development. It provides directions in developing and implementing Eco² operations, taking into account the specific local conditions and needs of each city.

Moffatt explained that the operations guide aims to build the capacity for adopting the approach and developing Eco² projects, inspire city champions and supporters, as well as extend ownership of Eco² projects. The guide will delineate the role of various actors, from mayors and champions, to middle managers, national policy makers, to the international development community. It will be a step-by-step guide starting from making situation analyses; identifying needs in terms of policies, institutions, and capacities; formulating measures, options, and indicators; developing projects; and sourcing funds.

DAY 2 PLENARY 2

JAPANESE PROGRAM FOR SUSTAINABLE URBAN
DEVELOPMENT

This session chaired by Mr. Hironori Hamanaka, board chair of the Institute for Global Environmental Strategies, introduced Japanese experiences in sustainable urban development and the innovative systems and technologies that have contributed to the development of highly energy- and resource-efficient and low-carbon economies and societies.

The presenters were: (1) Dr. Shizuo Iwata, director of ALMEC Corporation, which is currently carrying out a WB-funded study of Japanese experiences on sustainable urban development; (2) Mr. Shiuchi Kamata, senior deputy director of the City Planning Division, City and Regional Development Bureau of Japan's Ministry of Land, Infrastructure, Transport and Tourism (MLIT); and (3) Mr. Shinsuke Ito, deputy director of the Infrastructure and Advanced Systems Promotion Office, Manufacturing Industries Bureau of Japan's Ministry of Economy, Trade and Industry (METI).

Iwata presented the Japanese experiences on sustainable urban development, explaining the urban development process and giving an overview of environmental issues in Japan. He said that critical national government responses included the creation of eco-town and eco-model city projects, while local governments initiated comprehensive environmental policies and measures especially on pollution control with support from enterprises. He said that the community's participation in addressing environmental issues was likewise crucial, such as the residents' movement against pollution in the fifties, the lawsuit filed by pollution victims in the sixties, the increasing environmental awareness of the public in the nineties, and the environmental/economic awareness in the 2000s. Meanwhile, innovative systems and technologies developed by the private sector contributed to the development of highly energy- and resource-efficient cities. Iwata also showed the CO₂ emissions of Japanese cities. Iwata said that Japan's experiences show that everyone, i.e., residents, local and national government, and the private sector, has to be involved in pursuing sustainable urban development and that strategies and measures should be based on local conditions and the characteristics of cities.

Kamata gave a brief analysis of the effect of the urban structure on CO₂ emissions and the current CO₂ emission levels in Japanese cities. He informed the audience that the government's urban development policies against global warming include: (i) committing to the goal of the Kyoto Protocol to develop low-carbon cities and communities, (ii) passing laws promoting global warming countermeasures; (iii) formulating a new growth strategy for Japan; and (iv) formulating a growth strategy for MLIT. He also presented the low-carbon city development guideline which defines the low-carbon city concept and provides the analysis methods and a menu of measures to guide local governments in transforming their areas into such cities. Examples of measures on transportation, urban structure, energy, and greenery were given, as well as target setting, and impact analysis of expected measures.

Ito shared a unique vision of the future Japan proposed by the 2050 Working Group. He explained that the working group was established to develop ways of reaching the goal of a 50-80% CO₂ reduction by 2050 without sacrificing quality of life or economic growth. He said that the group's concepts are: changing burden into chance, translating the preposterous into common sense, using materials that are within reach, and anonymous group discussions. He said that the group's desired outputs include a new social system capable of halving carbon emissions, a business strategy that can link technological capabilities with corporate profits, and a society free from regional and organizational boundaries, and aligned public and private interests to achieve global success, or creating what he termed as a "sharing economy and co-creation society." Ito also explained the concept of smart communities and the establishment of the Japan Smart Community Alliance, citing smart community projects in Japan and in other countries.

Q&A Portion

1. **Mr. Vijay Jagannathan, WB:** To Mr. Kamata, what did it cost to do all this? Because, clearly, what's being done is incredible. What are the implications of working in a developing country, economy context? To Mr. Ito, how do you visualize a co-creation society working in a city in a developing country? Do you see this as a case of governments collaborating with governments or cooperation with consumers? What are the ways in which you can see this happening?

Kamata: Thank you for the question. To develop sustainable city (or) compact city, (we) use many projects, for example, transportation projects or land use or urban redevelopment projects. The Ministry of Land, Infrastructure, Transport and Tourism has many investments but these are fixed for use in many cities. Sorry, I don't know how much the investment was, so I can't (answer your question).

Ito: (Working on a co-creation society) is already difficult to do in the developed countries and it's more difficult to do in the developing countries where people are busier just to live their lives. They may not have the room or space to think about the future as well. What we're trying to do in India with regard to smart communities is that Japan, not just the central government but also the local governments and the businesses, can contribute in many ways. For instance, the developing countries always talk about leapfrogging to the newest infrastructure. But the important question is: would it be economically feasible? The important thing is that they learn what developed countries had to go through in the past, specially the environment problems. So, what we're trying to do is we introduce our experiences to them. We also have to tell them to introduce some of these schemes before the problems occur so that they don't have to go through all the hassles we had to go through. That's one of the contributions that we can do as a co-creation society. The other thing that is challenging but interesting to do is financing infrastructure building in developing countries. There are, I think, many people in Japan or in other developed countries who have become rich and who can contribute funds/money to making their society better. I am a little bit disappointed that my money in the bank is not used to contribute to the (betterment of the) world. If there's a kind of financial system through which people can contribute to their home country or to some country to which they have a strong attachment, these money can be spent in making the infrastructure in those countries better. There are many things that we really have to do to achieve this (co-creation society). It is whether we can act on them or not. That is the question that we really have to face. Thank you.

2. **Mr. Victor Vergara, WB:** Regarding slide number 15 where you talked about the main projects and programs promoted by the central government, you mentioned that it was too early to evaluate. This brought a very important reflection: for us in the WB we ask too much of our clients. We expect results in two or three years while all of our projects are 5 years. If they haven't changed the city around, we become disappointed. I think we need to have a new recasting of the time frame for things to take place. I am interested in the expectations of change within the cities in Japan based on your national initiatives. What is your time horizon

on the expectations of changes and how do you see that transferred to a much more complicated situation in the rest of the world?

Iwata: The output of the study on the cities indicates that at present, it is not only the cities which have been trying to focus on the environment; even the central government, the local governments, the private sector, and communities do too. This has just started during the last decade. But as I have shown in the slide presentation, the outcome in terms of CO₂ emissions (reduction) has not been very significant. However, one of the strengths of the Japanese environment sector is that it's got quite a solid platform which involves all stakeholders, especially the technological development in the private sector. This may contribute and further accelerate the achievement of the goals set by the central government. But we don't know exactly how fast these technological developments will be; nevertheless, we are hoping and expecting that changes or the next steps may take place not very long in the future.

3. **Mr. Arish Dastur, WB:** Two of the concepts you raised contradict the fundamentals of a capitalist economy: one is private property. You talk about a sharing economy and the efficiency of economies through competition, about the efficiencies of economies through collaboration, about a deep philosophical divide that's been taking place for many years, entrenched values, and entrenched economic, institutional, and political machinery that promote the idea of private capital. How do you propose to bridge the ideas you have with the entrenched values of the current dominant economic model?

Ito: I'm not denying the importance of capitalism or of competition. Competition is important; if people do not try to do better, our skills and our society will not improve at all. But one thing for sure is that there is too much focus on competition these days. More collaboration might have to be done in many aspects because problems are not limited to a specific company or a country; they are global. I'm also not denying the importance of possessions; but the important thing is that everything people possess will become common. If you're not going to use it, you transfer your possessions to somebody else. Why do we have emails or auctions when people can easily transfer these to other people? We already have experiences of a sharing economy in this new market. For instance, car sharing has become a fast-growing market in Japan. What we lack is a shared vision and the ways we can further realize this business or such economy.

DAY 2 BREAKOUT SESSION 3A	EXPERIENCES OF JAPANESE CITIES
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*This session, chaired by **Dr. Shizuo Iwata**, aimed to share lessons from the experiences of Japanese cities which underwent rapid urbanization and developed high population densities as a result. Their experiences in overcoming their vulnerabilities to natural disasters due to their geographical/ climatic conditions were also shared with cities from developing countries undergoing similar experiences. This session had two themes.*

Theme 1	Gray to Green
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The first theme is entitled "Gray to Green," which presented the cases of two industrial cities once heavily polluted but have become technology- and knowledge-oriented, clean cities, leading the world in building low-carbon societies.

*The presenters were: (1) **Ms. Mayumi Oda**, director of the International Environmental Strategies Division, Environment Bureau of Kitakyushu City; and (2) **Mr. Yukihiro Koizumi**, director general of the Economic and Labor Affairs Bureau of Kawasaki City.*

Oda explained Kitakyushu City's approach to a low-carbon society, starting with a brief history of the city's environmental policies comprising four phases. Phase 1 lasted up to the eighties and

was the period the city faced severe pollution problems. Phase 2, from the eighties to the early nineties, was characterized by international cooperation on environmental protection. Phase 3, which started from the first half of the nineties, was the period of recycling, and Phase 4 from 2005 up to now is the period of sustainability and low-carbon activities. He cited Kitakyushu's Green Frontier Plan whose targets are a prosperous society for generations to come and by 2050 40% CO₂ reduction without sacrificing economic growth. He also presented the Kitakyushu Asian Center for Low Carbon Society which will assist in transferring environmental technology, conduct research and disseminate information, and develop specialists with the goal of promoting carbon reduction and vitalizing economies in Asia.

Koizumi presented a brief profile of Kawasaki City and its experiences in overcoming pollution. He cited the technology and know-how the city gained through the anti-pollution measures it implemented through the years. Capitalizing on its achievements in pollution control and environmental technologies, Koizumi said the city has started to transfer these accumulated know-how to the rest of Japan and overseas as its contribution to a global sustainable development. Currently, Kawasaki is assisting Australia and NEDO in the areas of water transportation and water recycling and will host the Kawasaki International ECO-Tech Fair in February 2011.

Q&A Portion

1. **Andre Bald, WB:** Your city is like Surabaya or Ho Chi Minh City. There's probably a bit of a fear that when these city-based regulations were imposed on industries, they would just move to another city. How did you stop this and how did you work with the polluters themselves to help share the cost?

Koizumi: Kawasaki City historically developed under a policy of the central government to move the industries which were concentrated in the Tokyo metropolitan region to the outskirts, such as Kawasaki City. Since Kawasaki City is near Tokyo, the market for industrial products, the industries stayed and followed the city's strict regulations. Also, after the pollution problem emerged, the city's industries concentrated more on research and development, while the actual manufacturing of appliances moved to the rural areas.

Oda: In Kitakyushu's case, the industries which stayed in the city were rather large, so it was difficult to relocate them. At the same time, some industries did not locate themselves in Kitakyushu because they did not meet the standards set by the city. This may have been a tough decision for the city because at that time the importance of considering both ecological balance and economic development was not understood by both industries and residents.

Iwata: There are a number of important points the local governments considered. First, they situated the polluting industries within the metropolitan region, not within the city limits. Locational advantage for industries was not lost, although keeping polluting industries out of cities was not the solution. Second is cost. The factories and the companies themselves shouldered most of the cost of relocating. Some polluting industries in Yokkaichi City lost a court case and that was very painful for the private sector. As a result, the private sector has become very serious in improving its pollution control mechanisms through lots of investments to avoid pollution and payments to victims. So while very strict controls lie with the government, most of the cost has been shouldered by the private sector which has made the latter quite competitive in the latter stage.

2. **Masa Ichimura, UNESCAP:** Industries in Kitakyushu implemented pollution control by introducing cleaner production. Reducing pollution means increasing productivity so in that sense they needed initial investment for the facility; but in the long run pollution prevention paid off. Kitakyushu re-evaluated their experience in the 1990s and they found a lot of useful cases of cleaner production.

3. **Susan Taylor, University of Tokyo:** How do both of your cities find international partners to collaborate with? Do people from other cities come to you seeking advice or do you advertise yourself as model cities?

Koizumi: We have two ways of finding partners. First is opening an exhibition through which we introduce what Kawasaki City has been doing and the other is developing partnerships with sister cities. One example is China's Zhenjiang City. It's through partnerships with the central government committee and other partners.

Iwata: The strengths of these two cities are: (1) they have established knowledge centers which showcase their accumulated experiences in pollution control and (2) they have developed and promoted new technologies.

Theme 2	Innovative and Liveable Cities
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The second theme of this breakout session on the experiences of Japanese cities is entitled "Innovative and Liveable Cities." This theme introduced the cases of three innovative and liveable cities: Yokohama and Toyama cities have been nominated as Eco-Model Cities by the Japanese government, and Koshigaya Lake Town has been awarded the Built Project Gold Award from LivCom Award 2009. These cities have achieved environmental and economic sustainability by adopting innovative urban designs and management practices.

*The presenters were: (1) **Ms. Mikiko Uchiyama**, manager of the Climate Change Policy Headquarters of the Yokohama City Government; (2) **Mr. Kazuo Matamoto**, manager of the Urban Policy Division, City Improvement Department of the Toyama City Government; and (3) **Mr. Shigeru Mashimo**, director of the New Town Development Department, Saitama Regional Branch office of the Urban Renaissance Agency.*

Uchiyama presented a brief history of Yokohama City, touching briefly on the 1923 earthquake and the Second World War which devastated the city, and then the major infrastructure development from the sixties to the eighties, as well as more recent achievements. She also explained the Yokohama G30 Plan which targets a 30% waste reduction in 2010 and delineates the respective roles of citizens, businesses, and the government in achieving this goal. Due to citizen power, Uchiyama said the plan's target of reducing 840,000 tons of CO₂ emissions compared with the 2001 figure was achieved in 2007 or three years earlier than planned. She also mentioned Yokohama's vision to develop the Yokohama Smart City Project, explaining its vision and objectives, as well the benefits of using smart grids, energy management systems, and green technologies.

Matamoto shared the transformation of Toyama, a medium-sized city, into a transportation-oriented, compact, and livable city. He made a brief introduction of the city and the challenges it faced such as the decrease in population density, the deterioration on public transportation, and the hollowing out of the central urban area. He cited the formulation of an urban master plan for a compact city using inductive measures to revitalize the urban center, improve public transportation, and provide preferential treatment to target residential areas.

Mashimo outlined the Koshigaya Lake Town Project, which is more than just a waterfront housing development project but the start of a compact city development. The lake, being a crucial feature in battling the heat island phenomenon, is accessible to the public to promote healthy urban living and has a role in flood control. Mashimo said the project uses environmental technologies to create energy-efficient houses and an environmentally friendly shopping center. He underscored public involvement in the project to promote town management toward an creating an independent community. This project has earned for the town a gold prize in the 2009 International Awards for Liveable Communities.

Q&A Portion

1. **Michi Ishigami:** What is the relationship between the lake town to Koshigaya City government and how do you collaborate with the city government?

Mashimo: Koshigaya City is called the capital of water. It has suffered from flood disasters in the past and this project was initiated by the city government and they have a good relationship since then.

2. **Participant from Vietnam:** How did the community participate in this project?

Mashimo: The city government called on the citizens to participate, and the citizens were quite spontaneous in their involvement.

3. **Nestor Mijares, Philippines:** Is there any subsidy involved in the use of the trains and the tram? Could you give us a general idea about the cost-benefit analysis of all the subsidies to the overall objectives of that compact transport intervention in Toyama?

Matamoto: No subsidies are provided for the operation of the tram. There's some taxation for the housing, but the actual amount is still not decided yet. I cannot give an answer on the cost-benefit analysis at this moment.

4. **Mr. Premakumara Jath Dickella Gamaralalage, IGES:** Yokohama has a very unique experience in solid waste management. We are also working with some developing countries in promoting the 3Rs. The problem is it is very difficult to convince people in most developing countries to separate their wastes. How did you do it?

Uchiyama: We started sorting out 10 and 15 items. We had more than 10,000 meetings in two years. We spent so much time and energy explaining to residents and industries. There are a number of local communities called *cho nai kai* in Japanese and the percentage of our participation is very high. In some areas the participation rate is more than 90%, which is quite rare in large cities like Yokohama. The key point for the success of G30 is that the community in Yokohama is very solid. We also spent so much time and energy to get the understanding of the city and our citizens.

5. **Mr. Froilan Kampilan, Philippines:** Just like in Surabaya, the incentive for households is that children get free supplies when they reclassify the waste. What incentives or benefits do households get when recycling wastes?

Uchiyama: There is no incentive for citizens, no tax return. We just explained how and why we should reduce the amount of our waste destined for waste recycling installation and landfill. Due to the success of the G30 plan, we could save so much money to keep the installation plant. We also explained this effect to the citizens.

6. **Mr. Vijay Jagannathan, WB:** What is the cost of converting the city to a compact one? What is happening in terms of the city's economy---is that shrinking or is it still growing?

Matamoto: For transportation, we spent JPY0.5 billion and for housing JPY0.25 billion. Whether the economy is shrinking or not, it is hard to say; however, the central districts have been revitalized in recent years.

Iwata: When we do strategic development plans for cities, we always start with the situation analysis and come up with three or four different scenarios---what will be the future's urban form. Most cities have old master plans that indicate the future urban form. We come up with another form, compare their costs and benefits on a very sketchy basis. So, one, the most important factor is transport; a compact urban area must always be supported by proper investment in transportation. We need other utilities to support services but normally the

investment cost of transport is one of the major public investments. So, on the cost side we just look at the transport aspect. The different urban forms we assume urban land uses. Once we come up with the land use then we can estimate what other activities we can generate for different purposes, i.e., going to the office, going to school, private and businesses. Then we make the so-called trip table---how many people are going to move from one place to the other. We use a computer-based analytical model for the different transportation networks. In the end, we come up with the total vehicle operating cost and total time cost the people will spend under different scenarios. On the transportation side, you can have indicative figures, i.e., how the different urban forms are going to affect transportation. In that same model, we also assume emissions from vehicles depending upon their speeds on different lanes. Then we come up with impact on the air quality. These are the two main indicators we normally adopt in practical planning. We can add how much will be needed for other infrastructure, what is the total investment for different types of housing, but I have not seen a comprehensive analysis of the cost-benefit depending on the compactness of the urban form.

7. **Participant:** Some cities around the world are also experiencing a rapidly reducing population, for example Detroit in Michigan. The University of California has a city shrinking project dealing with how to resize cities. Given this population resizing, is there a chance to reconfigure the compact cities of Japan and is there a national program rather than a city-by-city program?

Iwata: There are no significant programs pertaining to that because the population has just started shrinking; but I'm not from the ministry. I have also never come across that kind of study yet. In the ongoing Bank study which we are doing we're assessing how the compactness of the urban areas relates to public investment cost, or the operation and maintenance cost, or the impact on the environment. That's a new area for the ministry to attend to.

8. **Mr. Max Pohan, Indonesia:** What is the reason for the population decrease in your city in the last couple of years? Why did the reduced population result in the improvement of public transport?

Matamoto: Population decrease is a national trend in Japan and the reason for it is the aging of society. The impact of the decrease in population to the public transport is, there's not a direct impact. However, the people's lifestyle has a more direct impact on the usage of the public transport. And he also added that if the people's lifestyle is not changed the usage of the public transport will not change either.

9. **Mr. Hai, Vietnam:** What is the difference between compact and satellite cities? What is their meaning in Japan? Is there any satellite city in Japan now?

Matamoto: The difference between satellite and compact cities is that satellite cities are independent administrative units which are independent from any other city. The idea of a compact city is to develop an urban center for the region with satellite cities around it. In Japan, we do have many satellite cities around large urban centers.

**DAY 2 BREAKOUT
SESSION 3B**

**KNOWLEDGE AND TECHNOLOGY OF THE PRIVATE
SECTOR**

*This session, chaired by **Mr. Yoshiaki Ohisa**, director-general of the International Affairs Department, New Energy and Industrial Technology Development and Organization (NEDO,) introduced Japanese knowledge and technologies relevant to sustainable urban development and GHG reduction, while exploring the role of the private sector in the process. Having the lowest CO₂ emission per GDP among the G7 countries Japan is aided by its private sector which maintains a high reputation for cutting-edge technology and practical systems in the areas of*

pollution control, energy efficiency, and GHG reduction. Such experience was expected to provide lessons to other countries and private businesses in their pursuit of sustainable urban development. This session had two themes.

Theme 1	Energy Efficiency and Renewable Energy
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The first is entitled “Energy Efficiency and Renewable Energy” which presented the experiences of JGC Corporation, Sekisui House, and Shimizu Corporation in building smart communities, smart homes, and smart buildings.

*The presenters were: (1) **Mr. Akitoshi Yokota**, leader of the Smart City Development Group, Urban and Infrastructure Development Department of JGC Corporation’s Business, Promotion and Execution Division; (2) **Mr. Fumio Kimura**, superintendent of the Comprehensive Housing R&D Institute, Sekisui House; and (3) **Mr. Atsushi Denda**, deputy director of the Institute of Technology, Shimizu Corporation.*

Yokota reported on building smart and compact communities, a key urban development concept for developing countries. He explained the concept as one which combines urban and regional development with infrastructure development or upgrading to create urban areas that are compact (i.e., walkable), smart (i.e., effectively and efficiently governed), and localized (i.e., using locally suited technologies). He emphasized the key infrastructure elements for such urban areas, and these are: (i) water, wastewater and solid waste; (ii) electricity; (iii) transportation; and (iv) information communication. He referred to the Yokohama Smart City Project, which combines Minato Mirai 21, Yokohama Green Valley, and Kohoku New Town, as an example of connected smart cities.

Kimura gave a brief profile of Sekisui House and explained the company’s approach to building smart houses and communities. He stressed that the company is committed to promoting CO₂ reduction or elimination by building smart houses that harness natural light, wind, and water to reduce energy consumption and improve living amenity. Another strategy is to build smart communities where residents share energy sources and the natural environment, thereby strengthening their sense of community and collective responsibility.

Denda explained the background of Shimizu Corporation and showed the carbon management roadmap for its own building. He also presented the features, layouts, and results of microgrid systems in zero-emissions buildings, as well as in urban and rural settings, to ensure efficient and effective power generation, distribution, and consumption. He showed images of a microgrid in China and a collaboration with the United States on a smart grid.

Q&A Portion

1. **Victor Vergara, WB:** Can you give practical example of a microgrid as a system or is it just in the planning stage? Also the cost because there’s a lot to be done in terms of infrastructure to smooth out the power grid.

Denda: There are two examples of the microgrid: our SIT microgrid and the Chinese micro grid. The SIT microgrid is continuing. The smartgrid in the United States is now in the planning stage, but very soon it will start. Our SIT microgrid is just an experimental system for our research activities so we have the highest level of equipment to study the microgrid control system. So the cost is not so good and it has a very long time payback period. The savings rate in winter or summer is 10% energy saving and about 10% CO₂ reduction. In net-zero buildings by 2020 only 20 or 30% CO₂ emission will be cut, so we have to study more in this stage.

2. **Mr. Max Pohan, Indonesia:** Our problem in Indonesia is that we lack integrated and visionary planning of cities. Which aspects do we have to privatize first to become a smart and compact city?

Yokota: To develop a smart and compact city is rather costly, but the concept making is very important. The easier step is to start with the city infrastructure, for example, water or power infrastructure, as a starting point.

Theme 2	Resource Efficiency
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The second theme of this breakout session on the knowledge and technology of Japan's private sector is entitled "Resource Efficiency." Presented were green technologies to reduce CO₂ emissions and save energy, as well as rainwater harvesting and gray water recycling under a decentralized water supply system.

*The presenters were: (1) **Mr. Takashi Shimakawa**, senior associate officer at Kawasaki Heavy Industries, Ltd.; and (3) **Mr. Atsushi Okamoto**, general manager of the Engineering Department, International Business in Environmental Solution Sector of JFE Engineering Corporation*

Shimakawa briefly introduced Kawasaki Green Technologies and its services as well as clients. He showed the company's contribution to the global environment through product and system innovations such as the so-called cement waste heat power plant which reduces by as much as 30% the power consumed by cement factories. He said this technology has been adopted for 133 plants in eight Asian-Pacific countries. Another company innovation is the municipal waste treatment plant which changes waste into valuable resources such as fuel or raw materials for cement, as well as ensures stable gasification. He said that its plan is to promote zero-emission eco-town systems wherein industrial, power generation, and environmental plants work in synergy to produce zero emissions. A demonstration plant in China by Kawasaki and a Chinese firm has earned the Blue Sky Award which is given by UNIDO to high technologies in renewable energies with investment values.

Okamoto showed the profile of JFE Engineering Corporation and its innovations in providing decentralized water supply systems using rainwater and wastewater. He explained the system in Queensland, Australia, and how it saves water and generates new supply. This project is a joint effort among the company, NEDO, Nomura Research Institute, Kawasaki City, and Queensland, which started in 2009 and covers feasibility study, design, and construction. Commercial operation is expected to start by 2014. Based on the lessons from this landmark project, the company expects to replicate the same elsewhere. Okamoto said the company is also aiming for zero effluent discharge.

Q&A Portion

1. **Participant, Vietnam:** It takes a long time, 10 years, for you to realize the first 10 projects in Japan and it seems that you have been successful in China but not in other countries like Vietnam. Could you give me some explanation why you cannot introduce that technology in other countries? I come from Vietnam and we have quite a lot of cement factories. I believe only a very few of them have such kind of technology, heat recovery. The government of Vietnam is very hard on cement factories because the energy consumption of cement and steel factories in Vietnam account for about 15% or 20% of the total energy consumption in the country. So, the potential and incentive from the government are there. Because you have only one project in Vietnam, do you think there's any difference between us and other countries? What are the areas where you can introduce that technology in Vietnam?

Shimakawa: We already started our business in Vietnam. In China, it took 10 years to transfer our technology to them. Before, the effect of our energy-saving technology could not be understood by the Chinese; but after the NEDO project, they understood it. They also

make an effort to reduce the cost of our technology by using their labor. Now we perform at very low costs, using good technology with good quality. Initially, it takes about 10 years to collect the investment, but after our collaboration with China, it shortened to two years. It's easy to introduce to your country and to all the other Asian or developing countries.

2. **Student, Indonesia:** You said there are about 320 and 250 degrees Celsius of heat that is changed into electricity from cement plant. How many percent of this electricity is used to run the plant itself and how many percent goes to the grid to supply electricity to the surrounding community? Can the heat itself be used for district heating?

Shimakawa: As I showed in my graph on page 30, electricity is used by the cement plant only and not to provide the community. It saves 30%. The cement plant uses much electricity, so CO₂ emission is very high; the energy saved contributes to the society.

3. **Student, Indonesia:** You introduced a lot of technology to treat waste and to change waste to electricity. Which kind of technology that you are offering is most applicable to developing countries which neither segregate their waste nor are going to do so probably in five or 10 years?

Shimakawa: The gasification reactor can classify garbage easily. In China, many people there get the plastic or cans to earn money, so the remaining waste has very low calorie content but there is no problem in converting them to energy or fuel. So I propose the gasification technology for developing countries.

4. **Kyoko Takashi, JICA:** Is there any cost advantage for using decentralized water supply system compared with the existing water system. If we implement the decentralized water supply system, would we still require the existing water system?

Okamoto: Regarding the first question, the project which is now going on is a kind of demonstration or pilot project. We have to demonstrate the safety of the water and for such we have included a lot of arrangements in the facility which we are going to build. So, obviously the capital cost for this project would be considerably high compared with the conventional system. We estimate that for 20 years of operating this pilot project, the capital cost would correspond to about USD7 per cubic meter of water and a running cost of maybe USD1 per ton, or a total of USD8 per ton, which is quite higher than the actual charging system in Australia, which is about USD3 now. We have to reduce the cost; that is one of the targets which we have to pursue in this project.

For the second question, I think the centralized and decentralized system should co-exist. Probably in many urban areas the conventional system is sufficient, but we have to emphasize the importance of capacity development, which for me is the flexibility of the society to cope with the potential risks associated with, for example, aging of the existing infrastructure or terrorism or natural disaster or even climate change. For that, we have to consider the best mix of centralized and decentralized system.

DAY 2 PLENARY 4

LESSONS LEARNED FOR PILOT ECO² CITIES

*This session, chaired by **Ryoichi Hirono**, IGES counselor and Seikei University professor emeritus, presented the summaries of the discussions in the earlier two breakout sessions, i.e., one on the experiences of Kitakyushu, Kawasaki, Yokohama, Toyama, and Koshigaya Lake Town in pursuing ecological balance and innovative, livable cities; and two on the role and contributions of the private sector in the fields of energy efficiency, renewable energy, and resource efficiency. The chairs of both sessions presented their respective summaries.*

*The presenters were: (1) **Dr. Shizuo Iwata**, director at ALMEC Corporation, and (2) **Mr. Yoshiaki Ohisa**, director general of the International Affairs Department of NEDO.*

Iwata reported on the strategies adopted by two heavily polluted industrial cities which have transformed into low-carbon societies using technology and knowledge. Both cities of Kitakyushu and Kawasaki have programs on controlling environmental pollution. The former also promotes international cooperation, has a plan on reducing CO₂ emissions, and established a center promoting a low-carbon society. Meanwhile, Kawasaki City established the Environmental Technology Information Center and the Environmental Planning Task Force. Besides these two cities, Iwata also reported on the programs of three Japanese cities that have achieved environmental and economic sustainability. Yokohama City has its G30 plan to reduce waste by 30%, a program on reducing CO₂ emission, and projects entitled Sart City and Yokohama Smart City Project. Toyama City has built a compact, liveable city by restructuring its urban area, revitalizing its city center, and reducing CO₂ emissions. Koshigaya Lake Town is pursuing a low-carbon city development based on efficiently managing its water resources. Besides the plans, projects, and programs the five cities pursued, the features common to them are: (1) they follow a transit-based urban development, (2) they have declared urban growth boundaries for urbanization promotion and control; (3) they adopt the land readjustment and urban renewal laws; and (4) they incorporated the people's behavior and traditional values into their respective programs.

Ohisa clarified the technological efforts of five private Japanese companies. To ensure energy efficiency and secure renewable energy, JGC Corporation promotes smart and compact communities, such as the Yokohama Smart City project, by following several strategies: (1) urban and regional development with infrastructure development; (2) urban-regional development and infrastructure upgrading; and (3) selection of core infrastructure technology. Sekisui House, on the other hand: (1) strives for zero emission within the company, (2) builds smart houses that emit low CO₂ levels and provide better amenities; and (3) builds smart communities where smart houses share energy, place, and nature with others. Shimizu Kentetsu builds smart buildings that save energy through smart operation and maintenance systems. Ohisa also reported the noteworthy strategies of two other Japanese firms that focus on ensuring resource efficiency. Kawasaki Heavy Industries have introduced industrial, power generation, and treatment plants that emit lower CO₂ and save energy. This company plans to develop a zero-emission eco town system where wastes can be converted to fuel and raw material for cement. JFE Engineering Corporation, meanwhile, has developed a decentralized water supply system using rainwater and wastewater.

Q&A Portion

1. **Participant, Japan:** Dr. Iwata said good governance and the participation of stakeholders are very important. These are the bases of all best practices at the city level. I think it's much more difficult to transfer knowledge and experiences than technology. While cities should make an effort, they should be given time and their capacities built. So how can these future eco cities be supported?

Iwata: For the first question on how to mobilize people's participation in policy implementation. In my presentation, pollution control has been initiated starting from the complaints of the people. That was the starting point. At that time there's no participation of the people in any kind of policy undertaking. Japan has been highly centralized. But because of the seriousness of the pollution, the people had to stand up and started to complain. Then, it moved to the lower court, then the higher court. The private sector lost that court case and the private sector got very serious. Because it's quite an expensive compensation, they started addressing those issues and the central government was aware of that. So from the very start, it was initiated by the people and ended with a very strong public involvement. What we can suggest to the developing cities is that we have to listen to the people. What are really their problems? Because environmental problems vary by area, there are no common environmental issues. If you look at the big cities, in some areas it may be the flooding issue, in some areas it's garbage. That's how we are going to identify critically the needs of the people. That is the starting point, then we capitalize on the people's power to respond to those problems. When we do the studies in many developing cities we don't have

much data especially on what people are thinking. So normally we do a quite comprehensive questionnaire survey, asking the people directly what the critical problems they are facing.

2. **Victor Vergara, WB:** I wanted to find out about battery technology and the state of development and innovation in Japan and its application in urban development.

Ohisa: Actually it's very important to avoid fluctuation in the grid of the network, so NEDO develops the technology, but sorry I'm not an expert in this field so I will give you the information directly when I get it.

3. **Byungok Ahn, Korea:** You have shown a table which includes important indicators of five Japanese eco cities. According to your table, there are big discrepancies between the 5 cities. For example, Yokohama City has CO₂ per capita of slightly over 4 tons per person and the other cities, 14 or 18. It's very amazing because China has an emission level of four or five. Could may be one reason is that Yokohama has few factories compared with other cities? Are there any other reasons for these big differences?

Iwata: Emissions come from manufacturing, transport, business, and households. The average emission level is very much affected by the economic structure, which refers to the share of manufacturing. If you remove manufacturing you can have a more similar level of emissions for transport, business and households. In the case of Yokohama, it has a very low emission level which means the industrial structure is very different from that in other cities. Since Kawasaki has a very high emission level from the manufacturing sector, which means the industrial structure is a little bit of the old type. Therefore, if you look at that chart again, please compare with the "with or without" manufacturing sector. Then, we can come up with a more reasonable judgment on the level of emissions.

4. **Mr. Premakumara Jath Dickella Gamaralalage, IGES:** Most of the private sector activities in Japan are very interesting especially on how they take the environmental aspect; but the issue is the cost. When you're going to work with Eco² and WB and replicating in other Asian cities we're talking about cities with no fund to pay the salaries of their staff. So how is the private sector going to change their technologies to adapt to these local conditions?

Ohisa: The private sector is very important to promote this area. In the case of Japan when we need to implement a project, we first entrust it to Japanese companies through bidding. We select the most appropriate technology to share with some countries. That means NEDO is a public organization. So, one way is for government and public organizations to support private companies in spreading Japanese technology all over the world. Sorry, I cannot answer you; but the government or public organizations should assist private companies.

Hirono: Some decades ago, there were a lot of discussions on the so-called appropriate technology. Certainly, appropriate technology is a concept which is very important to any country. Based on my own observation of some of these appropriate technologies, I have found that the private sector can be quite adaptive, particularly if they can coordinate with the local enterprise in particular countries involved. Therefore, I don't think we should be pessimistic about it anyway.

Hirono: To end this particular session, I would like to say a few things. First, ecological cities, whether big or small, are of the people, by the people, and for the people. That's the fundamental point to adhere to. Second, in my own experience in Kitakyushu, I found that while it is important for an ecological city to maintain its own fame as an ecological city, at the same time it has to worry about its own economic viability or economic competitiveness because nowadays cities are competing with each other to really rise up the ladder. Three, about people participation is certainly very important and is very much related to the first point. But then what is really far more, or equally, important is fiscal balance. Many local cities in this country and in many developing countries are already running fiscal deficits. How do you deal with fiscal deficits? How are you going to maintain a better environment in your own cities and, at the same time, do it

within your means? This is something which probably international cooperation including WB or other agencies can address.

DAY 2 PLENARY 6**CITY-TO-CITY COLLABORATION**

*This session, chaired by **Mr. William Cobbet**, Cities Alliance manager, discussed the value of city-to-city collaboration in the areas of knowledge sharing and capacity building to promote sustainable urban development. In particular, it touched on the role of learning institutions, city governments, and the private sector. A representative from the International Academic Consortium for Sustainable Cities explained its initiatives, while another from the Yokohama City government shared its experiences in working with cities and the private sector, international networks and the academe. Yet another representative presented the activities of CITYNET.*

*The presenters were: (1) **Mr. Tsutomu Fuse**, president of Yokohama City University; (2) **Mr. Toru Hashimoto**, senior project manager of the Co-Governance and Creation Task Force of Yokohama City; and (3) **Ms. Mary Jane Ortega**, CITYNET secretary-general.*

On city-to-city collaboration through the academe, **Fuse** explained that the Yokohama City University launched the International Academic Consortium for Sustainable Cities on 9 September 2009 together with a number of Asian universities to contribute to solving urban problems including environment, urban development, and public health by networking with universities in large cities mainly in Asia and promoting cooperation among them as well as with cities, international organizations, development agencies, and other organizations. The Academic Consortium has three units, i.e., environmental, urban design and management, and public health, which share information, network, promote projects, and evaluate the World Bank's Eco² program and related programs by other agencies. Fuse said that it has signed an MOU with the World Bank which covers five main areas that focus on sustainable urban development, namely, promotion and dissemination of outputs from the Eco² program of the WB, environmental improvement, improvement of energy efficiency, promotion of public health and education, as well as capacity building.

On city-to-city collaboration through cities, the private sector, and the academe, **Hashimoto** said Yokohama has been doing such collaboration through various means. One is through official development assistance to the sectors of water, wastewater, and solid waste management for which Yokohama has received around 2,000 trainees and dispatched more than 150 experts for short- and long-term support to over 28 countries for the past 20 years. Another way is by establishing sister cities. Yokohama now has sister-city relationships with Mumbai, Shanghai, Vancouver, San Diego, and Manila, and three in Europe. Third is by establishing strategic partner cities, which are time-bound and focus on specific agenda. Yokohama has six strategic partner cities at the moment and they are Beijing, Taipei, Incheon, Ho Chi Minh, Hanoi, and Pusan. Fourth is by collaborating with CITYNET and other international organizations. Building on its experiences and knowledge, Yokohama City plans to launch its Yokohama Partnership for Resource Transfer (Y-PORT) project which will focus on five initiatives: (i) dissemination of accumulated know-how on urban development and environmental management; (ii) provision of streamlined and systematic technical assistance and training opportunities; (iii) public-private partnership, collaboration with universities, CITYNET, and strategic partner cities, (iv) water, wastewater, and solid waste management, as well as overall city management.

On city-to-city collaboration through city governments and organizations, **Ortega** reported on the activities of CITYNET, a network of local governments, municipal associations, development authorities, NGOs, research institutions, and corporations that work with international aid agencies such as ADB, World Bank, and various UN agencies. Through various approaches and methods, such as workshops and seminars, training, study visits, technical advisory services, web portals, research, publications and newsletters, and city-to-city cooperation, CITYNET develops partnerships, spreads its advocacies, builds capacities, and functions as a clearinghouse. According to Ortega, in the coming three to five years, CITYNET's city-to-city cooperation on sustainable development will focus on improving the urban environment and will

cover such areas as integrated urban planning, sustainable solid waste management, sustainable transport development, achievement of the Millennium Development Goals, and promotion of the climate disaster resilience initiative. About 26 beneficiary cities and about 11 resource cities will be involved in these action plans.

2.3 Summary of Panel Discussions

DAY 2 PLENARY 5

ADAPTATION TO CLIMATE CHANGE: COASTAL CITY STUDY

This session, chaired by Mr. James Warren Evans, sector director of the WB's Environment Department, presented the major findings of case studies on the vulnerability of coastal cities to a range of climate-related risks including accelerated sea level rise, increased temperature and precipitation, and increased frequency and intensity of extreme events. The session also highlighted the importance of addressing climate-related risks as part of urban planning which is consistent with the Fourth Principle of Eco² Cities, i.e., an investment framework that values sustainability and resiliency.

The presenters were: (1) Mr. Hiroto Arakawa, JICA senior special adviser, and (2) Dr. Megumi Muto, research fellow at the JICA Research Institute. Panel members were: (1) Dr. Kensuke Fukushi, associate professor at the University of Tokyo's Integrated Research System for Sustainability Science (IR3S); (2) Mr. Ilham Arief Sirajuddin, mayor of Makassar City; and (3) Mr. Wendel Avisado, assistant secretary of the Philippines's Housing and Urban Development Coordinating Council.

Arakawa introduced a joint study by World Bank, ADB, and JICA on the potential impacts of climate change on coastal cities entitled "Climate Risks and Adaptation in Asian Coastal Megacities." He said that about three years ago, the WB, ADB, and JICA were faced with the same challenge, i.e., how to incorporate the issue of global climate change when we assist the megacities in Asia, which are becoming global economic powers. Megacities are not only the centers of economic growth in Asia but hosts to millions of people migrating from the rural areas, making them most vulnerable to climate change through extreme weather, sea level rise, and intensified storms. World Bank, ADB and JICA joined hands in investigating how the projected climate change could affect economies and societies.

Muto explained that while there is growing literature on cities and climate change, there is limited research on a systematic assessment of risks and damage costs at the city level; hence the rationale for the joint study. Ho Chi Minh, Metro Manila, Bangkok Metropolitan Region, and Kolkata Municipal Authority were selected as case study cities. The methodology estimated temperatures and precipitation levels by 2050, analyzed hydrological conditions to estimate flooding under different scenarios, then analyzed the socio-economic conditions in each city. According to Muto, findings showed that by 2050, damage costs due to flooding will reach USD4.6 billion in Bangkok and an increase of USD800 million in Kolkata. Damage to buildings will account for the largest share of costs in Metro Manila, Kolkata, and Bangkok. Inundated areas will increase by 30% in Bangkok, 9% in Kolkata, 7% in Ho Chi Minh, and 42% in Metro Manila. In terms of affected populations, it will be about a million in Bangkok, a 6% increase in current figures in Kolkata, 62% of the population in Ho Chi Minh, and 2.5 million in Metro Manila. In terms of the impact of flooding on the GDP, it will be 2% of Bangkok's regional GDP and 6% of Metro Manila's. Lessons from the study include the following: (i) sound urban environmental management is crucial to adapt to climate change, (ii) climate adaptation should be integrated into city planning, and (iii) adaptation measures have to be tailored to each city.

Fukushi further explained the study, saying that the study integrated several very different models, i.e., global climate, hydrology, health, and economic models. Each model was developed by different people with different disciplines. In order to develop or integrate the models, we just needed to know the link between models or interfaces, i.e., what kind of results come from one model and what kind of model needs to be inputted to a certain model. In the

process, we found that academicians can and should work with practitioners like the JICA staff or urban planners, or local government personnel to develop integrated models capitalizing on their respective disciplines. Such kind of collaboration is also needed to obtain data, such as on demography and land use, which are difficult to collect in developing countries.

Evans asked if it is possible to package the different analytical systems into a simple approach to enable cities to better understand and prepare for the risks they will face.

Fukushi replied it is possible. Since the risks in coastal climate change are very integrated, there is a need to break them down. Each risk can then be calculated by each model. Then the risks have to be linked since their endpoints are different. The important thing is structuralizing the models so that they can be solved even by academicians.

Evans asked the panelists from Indonesia and the Philippines: (i) about their efforts to mitigate the increased impacts of floods and typhoons and (ii) if they take into account the likely impacts of climate change in deciding on investments in urban infrastructure and the type of assistance they need.

Sirajuddin explained that since Makassar is a coastal city, one of the city government's actions was to prepare the Makassar waterfront development plan. It consists of six projects, namely, (i) Losari beach zone, which is 70% complete; (ii) global business zone, 20%; (iii) maritime zone, 10%; (iv) seafront zone, 5%; (v) transport zone, 5%, and (vi) business zone, 5%. Makassar needs to fast-track the project because of climate change, but they need support from international donors. He also said that in anticipation of climate change, the city has an ongoing reclamation project.

Avisado replied that the Metro Manila Council, comprising 16 cities and one municipality, is immediately convened together with the National Risk Reduction and Management Council, composed of national government agencies like the departments of national defense, social welfare and development, health, and education, to prepare measures to cushion and minimize the destructive effects of floods and typhoons. These cities and municipalities link up with their respective private sector counterparts, emergency response and relief organizations like the Red Cross, local police, and other law enforcement agencies for possible forced evacuation to save lives and properties, among many other response mechanisms. As for the type of assistance the Philippines needs, Avisado said that a unified data and information center is required to store relevant information necessary to prepare the country respond to the changing climate. A transfer of information and data is necessary so that emerging issues can be taken into account and appropriate recommendations can be sent to the national level. LGUs also have to engage each other and plan together, since, owing to its archipelagic nature, national government support always arrive late. The WB and JICA, for example, can come up with certain protocols to guide countries in their development.

Muto said it is evident from the discussions that in order to respond to the challenge of climate change, there is a need for visionary leaders rallying local governments, good academic advisers eager to cross between disciplines, and for coastal cities, financiers as well.

Q&A Portion

1. **Mr. Do Quang Hung, Vietnam:** Hai Phong City is a seaport and coastal city so we are directly influenced by climate change and sea level rise. So far there's no study about the effect of sea level rise but the people in Hai Phong witness it. Due to many river mouths and many rivers across the city, high tide frequently submerges some river banks in the city center. River water comes out of manholes in the city center during high tide. We have 54 one-way tide gates and they are sewerage systems and not all of them are able to effectively and efficiently protect the city from seawater rise. The recently completed World Bank project financed for Hai Phong City called Wang bi Project to rehabilitate the city's sewerage system and inaugurated 5 years ago is now out of date. The project used land leveling code +3 m

above the sea level, the code for every construction works. But now most of them are nearly submerged. Ten years ago some of our technicians and planners would like to raise the land leveling post to +4.5 m but at that time nobody listened to the recommendation. Now the city has to increase the land leveling port to +4.5 to 5 meters above sea level. However, it's costly. We are also severely affected by saltwater intrusion into surface water from which we draw water. So we would like to learn how to adjust to sea level rise because Hai Phong has a very long coastline of more than 150 kilometers, has more than 10 river mouths, and is the main gate to the world for the north of Vietnam.

Evans: The message is loud and clear: the tendency is to look at major cities in the region, megacities in particular, but there are many cities along the coast of East Asia and South Asia which are in the same situation as Hai Phong is in now. It is important that we recognize the need for a model which can be applied readily across many cities to help them deal with this kind of issues. The challenge that we're faced with now is how we can develop the tools necessary so that in planning in Hai Phong and other cities like that, the government is in a position to get support and to look at the ways that they can adapt to climate change impacts.

2. **Shivanand Swamy, India:** How can cities around the world begin to adopt these methodologies? What proposals do we have so that we can move it forward?

Evans: I would encourage you to use the opportunity here to talk about that with people from JICA, WB, and various research institutions. The reality is that we can't wait until the knowledge gaps are filled to take actions on this challenge. We have to take action now, which means that the action will be taken with very high levels of uncertainty. So, the real question is: how do we deal with the uncertainties that we have while minimizing the delays in making good decisions in the coming years? This is a tough decision that local government officials have to make and we're not talking about trivial amounts of money. A city has to try to catch up with the infrastructure gaps that they already have and suggestions that additional money should be spent to climate-proof their infrastructure is a hard sell, unless we build the knowledge gaps. But we can't wait to do a lot more research like this before we take those decisions. My colleagues in the WB have done a lot of thinking and a lot of work on how we can provide the tools necessary. JICA is doing the same thing. There's probably room for us to work more closely together so that we can put our energies in one direction and maybe a little more quickly deliver what you all need.

3 APPENDICES

3.1 Opening Remarks and Keynote Speech

1) Opening Remarks (Ms. Abha Joshi-Ghani)

Good morning everyone. On behalf of the World Bank, I would like to extend my warm welcome to all the participants of Eco² 2010 Yokohama.

When I saw the conference banner this morning I was impressed to see together with our co-organizers JICA and City of Yokohama, the names of all the key Japanese Ministries, government agencies, a university and two municipal associations. I thank all of you for your hospitality and support in making this conference a reality.

Since the launch of the Eco² Cities Initiative in Singapore and Marseille in 2009 we have come a long way. The Eco² Cities Initiative has been officially adopted as an integral part of the World Bank's new Urban and Local Government Strategy in November 2009. The Eco² book was published in May 2010 and has become one of the best sellers at the World Bank bookstore. Less than 14 months from the launch, cities in the Philippines, Vietnam and Indonesia are preparing the first generation of Eco² projects with support from the Japanese Government through Cities Alliance. National governments are also supporting Eco² Initiatives such as Indonesia's Bappenas which has adopted Eco² as its national urban sector program.

The Eco² Initiative is rolling out to other regions and countries, too. In July this year the first Eco² workshop was held in South Asia, in Colombo, Sri Lanka, and another will be held in Malaysia in November.

This is the largest Eco² conference held so far with more than 250 registrations.

A wide range of stakeholders including government policy makers, urban managers and planners, researchers and corporate representatives are gathered here to learn about and discuss the Eco² Cities initiative and innovative sustainable urban development practices from around the world.

Over the next two days we will have the opportunity to hear from the Eco² global good practice cities: Sweden's Symbio Cities, Curitiba, Brazil, Singapore and Ahmedabad, India.

We will also hear from the Eco² East Asia pilot operations in Indonesia, the Philippines and Vietnam.

Because of our location here in Yokohama we are fortunate to have the opportunity to hear from Yokohama and other Japanese cities about their valuable experiences in sustainable urban development. I am also pleased that the Japanese private sector will share their cutting edge technology and systems for energy and resource efficiency.

I am also pleased to inform you that the World Bank will sign two MOUs on the promotion of sustainable urban development during this conference, one with the National Energy and Industrial Technology Organization of Japan and another with Yokohama City University as the secretariat of the International Academic Consortium for Sustainable Cities which consists of more than 20 universities in Asia and Pacific Region.

The conference will end with the adoption of a Joint Declaration on Sustainable Urban Development, a lasting outcome that will influence our joint efforts for sustainability. This declaration will be also sent to the APEC Meeting to be held in November in this same place, PACIFICO.

Ladies and gentlemen, I wish you very fruitful learning and discussions today and tomorrow.

Thanks.

2) Opening Remarks (Mr. Kenzo Oshima)

- Ms. Fumiko Hayashi (Mayor, City of Yokohama),
- Ms. Inger Andersen (Vice President, World Bank),
- Mr. Makoto Taketoshi (Vice-Minister of Land, Infrastructure)
- Mr. Haruhisa Somaya (Councilor for APEC, Ministry of Economy, Trade, and Industry (METI)), Japan,
- Distinguished guests, ladies and gentlemen,

Thank you for the kind introduction. On behalf of the Japan International Cooperation Agency (JICA), it is my great pleasure to welcome all the guests and participants to this international conference on Eco² in Yokohama.

JICA is pleased and privileged to host this event with one of its most important development partners, the World Bank. Our two institutions work closely in partnership on many fronts such as policy dialogue and joint financing of projects, development studies and research. And this increasingly close collaborative relationship will be further enhanced, as reconfirmed recently by the heads of our two organizations, Mr. Robert Zoellick and Madame Sadako Ogata, during their meeting in Washington DC, on the occasion of annual the World Bank/IMF gathering two weeks ago.

I would also like to take this opportunity to thank Ms. Hayashi, Mayor of the city of Yokohama, for the valuable support that JICA receives through its Yokohama International Center here, in facilitating training programs for developing country trainees, providing professional expertise and supporting the Japan Overseas Cooperation Volunteers. This is much appreciated.

Looking back on the history of development, we know that there is a close correlation between economic growth and urbanization. In fact, there are no countries in the past which achieved high economic growth without urbanization and industrialization. There are interesting research works done on this subject, for example, in 2008, leading world economists including Michael Spence, the 2008 Nobel Prize winner for economics, published the Growth Report. According to that Report, over the past 25 years, 12 countries achieved sustained annual growth of more than 7%, and 9 of them were Asian countries including Japan, Korea and China. In those countries sustainable growth was achieved by the accumulation of capital and wealth in urban areas, as well as by industrialization.

In this context, it is interesting to note that, for the first time in human history, the world's urban population compared to rural dwellers passed the 50% line in 2008, and this trend is expected to continue, especially in developing countries. And 75% of world gross product comes from urban areas, and in developing countries that rate is currently at about 60 % and it is also fast growing.

Thus urbanization is a fact of life holding out the promise of further economic growth, but at the same time in many countries, particularly in developing country situations, the process of urbanization is not smooth and problem free; in fact, it often is accompanied by serious problems, risks and vulnerabilities.

They include, for example:

- (i) Lack of infrastructure, such as transportation and power supplies;

- (ii) Social challenges that include slum areas, shortage of basic services such as schools and hospitals, and rising criminality;
- (iii) Vulnerability to natural disasters such as earthquakes or rising sea levels and flooding due to climate change;
- (iv) Environmental degradation such as air and water pollution, and emissions of GHG; and
- (v) Traffic jams and deteriorating urban services caused by energy shortages.

It is therefore important to take measures and countermeasures to mitigate these negative impacts and ensure that ongoing urbanization will maintain a balance between economic growth and environmental sustainability.

In this context, I believe this Eco² initiative undertaken by the World Bank is both appropriate and timely. Eco² aims to achieve urban development through a combination of maximizing energy efficiency, mitigating the impact of climate change, and promoting an environment-friendly biodiversity approach while at the same time ensuring urban economic growth. I also believe that the concept and approach envisioned under Eco² will contribute to discussions in COP 10 currently being held in Nagoya on biodiversity. It also has much to contribute in the context of COP 16, which will take place in Mexico to discuss climate change later this year.

Moreover, the concept of Eco² aligns with the Japanese government's new growth strategy to focus on 'green innovation' as one of its key components, and with APEC's regional strategy which includes sustainable growth.

In the course of Japan's own urbanization and industrialization of the last few decades we suffered serious problems, including those of pollution. But in meeting that challenge we developed state-of-the-art environmental technologies. Japanese cities such as Yokohama, Kita-Kyusyu, Kawasaki, Toyama, and Koshigaya became leading 'ecological cities which are going to share their good practices.

Fortified by such knowledge JICA has been helping urban centers in developing countries to try to maintain equilibrium between environmental sustainability and economic growth. The agency has helped to structure urban and regional development master plans including appropriate projects for infrastructure, human resource and institutional capacity enhancement and policy reform.

For instance:

- (i) JICA has been involved in urban planning and development for the Vietnamese capital, Hanoi, one project there being the promotion of an eco-friendly public transportation system;
- (ii) Similarly, JICA provides assistance to Mongolia in urban planning and development of its capital city, Ulaanbaatar, to archive a low-carbon city environment by promoting a 'compact city' development;
- (iii) In Colombia, in Medellin (which used to be known as the home of the international drug ring, the Medellin cartel), JICA was involved in a technical assistance project in urban planning and land reallocation of the city's slum areas, to improve living conditions and security; and
- (iv) JICA, in collaboration with the World Bank and Asian Development Bank, has launched an in-depth study of climate risks and impacts, estimation of associated damage costs by 2050, and prioritization of adaptation options for three coastal cities in Asia—Manila, Ho Chi Minh, Bangkok. Study results will be presented during one of tomorrow's sessions.

Finally, let me say that, using the Eco² platform, JICA looks forward to strengthening collaboration with the World Bank and other bilateral and multilateral institutions

interested in this subject, as well as working in partnership with the private sector, civil society and emerging countries.

Five years from now, in 2015, it is projected that the number of mega-cities, defined by a population of more than ten million, will be 23, of which 19 cities will be in developing countries. Furthermore, 11 out of those 23 cities will be in Asia and they overlap CITYNET member countries supported by Yokohama City currently serving as President of its executive committee. Yokohama is also considered as a model city in the Eco² report.

I would like to conclude my remarks with a hope that some synergy will be developed between this Eco² initiative and the CITYNET network of Asia, and JICA will be a willing partner in such future collaboration.

3) Opening Remarks (Ms. Fumiko Hayashi)

- Vice President Andersen,
- Vice President Oshima,
- Representative of the Ministry of Land, Interior, and Transportation,
- Attendees from Japan and abroad,

I would like to offer you a heartfelt welcome both to our city and to today's *Eco2 2010 Yokohama International Conference*.

As you know, from the opening of Japan and the establishment of Yokohama as an international port 151 years ago, our city has actively sought out infrastructure expertise from abroad in order to improve our urban development. Many technologies, including intercity railroads, modern water and sewage systems, and gas-lit streetlights, were introduced to the whole of Japan through our city. 150 years ago, Yokohama was a small fishing village of only 100 families. Since then, Yokohama experienced rapid economic and population growth that equalled or perhaps even exceeded the growth being experienced by the cities of many of today's attendees, and we wrestled with a number of environmental problems stemming from inadequate urban infrastructure. We have a history of working to overcome these issues by combining the efforts of both citizens and enterprises, including through such projects as the World Bank-recognized G30 trash-reduction initiative.

Through this process, we have amassed know-how in areas ranging from sewage and environmental protection technologies to the development of compact, cutting-edge urban areas such as our world-class city center. In addition, with an eye on even further reductions in future CO₂ emissions, areas such as Minato Mirai and Kohoku New Town are launching Smart City initiatives based on Smart Grid concepts. During this conference, we will introduce you to these efforts and show you how they are actually working in situ, which we hope will benefit your discussions on sustainable urban development.

I believe that Yokohama, by effectively putting to use accumulated know-how in urban development, and working together with CITYNET-participating cities, our sister cities and Strategic Partner cities, as well as Yokohama-based enterprises, will be able to actively contribute to the international community. To this end, we are initiating new program called Yokohama Partnership of Resources and Technologies, Y-PORT in short. I hope that we can increase exchanges between our city and the cities participating in this conference through these new initiatives.

Thank you for your attention.

4) Opening Remarks (Mr. Makoto Taketoshi)

Good morning, Ladies and Gentlemen, and distinguished guests.

On behalf of the Ministry of Land, Infrastructure, Transport and Tourism, first, I would like to extend my congratulations to the World Bank and the JICA for their collaborative efforts to organize "Eco² 2010 Yokohama - International Conference on Eco² Cities".

It is my great honor to have the opportunity for the opening remark in this conference, representing the Government of Japan and discuss with other distinguished participants from all over the world, including our neighboring countries in the Asian region.

I sincerely hope that this conference could become the international platform to share our challenges and experiences of realizing sustainable cities.

Over the last 50 years, Japan has experienced many kinds of urban problems, such as housing shortage, traffic congestions, water contamination in rivers and lakes, air pollution, and waste disposal. Those problems are caused as a result of rapid economic growth and urbanization.

Japan tackled those problems by various technological innovations, establishment of legal systems including city planning law, and infrastructure development.

Today, Japan is confronting the challenges of rapid increase of aging population as well as population decline simultaneously. It is our urgent needs to revitalize resilience in cities under the constraint of the fiscal austerity.

When we look at the global environmental challenge, after the Kyoto Protocol on Climate Change took effective, the whole international community is responsible for taking concrete initiatives to achieve the target in the action programs to reduce CO₂ emission, which is, obviously one of the most important global agenda. We need to redouble our efforts by the activities of the industry sector and all kinds of urban activities, including improvement of urban structure, emission reduction from automobiles and individual buildings.

The important point is that how we could transit into environmentally and economically sustainable cities. And this importance totally echoes with the concept of "Eco² Cities".

Based on such understanding, the Government of Japan recently announced, "Low Carbon City Development Guidance", which describes the policy directions for local governments in Japan to promote realization of low-carbon cities. I appreciate the opportunity to share the essence of this guidance tomorrow in this conference with international participants.

Through the two-day conference, it is my great honour if the case studies in Japan and lessons learned from the past could give good suggestions for the world-wide efforts in building sustainable cities.

Now, many Asian countries and emerging economies are now experiencing urban issues, just the same as Japan did in many years ago, such as population growth, economic growth, urgent needs for infrastructure, and urban environmental problems. We would be grateful if the Japanese past experience and environmental technologies to construct eco-cities could support to solve those environmental issues in those countries.

Finally, I would like to conclude my remark, by saying that this conference could contribute to more attractive and sustainable urban development in the world.

Thank you very much.

3.2 Closing Remarks

1) Closing Remarks (Ms. Fumiko Hayashi)

Ladies and gentlemen, good evening.

I would like to thank all of you for your participation in this two-day Eco² 2010 conference. I understand that you were introduced to a number of examples of effective urban planning, as well as environmental protection expertise of local authorities and private enterprises from both Japan and abroad that will help you to meet tomorrow's challenges.

The 21st century is without a doubt an urban century, and as sure as the recognition that as cities become more and more central to both economic activity and the issue of climate change, sustainable urban development is becoming more and more of a necessity.

We cannot forget that the reason that Japan, which is poor in natural resources, is able to enjoy affluent urban living is due to the kindness of the countries that shared their resources with us. There would be no greater honor than to be able to use Yokohama's experiences, technologies, and human resources to play a role in solving the urban issues faced by these countries.

By building on our bonds with today's participants, I hope that Yokohama will be able to continue to work towards sustainable urban development, as well as strengthen our cooperative relationship with each of you.

Thank you very much.

2) Yokohama Declaration (Mr. Kenjiro Kobayashi)

These two days, all of us, mayors, policy makers, national and local government officials, municipal associations, businesses, academia, and bilateral and international development organizations came together to the first international conference on Eco² Cities (Ecological Cities as Economic Cities) to learn and discuss the wide perspectives of sustainable urban development issues. The discussion included adaptation and mitigation of the impacts of climate change, building on the concept of the Eco² initiative, which aims to help cities achieve economic and ecological sustainability while promoting social equity.

The conference enabled the participants to learn good practices from both developed and developing countries as well as from the public and private sector and to deliberate on ways to achieve sustainable urban development.

Acknowledging the need for a united and concerted effort among key stakeholders in the materialization of sustainable urban development, the participants of the conference declare the following joint statements:

- (i) First, the participants recognize that global urban expansion poses a fundamental challenge and opportunity for cities, nations and the international development community to plan, develop, build and manage cities that are ecologically sustainable, economically sustainable and socially equitable;
- (ii) Second, the Participants agree that it is critical to ensure balanced approaches that bring together economic, ecological and social planning and management. For cities today these systems are so interconnected that success in one area requires success in the other in the short and long term. The strategy leading to sustainable

urban development needs to embody this powerful synergy and interdependence as its conceptual foundation;

- (iii) Third, the participants encourage all stakeholders to proactively contribute to the achievement of sustainable urban development with each recognizing their areas of key responsibilities and comparative advantages;
- (iv) Finally, the participants request the national governments participating in the international APEC Leaders meeting to be held in Yokohama in November 2010 to mainstream sustainable urban development and low carbon economies and societies as their national priorities.

To conclude this declaration, the participants urge that we must act now, act together and act differently to enable sustainable urban development, including the creation of climate resilient cities in terms of both mitigation and adaptation.

- ✓ **Act Now** because what we do today shapes the climate, ecological systems and habitat of tomorrow and the options available to future generations. We have a unique opportunity to plan, develop, build and manage cities that are concurrently ecologically sustainable, economically sustainable and socially equitable. The decisions we make together today can lock-in systemic benefits for the present and future generations. The cost of delay or inaction is too high. We only have a short time horizon within which to impact the trajectory of urbanization in a lasting and powerful way.
- ✓ **Act Together** because no country on this planet is immune to the consequences of ecosystem degradation and climate change caused mainly by human activities concentrated in urban areas. Acting together is key to keeping the costs down and effectively tackling both adaptation and mitigation of climate change and the protection of the ecological systems that is essential for our survival. Cities are important in this action as they are a part of these challenge as well as the sources of the solution. In addition to this, the majority of world's population living in urban areas, especially the urban poor will be impacted most from climate change and ecosystem degradation.
- ✓ **Act Differently** because new and innovative approaches are required to enable a sustainable future in a changing world. In the next few decades the world's cities and energy and resource management systems must be radically transformed so that global emissions drop, resource waste reduces drastically and ecological systems flourish. The participants propose to promote innovative urban planning, design and management such as well-integrated compact urban design and diversified energy/resource efficiency, and renewable energy and waste recycling technologies. Infrastructure must be built to withstand the increase in natural disasters caused by our changing climate.

We, the participants of the International Conference on Eco² Cities, hereby declare this joint statement today, on October 22, 2010, in Yokohama, Japan.

3) Closing Remarks (Mr. Hiroaki Suzuki)

Honorable Mayor Hayashi, Special Adviser Mr. Arakawa, and to all the participants, thank you very much for keeping a strong energy till the closing session. I cannot finish this conference without delivering our heartfelt appreciation to all the stakeholders who are involved in this conference.

First of all, Madam Mayor, this is my message to Yokohama: My big boss arrived before yesterday. She spent less than 24 hours in the city. Madam Mayor, you met her three times. I'm very sorry that our World Bank mission was so demanding and I made Mr. Toru crazy. I apologize, but I never regretted that I have taken the decision to hold this conference in Yokohama. You have proven that I was absolutely right. Thank you very much, Yokohama.

Next, Mr. Arakawa, thank you very much for JICA's strong collaboration and help to us. World Bank is the largest multilateral financial institution. You are the largest bilateral institution. If both of us work together and with ADB like you did already with the coastal study, we can make big things happen. Thank you very much for the strong support of JICA.

We also got support from all the main ministries of Japan. I should thank the Government of Japan especially the Ministry of Finance and the Ministry of Land, Infrastructure, Transport, and Tourism who allowed us to use the precious resources of Japanese taxpayers for this East Asia Eco² program.

In this connection, I should thank Billy; this money was passed through Cities Alliance. Billy's team has been so efficient in supporting our grant application. I expect the next one.

I should deliver my thanks to all delegates from East Asian countries. This conference is not for the World Bank, it's not for JICA, it's not even directly for Yokohama; it's for you. Eco² Cities program should be implemented with strong ownership and commitment of your governments and your cities. I am very, very pleased that you have demonstrated this commitment in these 2 days. Thank you very much, all delegates from East Asia.

I should also thank my own colleagues from the World Bank's East Asia Region where I came from. Sometimes I am confused if I am still in East Asia or not. But thank you for your great leadership, Victor, and my former colleague, Arish, and Peter, Dean, and Yan, and all my colleagues who work together with their clients in such harmony—I'm so impressed.

To all the speakers coming from all over the world, especially good practice cities from Sweden, Curitiba, Singapore, and Ahmedabad, thank you very much for sharing your good experiences.

To the Japanese cities of Yokohama, Kawasaki, Kitakyushu, Koshigaya, and Toyama and all these excellent examples shown, I am very proud of my own country and my own city.

Thanks to all the chairs who managed the session very well. I am very pleased to say that I am so impressed by your talent for keeping the time the Japanese way. Thank you very much for the collaboration of the chairs.

To all our colleagues in the institutions like ADB, other donors, UN agency, and bilateral institutions, thank you very much for your support to Eco² and your very good ideas during the *Global Partnership Luncheon*. Eco² is in fact not the only program which supports sustainable urban development; we work with ADB's programs and with JICA's programs because the agenda is so big, we can not afford to work separately, we should work together.

Last but not the least, there are many people without whom we could not have had this conference. I'd like to call first the ALMEC Team led by Ms. Kaneko. Raise your hands. Thank you very much.

We got strong support from JICA, Ms. Tomomi Yamane and Mr. Akihiro Takagi. Thank you so much for your support.

And the students from Yokohama City University, 19 of them, thank you so much. Also, Ms. Akiko Moriya, who coordinated all efforts, thank you so much.

Also our own team. Usually, I do not mention my own colleagues, but I think they have done such a good job, I have to mention them. Nobue, stand up. I am very proud to announce that we have never missed any single visa. Kanako, stand up. And Ryoko. These two young staff joined my team just last week. So this is their Day 3. I'm very proud of their performance. Thank your very much, nice performance.

And also I'd like to mention three persons who couldn't be here with us: Ina Marina from WB Indonesia, Giang Huan Nguyen from WB Vietnam, and Dainty Ignacio from WB Philippines. They are the team assistants who worked round the clock to arrange invitation letters for visas. I'd like to ask Peter, Dean, and Yan to please convey the Eco² team's appreciation to them.

And, to my boss, thanks to Abha who trusted me to organize this conference and who strongly supported our venture. I also count your support for coming here. Thank you very much, Abha.

4) Closing Remarks (Mr. Hiroto Arakawa)

Good Afternoon.

First all, I'd like to express my heartfelt thanks to all the participants, sponsors, organizers, particularly the City of Yokohama, World Bank, and the Yokohama City University. Without these efforts, this important event would not have been a success.

For the past 2 days we have had a very rich discussion with the active participation from city planners, business people, development practitioners, and academia. Eventually, we arrive at this Yokohama Declaration. I mean rich in wisdom, in good practice and experiences, solid research work and good networking through this conference.

Actually the timing of this event is quite right, in the sense that emerging economies have become great global players in the global economy. However, there exist various issues to tackle from the viewpoint of securing sustainable growth.

Needless to say, in order to achieve the ideas embodied in the Yokohama Declaration, the indispensables are strong leadership of City leaders and Governments of developing countries, and good partnership with all the stakeholders.

As development institutions, like the World Bank, ADB and JICA, we are well prepared to work together to make these efforts into reality. Now it is the time for actions.

Thank you very much.

5) Closing Remarks (Ms. Abha Joshi-Ghani)

Thank you very much, Honorable Mayor Hayashi and Mr. Arakawa, ladies and gentlemen.

We've had two very intensive and fruitful days of discussions and presentations. The Yokohama launch of the Eco² Cities brought us all together, mayors, academicians, city officials, international donors, development agencies, NGOs, the private sector, and organizations such as the CITYNET and Cities Alliance.

We heard over the last two days what economically and ecologically sustainable cities are, why they are important and imperative, and what can be a possible roadmap for a city towards becoming an Eco² city.

We heard from representatives from Indonesia, Vietnam, Philippines of their challenges and constraints, as well as their solutions. And we also heard the experiences from Sweden, Singapore, Curitiba, Brazil and Ahmedabad, India on their approach to sustainability and how they achieved it and then some fascinating examples from our host city Yokohama, the city of Toyoma Koshigaya and among others on embracing sustainability. The solutions from the private sector on technological innovations for low carbon impact of industries, sustainable housing, and energy efficiency through smart solutions.

So what are the key messages we can take back from these two days? The rapid urbanization and climate change make it an imperative that we think and act differently, that we all need to work in a concerted way to make cities ecologically and economically sustainable. And that's where our future is—integrated urban planning is important, land use, urban transport, service delivery, urban renewal, and compact growth.

Citizens must play a key role; they have a key role to play. Citizen action and citizen awareness are important to spur local and national governments to action. And, as one of our speakers said, ecological cities are by the people, of the people, and for the people. I think that is a really, really important message.

In closing, I would like to say that the Yokohama conference on Eco² is a milestone for us. It has brought us together in collaboration and partnership for joint action. And it is going to make Eco² Cities a reality for our developing countries' cities.

I would once again like to thank you all for coming here and bringing your experiences and your know-how and for sharing them with all of us and for moving this agenda forward.

I would like to thank the City of Yokohama, Madam Mayor, and the Government of Japan for co-hosting this. And I'd like to thank JICA for being our co-organizer.

And I would be remiss if I did not specially thank our inimitable Hiro Suzuki and his team for an excellent conference. I know how much effort went into this. Hiro is four offices down from mine and I could always hear him on the phone in Japanese talking about visas and travel arrangements and so on. So I know how much he has put in here.

And I would also like to thank all those wonderful student volunteers from the university of the city of Yokohama who had given their time very, very generously and made this possible.

Thank you all.

3.3 PowerPoint Presentations

- 1) Eco² Cities (Mr. Hiroaki Suzuki)**
- 2) Sustainable Green Growth**
- 3) SymbioCity: Sustainability by Sweden (Mr. Ola Goransson)**
- 4) Growing with Sustainable Development (Mr. Osvaldo Navaro Alves)**
- 5) Ahmedabad, India: Emerging Sustainable City in South Asia (Mr. H.M. Shivanand Swamy)**
- 6) From Tianjin to Manila: Lessons from Eco Cities (Dr. Alexis Onofre Corpuz)**
- 7) Sustainable Urban Development: ADB Strategy, Approach and Innovative Initiatives (Ms. Priyanka Sood)**
- 8) ADB's Program in the Urban Sector (Mr. Norio Saito)**
- 9) Towards a Low-carbon City in the Developing Countries (Mr. Akihito Sanjo)**

- 10) The Singapore Experience (Mr. Hsing Yao Cheng)**
- 11) Promotion of Environmentally Sustainable Cities in East Asia (Mr. Akira Nitta and Mr. Toshizo Maeda)**
- 12) Indonesia's Urban Development: Towards Inclusive and Eco² Pilot Operations and Sustainable Economic Growth (Mr. Peter Ellis)**
- 13) Rapat Konsolidasi Persiapan Eco² Cities Conference di Yokohama (Mr. Max Pohan)**
- 14) Waste Management Model: Surabaya Study Case (Mr. Ifron Hadi Susanto)**
- 15) The Philippine Eco² Delegation (Ms. Yan Zhang)**
- 16) Towards Sustainable Urban Development in the Philippines: Country Presentation (Mr. Nestor Mijares IV)**
- 17) Urban Renewal for Sustainable Growth: Quezon City, Philippines (Mr. Ramon Asprer)**
- 18) Private Sector Participation in Urban Renewal in the Philippines: Challenges and Conditions (Dr. Alexis Onofre Corpuz)**
- 19) Introduction of VIE delegation (Mr. Dean Cira)**
- 20) Urban Development Strategy for Vietnam Cities System to 2050 (Mr. Ngo Trung Hai)**
- 21) Can Tho: Planning and Sustainable Development (Mr. Nguyen Thanh Son)**
- 22) Vietnam: Eco² Cities Pilot (Mr. Andre Bald)**

- 23) Japanese Experiences on Sustainable Urban Development (Summary of the Study) (Dr. Shizuo Iwata)
- 24) About Low-carbon City Development Guidance (Mr. Shiuchi Kamata)
- 25) Sharing Economy and Co-Creation Society: A Vision from 2050 Working Group (Mr. Shinsuke Ito)
- 26) Kitakyushu City's Approach to a Low-carbon Society: Green Frontier Plan to Eco Model City (Ms. Mayumi Oda)
- 27) Environmental Technology from Kawasaki to the World (Mr. Yukihiro Koizumi)
- 28) Dynamic, Creative and Smart City achieved through City and Citizen Partnership (Ms. Mikiko Uchiyama)
- 29) Toyama's Response to Demographic Evolution: Developing Transport-oriented, Compact, and Livable Cities (Mr. Kazuo Matamoto)
- 30) Koshigaya Lake Town Project: Smart & Sustainable Urban Life with the Lake (Mr. Shigeru Mashimo)
- 31) Smart & Compact Community—A Key Concept of Recent Urban Development for Developing Countries (Mr. Akitoshi Yokota)
- 32) Approach to the Smart House and Community (Mr. Fumio Kimura)
- 33) Shimizu Carbon Management Approach—from Microgrid to Smartgrid (Mr. Atsushi Denda)
- 34) Contribution of Kawasaki Green Technologies to the Global Environment (Mr. Takashi Shimakawa)
- 35) Decentralized Water Supply System utilizing Rainwater and Wastewater (Mr. Atsushi Okamoto)
- 36) Eco-gateway toward Asia from Yokohama and Kawasaki (Blue Seminar)

3.4 List of Participants

Organization	Title	Name	Position
1. Speakers/Moderators			
City of Yokohama, Japan	Mrs.	Fumiko Hayashi	Mayor
	Mr.	Tetsuya Nakajima	Director, Climate Change Policy Headquarters
	Mr.	Toru Hashimoto	Senior Project Manager, Co-Governance and Creation Task Force
Yokohama City University (YCU), Japan	Mr.	Tustomu Fuse	President
Ministry of Land, Infrastructure, Transport and Tourism, Japan	Mr.	Makoto Taketoshi	Vice-Minister of Land, Infrastructure, Transport and Tourism
	Mr.	Shuichi Kamata	Senior Deputy Director, City Planning Division, City and Regional Development Bureau
Ministry of Economy, Trade and Industry, Japan	Mr.	Shinsuke Ito	Deputy Director, Infrastructure and Advanced Systems Promotion Office, Manufacturing Industries Bureau
	Mr.	Haruhisa Somaya	Councilor for APEC
Ministry of Environment, Japan	Mr.	Akira Nitta	Director, International Cooperation Office, International Strategy Bureau
Ministry of Foreign Affairs, Japan	Mr.	Takeshi Hikiyara	Ambassador/Secretary-General for the Japan APEC Meetings in 2010
New Energy and Industrial Technology Development Organization (NEDO), Japan	Mr.	Seiji Murata	Chairman
	Mr.	Ohisa Yoshiaki	Director General, International Affairs Department
City of Kawasaki, Japan	Mr.	Yukihiko Koizumi	Director General, Economic and Labor Affairs Bureau
City of Kitakyushu, Japan	Ms.	Mayumi Oda	Director, International Environmental Strategies Division, Environment Bureau
City of Toyama, Japan	Mr.	Kazuo Matamoto	Manager, Urban Policy Division, City Improvement Department
Urban Renaissance Agency, Japan	Mr.	Shigeru Mashimo	Director, New Town Development Department, Saitama Regional Branch Office
Urban Renaissance Agency, Japan	Mr.	Ryosuke Shimizu	Eastern Saitama Development Project Office, Saitama Regional Branch Office
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JFE Engineering Corporation	Mr.	Atsushi Okamoto	General Manager, Engineering Department, International Business in Environmental Solution Sector
JGC Corporation	Mr.	Akitoshi Yokota	Group Leader, Smart City Development Group, Urban & Infrastructure Development Department, Business Promotion & Execution Division
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	Mr.	Hironori Hamanaka	Chair, Board of Directors
	Prof.	Ryokichi Hirono	Counselor, IGES/ Professor Emeritus, Seikei University
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Institute for Research and Urban Planning of Curitiba (IPPUC), Brazil	Mr.	Oswaldo Navarro Alves	Former President
CEPT University, Ahmedabad, India	Mr.	Shivanand Swamy	Professor and Associate Director
Ayala Land Inc., Philippines	Dr.	Alexis Onofre Corpuz	Vice President
Bappenas/ State Ministry of National Development Planning, Indonesia	Mr.	Max Hasudungan Pohan	Deputy Minister for Regional and Local Autonomy
City of Surabaya, Indonesia	Mr.	Ifron Hady Susanto	Head of International Relations, Cooperation Division
National Economic Development Authority, Philippines	Mr.	Nestor R. Mijares	Deputy Director General
Quezon City, Philippines	Mr.	Ramon Asprer	Chief, Urban Poor Affairs Office

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Asian Development Bank (ADB)	Mr.	Norio Saito	Senior Urban Development Specialist, Urban Development Division, South Asia Department
Asian Development Bank (ADB)	Ms.	Priyanka Sood	Urban Development Specialist, Regional and Sustainable Infrastructure Division, Regional and Sustainable Development Department
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Cities Alliance	Mr.	William John Cobbett	Manager
CITYNET	Mrs.	Mary Jane C. Ortega	Secretary-General
Japan International Cooperation Agency (JICA)	Mr.	Kenzo OSHIMA	Senior Vice President
	Mr.	Akihito Sanjo	Director, Urban and Regional Development Division 2, Economic Infrastructure Department
	Mr.	Hiroto Arakawa	Senior Special Advisor
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	Mr.	Hiroaki Suzuki	Lead Urban Specialist, FEUUR
	Mr.	Sebastian Moffatt	Eco2 Advisor, Consensus Institute
	Mr.	James Warren Evans	Sector Director, Environment Department
	Mr.	Vijay Jagannathan	Infrastructure Sector Manager, Transport, Energy, Urban, Sustainable Development Unit, East Asia and Pacific Region (EASIN)
	Mr.	Victor Vergarra	Urban Sector Leader, EASIN
	Mr.	Arish Dastur	Urban Specialist, EASIN
	Mr.	Peter D. Ellis	Senior Urban Economist, Indonesia Sustainable Development Unit (EASIS)
	Ms.	Yan F. Zhang	Country Sector Coordinator, Philippines Sustainable Development Unit (EASPS)
Mr.	Andre Bald	Senior Infrastructure Specialist	
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Academy for Managers of Construction and Cities	Mr.	Le Trong Binh	Dean of Urban Planning Department
Hai Phong City People's Committee	Mr.	Do Quang Hung	Deputy Chief of Sustainable Development Unit
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	Mr.	Akuat Supriyanto	Assistant to Special Staff of President of Republic Indonesia for Regional Development and Autonomy
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	Ms.	Sri Puri Surjandari	
City of Kupang	Mr.	Daniel Adoe	Mayor
City of Makassar	Mr.	Ilham Arief Sirajuddin	Mayor
	Mr.	Mohammad Ramdhan	Expert Staff to Mayor

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	Mr.	Hendarmin Hadjeri	Technical Advisor to Mayor
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Makati City	Ms.	Violeta Seva	Chief of Staff
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	Mr.	Yutaka Wakisaka	Urban and Regional Development Division 2, Economic Infrastructure Department
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	Ms.	Ayumi Arai	JICA Research Institute
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Mr.	Koji Noda	JICA Research Institute	

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	Mr.	Yoshihiko Suzuki	JICA Research Institute
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	Mr.	Takahiro Sasaki	
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	Mr.	Shigeyuki Sakaki	
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	Mr.	Shuhei Okuno	Assistant Manager, Co-Governance and Creation Task Force
	Mr.	Atsushi Kubota	Assistant Manager, Co-Governance and Creation Task Force
	Mr.	Tomoyuki Taniguchi	Assistant Manager, Co-Governance and Creation Task Force
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	Ms.	Reiko Katayama	Co-Governance and Creation Task Force
	Ms.	Yuko Inui	Co-Governance and Creation Task Force
	Mr.	Masato Nobutoki	Executive Director
	Mr.	Hideo Kurachi	
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	Mr.	Tomotake Shimazaki	(Academic Consortium)
	Mr.	Yasuo Shirayanagi	
	Mr.	Kuniyuki Takei	Manager, Public Relations Section, General Administration Office
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	Mr.	Sho Tamura	Student, Leader of Ao Seminar
	Ms.	Yukimi Tanabe	Student, Member of Ao Seminar
	Ms.	Ayako Nagai	Student, Member of Ao Seminar
	Ms.	Ayumi Fujimaki	Student, Member of Ao Seminar
	Mr.	Takayuki Sugimoto	Student, Member of Ao Seminar
	Mr.	Hayato Akiyama	Student, Member of Ao Seminar
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	Ms.	Maho Maeda	Student, Member of Ao Seminar
	Ms.	Yuka Mariko	Student, Member of Ao Seminar
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	Mr.	Hidefumi Imura	Student
	Ms.	Misa Kamakura	Student
	Mr.	Kuniyuki Takei	Student
	Mr.	Tomohiro Okazawa	Student
5. CITYNET			
Municipal Corporation of Greater Mumbai	Mrs.	Shraddha Jadhav	Mayor
	Mr.	Shreedhar Mukund	Husband of Mayor

Organization	Title	Name	Position
		Jadhav	
	Mr.	Swadhin Kshatriya	Municipal Commissioner
	Mrs.	Anjana Kshatriya	Wife of Municipal Commissioner
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All India Institute of Local Self Government (AIIILSG)	Mr.	Arvind Narsu Shetty	Senior Consultant & Advisor
	Mr.	Jayakar Seena Shetty	
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Ahmedabad Study Action Group	Mr.	Kirtee Natverlal Shah	Hon Director
CITYNET	Dato	Lakhsir Singh Chahl	Special Adviser
CITYNET	Mr.	Shigenobu Sato	Assistant Secretary-General
CITYNET	Dr.	Bernadia Irawati Tjandradewi	Programme Director
CITYNET	Mr.	Kendra Hirata	Programme Officer
CITYNET	Dr.	Arshad Baharudin	Programme Officer
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City of Kawasaki, Japan	Mr.	Kosuke Fukushima	Global Environment and Sustainable Office, Environment Bureau
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	Ms.	Ikuyo Kikusawa	-
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	Mr.	Mitsuro Yajima	-
	Mr.	Jun Ishimoto	Director
	Mr.	Tetsuji Masujima	
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	Mr.	Teruhiko Hata	Managing Director, Environmental Solutions Sector
	Mr.	Hiroyuki Shimada	Manager, International Business Department
	Mr.	Yoshiro Abe	General Manager, Marketing Department, International Business Division, Environmental Solutions Sector
	Mr.	Tomoki Uematsu	Manager, Eastern Hemisphere, Marketing Department, International Business Division, Environmental Solutions Sector
JGC Corporation	Mr.	Eihiko Nakamura	Manager Infrastructure Business, Business Development

Organization	Title	Name	Position
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7. Online and Other Registrants			
Governmental Agencies			
Asia Pacific Energy Research Centre		Weerawat Chantanakome	Senior Team Leader, Research Department
	Mr.	Kenji Kobayashi	President
	Mr.	Satoshi Nakanishi	General Manager, Research Department
		Ralph Dale Samuelson	Vice President
Central Research Institute of Electric Power Industry	Mr.	Tatsuki Okamoto	Associate Vice President, Electric Power Engineering Research Laboratory
City of Kodaira, Japan	Mr.	Hiromu Nakamura	Secretary, Urban Construction Department
Dhaka City Corporation, Bangladesh	Mr.	Tariq Bin Yousuf	Project Director, Landfill Improvement Project, Waste Management Department
Fukushima Prefectural Government, Japan	Mr.	Toshihide Ono	Assistant Director, International Affairs Division
	Mr.	Katsuhisa Hayakawa	Senior Staff, International Affairs Division
Global Environmental Forum	Ms.	Noriko Sakurai	Researcher
ICLEI-Local Governments for Sustainability	Ms.	Michie Kishigami	Director, Japan Office
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Japan Productivity Center	Mr.	Kiyokazu Fukumura	-
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OECD	Mr.	Tadashi Matsumoto	Senior Policy Analyst, Regional Policies for Sustainable Development Division, Public Governance and Territorial Development Directorate
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The Institute of Behavioral Sciences	Mr.	Yuichi Takeuchi	Vice President
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	Mr.	Tsutomu Shioda	Deputy Director, Bureau of Environment
	Mr.	Kenji Suzuki	Director, Bureau of Environment
Private Companies			
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Dentsu Consulting	Mr.	Naohiko Oikawa	Director, President & CEO
Dentsu Inc.	Mr.	Terumasa Kamo	Group Account Director, Account Management Division
	Mr.	Fumio Miura	Deputy Director, Kansai Global Operations Division
Ides Inc. (International Development & Environment System)	Mr.	Toshiro Tsutsumi	Senior Adviser
	Mr.	Yoichi Harada	Director / Professional Engineer (Civil Engineering), Environmental Project Department
Japan Research Institute	Mr.	Kazuyuki Akaishi	Senior Business Producer, Center for the Strategy of Emergence
Maestro Partners LLP	Mr.	Takashi Kameda	Managing Partner
Mitsuifudosan co.,Ltd	Mr.	Akio Torichigai	Adviser, Chiba Branch
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Nihon Water Business Journal	Mr.	Masayuki Yoshikawa	Reporter, Editorial Department
Nippon Basic Co., Ltd.	Mr.	Yuichi Katsuura	Managing Director
NIKKEN SEKKEI CIVIL ENGINEERING LTD.	Mr.	Hiroyuki Kumo	Assistant Manager, International Business Development Department
	Mr.	Takahide Murayama	Chief Planner
OPM	Mr.	Arata Aikawa	City and Regional Development Bureau

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Totetsu Co. Ltd.	Mr.	Seichiro Takai	President
Value Planning International, Inc.	Ms.	Nobuko Shimomura	Consultant, Environment and Social Development Department
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		Benoit Roux	Engineer-student
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		Raquel Moreno-Penaranda	Institute of Advanced Studies
		Osman Balaban	Institute of Advanced Studies
		Christopher Doll	JSPS-UNU Postdoctoral Fellow, Institute of Advanced Studies
University of Helsinki, Sweden		Mari Kaarina Vaattovaara	Professor of Urban Geography
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University of Seoul, Republic of Korea		Sunghan Cho	Graduate Student
University of Tokyo, Japan		Bao Wen Chen	Graduate Student, Urban Engineering
		Amab Jana	Doctoral Student, Urban Engineering
	Mr.	Toshiro Ogaki	Graduate Student, Department of Civil Engineering
		Amgalan Sukhbaatar	Graduate student, Department of Urban Engineering
	Ms.	Susan Taylor	-
	Ms.	Tran Mai Anh	
Uppsala University, Indonesia	Mr.	Yoshiko Asano	Guest Researcher, Education
Waseda University Graduate School, Japan	Mr.	Yusuf Oladipupo Bilesanmi	Graduate Student, Graduate School of Global Information and Telecommunications
		Andante Hadi Pandyaswargo	Phd. Student, Environment and Energy Engineering
Yokohama National University, Japan	Ms.	Mihoko Matsuyuki	Associate Professor
Others			
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-		Marshall Adams	
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	Mr.	Akihiro Takagi	
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	Ms.	Yuko Sakai	Planner
	Ms.	Yuko Okazawa	Planner
	Mr.	Yosui Seki	Planner
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	Ms.	Chiaki Kobayashi	Student
	Mr.	Shoya Hirose	Student
	Ms.	Chisato Tochisaka	Student
	Mr.	Akira Koike	Student
	Ms.	Yuka Nakayama	Student
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	Ms.	Naoko Tsukada	Student
	Mr.	Kazuharu Omata	Student
	Mr.	Lin Ikuyou	Student
	Ms.	Maho Higashihara	Student
	Ms.	Erika Shirataki	Student
	Ms.	Hiromi Yamada	Student
	Ms.	Yuka Saito	Student
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	Ms.	Kazuho Shirai	Student
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