



Background Document

# THE GREEN GROWTH APPROACH FOR CLIMATE ACTION

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For  
The 3<sup>rd</sup> Policy Consultation Forum of the Seoul Initiative Network on Green Growth:  
Green Growth and Sustainable Consumption and Production for Climate Action

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"Handled correctly, a transition to green economics could be extremely lucrative. **Green Growth** will create new jobs, as global investment in zero-greenhouse gas energy surges to US\$1.9 trillion by 2020, based on UN estimates. These investments are the seed money for a wholesale reconfiguration of global industry."

Ban Ki-moon  
United Nations Secretary-General (July 2008)

## 1. Introduction

Asia and the Pacific is one of the most vulnerable regions in the world to the adverse effects of climate change. Each country in the region has a pressing need to evaluate the possible future impacts of climate change, to identify and formulate both region-wide and country-specific plans for mitigation, and ultimately increase their capacity to adapt to these changes. Moreover, the Asia and Pacific region has been at the forefront of the 21<sup>st</sup> century surge in economic growth, a situation driven primarily by exports and which has led to expanded production requirements needed to fuel an ever increasing amount of trade. This has significantly compounded the environmental carrying capacity pressures of many countries in the region. These countries are now shouldering an increasingly greater share of regional and global environmental production-related burdens. Coupled with evolving production patterns, these impacts are driving changes in consumption patterns in these countries and policies are needed to ensure that these developments will be environmentally sustainable. The past axiom of “*grow first, clean up later*”, can not apply in a region that has such a limited natural resource base and a rapidly growing population directly dependent on natural resources. These Green Growth policy recommendations are aimed at empowering decision makers with policy tools which will better enable them to continue economic growth and to mitigate the effects of climate change in a method more environmentally sustainable.

Across the Asia and the Pacific region new consumption pressures, as measured by their ecological footprint, exceed the available bio-productive areas (productive natural resource endowment) per capita in at least 18 Asian countries<sup>1</sup>”, a situation which could have dire consequences for the region in the long term and as well as for vulnerable populations. The challenge now is to identify how these impacts can be sustainably managed and used to embrace further economic growth. It is clear that the current patterns of economic development, consumption and production in the Asia and Pacific region are unsustainable and if action is not taken soon then future economic development could be severely curtailed. Climate change is a typical example of market, governmental and institutional failure, in the sense that subsidized fuels in developing countries have encouraged over use and thus more green house gas (GHG) emissions. Subsidies have sent an incorrect market signal of artificially low prices to the public. The energy prices do not incorporate the real costs of production, much less the social cost that results from increased GHG emissions, pollution, and environmental degradation. Currently, fossil fuel subsidies amount up to \$200 billion a year and it has been suggested that the removal of these subsidies could reduce carbon dioxide emissions by 5-6 per cent annually. This means that sophisticated and targeted interventions based on the flexibility and dynamism of market mechanisms will be required in the future.

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<sup>1</sup> UNESCAP, 2007, *Policy issues for the ESCAP region: Implications of recent economic and social developments*, United Nations Publications, Bangkok, pp 30-32.

In addition to unsustainable production and consumption pressures on the environment, global warming also has the potential to derail many of the advances made by countries in the region in regards to economic development and poverty reduction. Increases in GHG emissions caused by increasing economic development are contributing to global temperature increases - projections summarized by the IPCC indicate that the average global surface temperature will probably rise a further 1.1 to 6.4 °C (2.0 to 11.5 °F) during the twenty-first century<sup>2</sup>. This has the potential to disrupt weather patterns, cause a rise in sea levels and produce significant changes to the amounts of precipitation. Thus leading to an expansion of tropical areas and increased pace of desertification and an increase in the intensity of extreme weather events which will put many coastal communities at risk of flooding. Other expected effects include changes in agricultural yields, modifications of trade routes, glacier retreat, species extinctions and increases in the ranges of disease vectors. It is therefore imperative that countries in the region take action now to integrate mitigation and adaptation into national development strategies and policies to help build climate resilient low carbon economies over the coming years. Policy requires urgent and international action on effective mitigation, pricing for damages from GHG emissions, supporting technology development and combating deforestation.

## **2. What is Green Growth?**

Green Growth is a regional strategy for achieving sustainable development adopted by the ESCAP Ministerial Conference in 2005. Based on the “Ecological Efficiency” paradigm, Green Growth advocates growth in GDP that maintains or restores environmental quality and ecological integrity, while meeting the needs of all people with the lowest possible environmental impacts. It is a strategy that seeks to maximize economic output while minimizing the ecological burdens. This new approach seeks to harmonize economic growth and environmental sustainability by promoting “fundamental changes in the way societies produce and consume”, as called for in the Johannesburg Plan of Implementation (JPOI).<sup>3</sup> It is a comprehensive and holistic approach designed to encompass and integrate the three pillars of sustainable development: economic development, social development and environmental sustainability.

The Green Growth approach thus endeavors to synchronize economic development with environmental sustainability into coherent decision making, planning and implementation processes at all levels of governance. It attempts to initiate both system and policy changes, to present the environment as an opportunity for economic development while ensuring future sustainability. Green Growth also defines an evolution towards a more sustainable low-carbon economy in which the sustainable use of ecosystem goods and services are critical to long-term economic and social viability. Green Growth consists of five main tracks: green tax and budget reform, sustainable consumption and production, green businesses, demand side management and sustainable infrastructure. Together these tracks

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<sup>2</sup> IPCC, 2007, *Summary for Policy Makers, the Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, [http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1\\_Print\\_SPM.pdf](http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_SPM.pdf), (accessed 4/8/08).

<sup>3</sup> Report of the World Summit on Sustainable Development, 2002, Johannesburg, South Africa, United Nations Publications.

cover what UNESCAP deems necessary for the upgrading of economies to become more sustainable so that growth can be continued for both the present and future generations.

As the situation in the Asia Pacific now illustrates there is an urgent need to find ways to ensure that the old paradigm of ‘grow first, clean up later’ is substituted by a comprehensive integrated approach that enables economic growth to facilitate and reinforce sustainability rather than undermine it. Thus, Green Growth is a strategy to foster creative sustainability responses for the region to harness the power of economic growth while guiding it in a way that will enhance the immense possibilities provided by innovative technologies and industries.

System changes critical to de-link economic growth from environmental degradation include:

- **Improving the eco-efficiency of consumption**, through demand-side management; the application of economic and regulatory instruments (e.g., green levies and charges); education for sustainable development, promoting environmentally friendly goods and services; the promotion of the 3Rs (recycle, reduce, reuse as in Japan) and the resource-saving society (as in China).
- **Improving the eco-efficiency of production**, not only pollution controls but also eco-efficient economic planning; the application of economic and regulatory instruments, e.g., green tax and green budget reforms; improved environmental governance (needed for improved decision-making); the deregulation and stimulation of markets for environmentally friendly goods and services; reducing material and resource use per unit of output and more widespread application of industrial ecology concepts.
- **Promotion of more effective decision-making** that reflect the value of environmental goods and services, appropriate measures of growth (Green GDP, Gross National Happiness and green accounting) and investment in natural capital.

Consequently, one of the key overarching objectives of the Green Growth approach is to ensure that the benefits of economic growth will be enhanced through sound and rational policies for overall improvement in the quality of life of the peoples of Asia and the Pacific.

### ***3. Green Growth Approach for Climate Actions***

#### **3.1 Eco-efficiencies and Climate Change**

Eco-efficiency concepts are designed to promote the minimization of environmental impacts, which arise from the processes of production and from inefficient infrastructure. It is based on the concept of creating more goods and services while using fewer resources and creating less waste and pollution. This concept describes a vision for the production of economically valuable goods and services while reducing the ecological impacts of production. Costs can be reduced while revenues are increased. Businesses are able to reduce their costs in a number of areas, including production, distribution and overhead expenses. Therefore, on a national level eco-efficiency measures the efficiency of the use of natural resources to meet the needs of the human population. Broadening the concept to apply to this

level requires its application not only to production activity, but to the impacts of consumption levels and patterns as well.

Critical aspects of eco-efficiency are:

- A reduction in the material intensity of goods or services;
- A reduction in the energy intensity of goods or services;
- Reduced dispersion of toxic materials;
- Improved use of recycling;
- Minimization of wastes and by-products;
- Maximum use of renewable resources;
- Greater durability of products;
- Increased service intensity of goods and services.<sup>4</sup>

The reduction in ecological impacts translates into an increase in resource productivity, which in turn can create competitive advantage, benefiting both industry and the environment. The need to improve eco-efficiency and to lessen the environmental impacts of economic activity is more important than ever. By improving eco-efficiency we can save more energy, which will have a direct effect on the amount of GHG emissions. The adoption of eco-efficiency policies is an effective approach for pursuing a low-carbon development strategy as it argues for the continued promotion of economic growth without compromising the limited ecological carrying capacity of a country.

Improvements in eco-efficiency are vital if countries in the region are to effectively tackle climate change. Experts have stipulated that if the annual rate of improvement in energy efficiency could be doubled to 2.5 per cent worldwide, it might be possible to keep carbon dioxide concentrations in the atmosphere below 550 parts per million (ppm) through the end of the century. Furthermore, studies have shown that on average more than 90 per cent of the resources harvested from nature are wasted during the production process while producing food, machines, vehicles and infrastructure, etc.”<sup>5</sup> Therefore, to reduce the environmental impacts of unsustainable production patterns, policy makers may find it useful to endorse the concept of ‘Factor 10 efficiency’ in the use of resources. It has been suggested that the production process ideally needs to aim for a resource use rate of around 10 per cent of what is currently being used. If this is not achieved then there will be an explosive rise in commodity prices over the coming years leading to substantially higher production costs and economic in-viability. If energy use is not made more efficient then GHG emissions will also continue to increase.

A recent UNESCAP study focusing on the relationship between economic growth and environmental sustainability revealed that while national incomes appear to have a beneficial effect on pollution measures, it also has a detrimental effect on most ecological efficiency measures of environmental sustainability.<sup>6</sup> This suggests that while conventional policies

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<sup>4</sup> UNESCAP, 2006, *Green Growth: The way forward for Asia and the Pacific*, United Nations Publications, New York.

<sup>5</sup> Schmidt-Bleek, F., 2000, Factor 10 Manifesto, [http://www.factor10-institute.org/files/F10\\_Manifesto\\_e.pdf](http://www.factor10-institute.org/files/F10_Manifesto_e.pdf), (accessed 4/8/08).

<sup>6</sup> UNESCAP, 2006, *Green Growth: The way forward for Asia and the Pacific*, United Nations Publications, New York.

focus more on pollution control, they need to be combined with policy options focusing on the ecological efficiency aspects of environmental sustainability in the process of economic development. Otherwise, economic growth will continue to degrade environmental sustainability in most developing countries across the region.

A more efficient use of resources can be obtained by this de-coupling; however this is not sufficient to achieve comprehensive environmental sustainability and a reduction in GHG emissions. This demands an absolute reduction in the use of energy and materials regardless of the levels of production and consumption on a wider national level. Thus, if production can be brought to within sustainable limits, economic growth can be sustainable.

Eco-efficiency seeks to promote economic activity that uses natural resources more efficiently and produces less and less damaging wastes. However, more recently a new paradigm has been developed whereby eco-efficiency is pushed further towards what has been called '*eco-effectiveness*'.<sup>7</sup> If the eco-efficiency concept can be summarized as doing more with less (and producing less waste in the process), *eco-effectiveness* is focused on designing processes that produce no waste at all – zero waste (i.e., all material outputs from one process are useful inputs into another wealth-creating production process). As such, economic activity and human behavior more generally, not only strive to have no detrimental environmental impact, but also positively seek to protect and enhance both the environment and natural systems.

*Eco-effectiveness* derives from economic, social and technological innovation that produces more, not less, granting positive social, environmental and economic benefits to society. Such innovation requires an economic system that encourages the production of these multiple benefits with incentives and values them appropriately. Recent developments at Fuji Xerox have enabled them to produce products with zero landfill consequences and which are 99.97% recyclable. They have changed the design of the components parts to enable everything to be used again. The best solution for developing countries is to adopt and apply such sustainable developmental strategies now, so the eco-efficiencies of their production and consumption cycles improve as their economies grow, thus 'leapfrogging' the development model of the industrialized countries.

### **3.2 Policies for Sustainable Consumption and Production**

One of the most effective policies to reduce GHG emissions is to increase the energy efficiency of production. At present, there are many barriers towards this in both developed and developing countries. Some of these barriers are legal or institutional, and others are related to financing or lack of information. The first step for governments is to do a full review of the existing policies and regulations on the books and identify those which are actually encouraging eco-inefficiencies and waste. Presently, some governments are promoting resource inefficient policies. For instance, fuel subsidies hide the real cost of producing energy, thus leading to wasteful behavior. Sustainable consumption initiatives including benchmarking, standard setting and sustainable infrastructure can all be used to encourage a reduction in GHG emissions. Governments need to reform their public policies to

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<sup>7</sup> Ibid, pp 18.

promote better resource efficiency and eco-efficient production and consumption at all levels, including government activities, consumer behavior and international policies and regulations. This will build a solid foundation for further macroeconomic intervention policies to promote sustainable low-carbon economies. Once inefficient policies have been identified, governments should adopt economy-wide reforms for green tax, green public procurement, full cost accounting and budget reforms to enshrine energy efficiency policies throughout the bureaucracies. The integration of environmental accounting and policies into government activities will foster further accountability and responsibility among policy makers when considering the impacts on the environment. This will thus ensure greater social welfare as well.

In addition to reducing GHG emissions, improvements in eco-efficiencies can also contribute towards greater energy security for countries in the region. The increase in the price of fossil fuels and in particular crude oil has significantly impacted the economies in Asia and the Pacific, causing an increase in production costs and a rise in inflation. Countries heavily dependent on oil importation have sought new policies to deal with the spiraling costs. In this regard, the implementation of eco-efficiency and sustainable production policies and the drive towards the utilization of renewable energy sources will have a beneficial effect both on continued economic development and in GHG emission reduction. Policies which can reduce the reliance on fossil fuels should be synchronized with climate action to foster a synergistic approach to future development planning.

Governments can also influence consumer behavior by using similar policy measures, however it is important to note that policies that aim at internalizing costs (be it real production costs or externalities), need to be coupled with efforts to generate the willingness to pay of consumers and the political support for these measures. Eco-tax incentives can be used to reduce the consumption of energy or water across different sectors, while pricing mechanisms can be implemented to encourage behavior changes. To address energy consumption by industry, rewards can be woven into sectoral planning to achieve targeted reductions in use as well as incentives for technological innovations. Investment policies can help guide new developments towards eco-efficiency while other policies to improve energy efficiency can include: establishing national goals; integrated life cycle management; setting minimum efficiency standards; introducing energy labeling schemes; setting environmental standards; and government and green procurement and public awareness campaigns to highlight the real costs of energy and water consumption.

### **3.3 Market Based Incentives for Climate Action**

Countries across the region should start planning, seeking approval and implementing climate change projects for the Clean Development Mechanism (CDM) and other climate funds to raise finance and to tackle global warming by selling certified emission reduction (CER) credits. The CDM is an arrangement under the Kyoto Protocol intended to encourage initiatives to meet the challenges faced by the impending threat of climate change.<sup>8</sup> It is a market-based economic instrument which provides the means to assist developing countries with their sustainable development projects, while providing the opportunity for developed

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<sup>8</sup> UNESCAP, 2003, Implementation of the Clean Development Mechanism in Asia and the Pacific: Issues, Challenges and Opportunities, New York, pp-1.

countries to contribute to GHG emission reductions at a lesser cost. The mechanism promotes technology transfer and investment from governments and private parties in developed countries to developing countries. Reductions in GHG emissions from a project can then be credited a certified emission reduction (CER), which can be sold to Annex 1 countries aiding them to meet their national emission reduction targets.

The most important implication of decisions made in Bali for the Asia Pacific region would be the need for developing countries to undertake nationally appropriate mitigation action in the context of sustainable development and to make such action in a measurable, reportable and verifiable manner. In addition, access to finance is commonly cited by developing countries as one of the key requirements for them to address climate change. Commitments to financing were central to the Bali Action Plan and other recent climate reports have all highlighted the expectations that additional financing will be central to future international agreements. The importance of commitments to financial assistance, investments and technology transfer to developing countries is stipulated in the Bali plan as “resources should be additional, adequate, predictable and sustainable; positive incentives should be created for developing – country mitigation strategies, innovative means of funding for meeting the costs of adaptation by particularly vulnerable countries; public and private sector funding and investment should be mobilized.”<sup>9</sup>

The carbon market is set to become one of the largest markets in the world. There are already plans across the region to start trading CER credits. Indeed Japan, Hong Kong, Singapore, India, Thailand and China have all expressed an interest in opening up new exchanges or adapting existing ones to trade carbon credits. This would provide another avenue for investors to finance climate change activities. There has also been recognition across the financial services industry that carbon can be classified as a soft commodity that can be traded not only as a CER credit, but as more complex financial products such as derivatives and exchange traded funds.<sup>10</sup>

According to the research group PointCarbon, the global trade in carbon credits totaled \$63 billion in 2007 and is estimated to surpass \$154.6 billion by the end of 2008.<sup>11</sup> Of this, 1.8 Gt CO<sub>2</sub>e was traded within the EU’s Emissions Trading Scheme (EU ETS), representing 70 per cent of total traded in the first half of 2008. If the U.S. and China create large-scale carbon trading systems, growth in the carbon trading industry is poised to take off considerably.

The CDM project cycle is facilitated by the United Nations Framework Convention on Climate Change (UNFCCC) in Bonn and encompasses seven basic stages: project design and formulation, national approval, financial modalities, validation and registration, implementation and monitoring, verification and certification and the issuance of CERs. In addition, the Convention secretariat has developed the “CDM Bazaar”, in collaboration with UNEP (Risoe Centre on Energy, Climate and Sustainable Development), to facilitate the exchange of information among buyers, sellers and service providers engaged in CDM.

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<sup>9</sup>UNFCCC, 2007, *Bali Action Plan: Report of the Conference of the Parties*, <http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf#page=3>, (accessed 9/8/08).

<sup>10</sup> Orlando, B., 2007, Financial and Banking Aspects of Carbon Trading: International Conference on the CDM and the Carbon Market, Delhi, India <http://www.ieta.org/ieta/www/pages/getfile.php?docID=2261>, (accessed 4/8/08).

<sup>11</sup> Carbon Market Trader, 2008, Point Carbon, <http://www.pointcarbon.com/trading/cmt>, (accessed 4/8/08).

According to the UNFCCC, the CDM could leverage between \$15 billion and \$100 billion per year in additional resources to promote sustainable development in developing countries by 2030. According to the UNFCCC, in June 2008 there were 1067 registered CDM projects worldwide, of which 682 are located in Asia and the Pacific. India and China host the majority of projects and in comparison the ASEAN sub region hosts only 73 CDM projects. Therefore, there is much scope for further climate action by Asia-Pacific countries through the CDM if it can be successfully mainstreamed into climate change architecture.

The important sectors that have the potential for further CDM projects in developing countries are:

- Agriculture
- Buildings (residential, commercial and government buildings)
- Energy generation, distribution and use
- Forestry
- Industry and manufacturing activities
- Mining
- Transport
- Waste management<sup>12</sup>

Emission control activities across these various sectors are potential candidates for CDM projects. Additionally, the reduction of methane and nitrous oxide emissions in industrial activities, energy efficiency and conservation, switching to cleaner fuels and the development of renewables are all potential projects for CDM.

The UNFCCC has established a financial mechanism to assist developing countries in the implementation of their commitments. The Global Environment Facility (GEF) serves as the operating entity of the financial mechanism for the UNFCCC and has focused its attention on supporting mitigation activities in developing countries and in countries in transition. Between 1992 and 2007 the GEF has allocated over \$3.3 billion to climate projects and has co-financed a further \$14 billion. The facility is obliged to finance the preparation of national communications to the UNFCCC from non-Annex I parties.

Countries across the region need to start building their capacities to trade carbon credits. This can be done either on their existing stock exchanges, or on newly established exchanges specializing in the carbon market. Additionally, incentives will be needed to encourage the private sector to establish support services for this new market, including brokerages and advice centers.

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<sup>12</sup> UNESCAP, 2003, Implementation of the Clean Development Mechanism in Asia and the Pacific: Issues, Challenges and Opportunities, New York.

### **3.4 The Co-benefits Approach to Climate Change**

The co-benefits approach to climate change mitigation action seeks to unite climate action with existing development strategies. For many developing countries across the region climate change efforts can be constrained by existing development priorities or by financial constraints. Thus, the co-benefits approach aspires to achieve tangible economic and social developments, such as poverty alleviation while simultaneously reducing GHG emissions leading to "no regret" actions by countries. It is also considered to be a practical approach for developed countries to cooperate with developing countries on climate change issues, where economic and social development is a priority at the national and local levels<sup>13</sup>.

The co-benefits approach is achieved by the introduction of integrated policies and measures into development planning to plan for GHG emission reduction efforts. These co-benefits can be realized in a number of important sectors, including manufacturing, energy, pollution abatement and rural development and have proven particularly successful when engaging policy makers in these areas.

In 2006, the Ministry of the Environment, Japan (MOEJ) and the Overseas Environmental Cooperation Center, Japan (OECC) jointly launched an initiative on the "Co-benefits Approach called the Oriented Efforts to Address Climate Change and CDM. These recent efforts to promote the co-benefits approach in pollution abatement, such as improvements in local air quality have been highlighted by the Japanese government particularly because of the damages to health caused by economic activities in the region. To promote the co-benefits approach more effectively, in addition to the project based approaches of CDM, co-benefits need to be regarded at the earliest stages of program design and policy formulation in developing countries. In addition, it would be beneficial to climate action if official development assistance (ODA), CDM projects and other financial mechanisms took the co-benefits approach into consideration when instigating future development planning. Dialogues between climate authorities and development agencies should incorporate the co-benefits approach to help build capacity in developing countries across the Asia and Pacific region.

## **4. The way forward - towards low-carbon societies**

It is clear that countries in the region need to start designing and implementing low-carbon development strategies to mitigate GHG emissions. By implementing policies and measures to encourage energy efficiency the first steps towards a low-carbon society can be achieved. By both regulating and stimulating consumption, the public sector can create a favorable and conducive atmosphere for more necessary investments that lead to sustainable consumption choices. This can stimulate transformation from a society that depends on ever increasing amounts of energy and natural resources to one that utilizes very little energy and resources can be achieved by pursuing a sustainable low-carbon development strategy based on the five tracks of Green Growth.

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<sup>13</sup> Asia Pacific Gateway to Climate Development, 2008, what is the Co-benefit Approach to GHG Reduction? <http://www.climateanddevelopment.org/cobenefits/index.html> , accessed 10/9/08

A low-carbon society can be defined as one that takes actions that are compatible with the principles of sustainable development ensuring that the needs of all groups in society are met; one that makes an active effort to contribute towards the global efforts to stabilize atmospheric concentrations of carbon dioxide and other greenhouse gases; one that uses low carbon energy sources and incorporates high levels of energy efficiency; and/or one that adopts consumption patterns which are consistent with low levels of GHG emissions.<sup>14</sup> Policy makers need to focus on creating adequate signals that climate change actions will be an important and continuing factor in government policies for the foreseeable future. In ways that will affect investor expectations of relative risk and reward, this should ensure that financing will follow.<sup>15</sup>

There is an urgent need to implement strategic changes in the provision of infrastructure. By commissioning and constructing sustainable infrastructure, consumption can be guided along a more eco-efficient path and help drive society to pursue more carbon friendly behaviors, for instance sustainable mass transit systems should be built rather than highways which can lock-in unsustainable consumption patterns for the long term. Sustainable infrastructure development strategies should be supported by stronger energy savings building codes for new and existing structures and penalties or disincentives for builders who employ cheap, less energy efficient designs and materials.

Eco-efficiency concepts should be applied to national, economy-wide development planning to de-link economic growth from negative environmental impacts and improve the sustainability of economic growth patterns. Improvements of carbon intensity in both energy supply and demand, the wider use of renewables and improvements of energy efficiency on the demand side will be particularly effective in reducing GHG emissions. Legislation should be enacted accordingly.

The Asia and Pacific region needs a paradigm shift away from the vicious cycle of unsustainable economic growth that has led to a deepening dependency on fossil fuels and increases in GHG emissions and which could ultimately result in a reduction in the standard of living and an increase in poverty over the long term. Decision makers can integrate Green Growth concepts to encompass policies that promote energy security, improvements in the quality of economic growth, greater energy efficiencies and the mobilization of renewable energy sources and thereby include climate action in comprehensive low carbon sustainable development strategies.

Since its inception in 2005, the Seoul Initiative Network on Green Growth (SINGG) has been actively working towards environmentally sustainable low-carbon societies by means of the promotion of the Green Growth approach. The Seoul Initiative provides a regional cooperation framework for policy makers to discuss the Green Growth approach and to confer best practices. Policies for sustainable infrastructure and the application of economic instruments have been enthusiastically discussed in depth at the previous policy dialogue meetings. It is hoped that policy makers throughout the region will utilize much of the advice

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<sup>14</sup> NIES, 2006, Developing Visions for a Low-Carbon Society through Sustainable Development, <http://2050.nies.go.jp>, (accessed 6/8/08).

<sup>15</sup> Miller, A, 2008, Financing the integration of climate change mitigation into development, International Finance Corporation, pp-165.

proposed by participants at the meetings as a means of tackling climate change and to promote further environmental sustainability.

As a way of translating the Green Growth approach into action, various pilot projects have been supported by the SINGG secretariat in developing countries. These have included a project in Cambodia to manage plastic waste conforming to the Green Growth concepts and two projects in Viet Nam, one to reduce the use of plastic bags in Ho Chi Minh City and the other to evaluate the needs of an electronic waste manifest system. It is hoped that more countries in the region will submit project proposals to the SINGG for further support of climate change actions.

There is also a pressing need throughout the region for further collaboration, dialogue and policy consultations between policy makers to discuss best practices in regards to climate action. It is imperative to develop and enhance the national capacities of developing countries to deal with the coming changes brought about by climate change. Regional cooperation initiatives such as the SINGG can be one of the best avenues for these endeavors.

Policies and regulations can be made to promote a more efficient and eco-friendly pattern of economic development by 1) moving production away from raw material based manufacturing to knowledge based service industries, 2) improving the efficiency of the production process, 3) promoting the wider dissemination and espousal of cleaner technologies, 4) helping alleviate poverty and its associated adverse environmental effects, and 5) creating the additional wealth necessary to finance environmental investments. In these ways, Green Growth can disengage further economic growth from pollution generation, environmental degradation and resource over-consumption, and thereby, foster carbon-friendly sustainable societies crucial for climate change resilient development.

## **5. Conclusion**

Over the coming decades countries in the Asia and Pacific region will have to adapt to the impacts of global warming. Their limited environmental carrying capacity, large coastal populations and increasing industrialization means that countries in the region will be particularly hard hit by the changes. It is therefore imperative that policy makers implement environmentally sustainable Green Growth policies to plan for and to mitigate the coming changes.

The management and promotion of sustainable production and consumption patterns is the key to adopting low-carbon development strategies for climate action. Regional cooperation efforts to promote greater eco-efficiencies across countries can lay the foundations to build carbon friendly societies. It is clear that solutions will differ by country and cultural setting, so it is important to install institutional arrangements that enable networks addressing climate risks to better collaborate. Regional initiatives towards eco-efficiency, such as the SINGG can build a common vision for eco-efficient, low-carbon societies and should be supported accordingly.

Policy makers would benefit from employing the co-benefits approach to development planning to enshrine the core concepts of the Green Growth approach into future strategies to

mitigate and to adapt to the changes caused by climate change. The promotion of eco-efficiency is enshrined within all five tracks of the Green Growth approach and will play a decisive role in the years ahead as countries in the region prepare for climate action. Policies that mitigate both the release of GHG emissions and the risks posed by climate change are essential if the region is to move towards a more sustainable future and to ensure that the benefits already accrued by economic development are not lost.

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N.B. No document emanating from the secretariat should disclaim the views expressed officially in the resolutions of the main organs of the United Nations and in other legislative texts of the Organization such as the Charter of the United Nations and various declarations and conventions.

The few examples provided in this paper serve only to illustrate and inspire and are by no means an exhaustive representation of initiatives in the region. This paper is in draft form and as such the secretariat would welcome any comments and suggestions.