

Executive Summary

Climate change is real and Asia is already experiencing its adverse impacts. Projections from the Intergovernmental Panel on Climate Change (IPCC) suggest that such impacts will become even more intense in the future. While the contribution of developing countries in Asia to global greenhouse gas (GHG) emissions is increasing rapidly, per capita emissions are still low and developmental challenges remain significant. Future efforts by developed countries to reduce GHG emissions through cost-effective mitigation actions, however, offer the possibility of creating new opportunities in developing countries in Asia that will contribute to their sustainable development. Strategies to integrate climate and development actions, therefore, require prompt and careful consideration from policymakers in Asia. Part I of the White Paper explains why it is necessary to integrate climate change and sustainable development in Asia and how this might be best achieved.

Global estimates from the IPCC and Stern Review, and limited evidence from Asia, suggest that the costs of inaction on climate change would be many times the costs of action. Therefore, a multi-pronged approach to drastically slow down the rate of growth of GHG emissions in Asia, stabilise and eventually reduce them, is necessary and affordable. Likewise, adaptation efforts to manage the unavoidable impacts of climate change at all levels are crucial and must be set in motion now.

Much of the infrastructure necessary to accommodate rapid economic growth in Asia will be built in the near future. Therefore, efforts to avoid “technology lock-in” and pursue a sustainable development path are urgently needed. Sustainable development in Asia must be based on low carbon, resource efficient and qualitatively different development practices that do not deny the right to development and improvements in the quality of life. This transition will require an informed appreciation of Asia's current status (both good and bad) and concrete recommendations for which direction the region should take in the future as outlined in the White Paper in four priority areas.

In comparison to other regions, developing countries in Asia offer the most cost-effective opportunities (e.g. energy efficiency (EE) improvement and energy diversification) for GHG mitigation and for integration of climate concerns into non-climate policies. The region also offers enormous opportunities (e.g. reversing unsustainable land use practices that lead to deforestation and degradation) for exploiting synergies between climate and other international regimes on biodiversity, desertification, and other areas.

The size of the population and ecosystems vulnerable to the impacts of climate change also distinguish Asia from other regions, and failure to adapt adequately will be a major threat to meeting millennium development goals (MDG) in the region. Even though optimal paths towards adaptation are poorly understood at present, a host of “no-

regrets” actions to adapt to climate change can be taken which are cost effective and make economic and environmental sense. Opportunities also exist for mainstreaming adaptation concerns in development planning and assistance.

Despite strong linkages between climate change and development, and vulnerability of Asian populations and ecosystems, climate policy has thus far received limited attention from policymakers in several Asian countries. The lack of know-how in formulating integrated development and climate actions, and in exploiting various “win-win” options and co-benefits remain serious barriers in the region, leading to significant gaps between the formulation and implementation of effective policies affecting the climate.

Some progress has been demonstrated in developing institutional structures (e.g. inter-ministerial agencies, designated national authorities [DNA], and national committees on climate change), but most of these structures are designed to take advantage of the Kyoto Protocol’s clean development mechanism (CDM) and energy investment frameworks supported by international financial institutions. No country in the region has developed a comprehensive national policy framework on adaptation.

The vision of developing a low carbon, climate-resilient Asia will require an acceleration of efforts in at least four areas: (i) promoting the involvement of developing Asia in the design and implementation of the climate regime beyond 2012; (ii) enhancing the adaptive capacity of Asian populations and ecosystems; (iii) exploiting the power of market mechanisms for the benefit of Asian societies, especially the most vulnerable groups; and (iv) transforming the social, industrial and economic infrastructure towards a low carbon economy and implementing policies to integrate climate change and sustainable development.

Post-2012 climate regime

The participation of developing countries in Asia in climate change negotiations has not been commensurate with the challenges, costs or opportunities outlined above. Proactive efforts by all countries to design and implement a new global policy framework for mitigation and adaptation that reconciles global interests on the climate with Asian priorities for development are crucial.

Since 2005, the Institute for Global Environmental Strategies (IGES) has held a series of national, sub-regional and region-wide consultations with Asian policymakers and other stakeholders on the future climate regime. The consultations found that there are shared concerns and interests in the region in (i) integrating climate concerns in development planning; (ii) streamlining the CDM by reducing its complexities and uncertainties; (iii) enhancing the focus on adaptation; (iv) facilitating the development, deployment and diffusion of low carbon technologies; and (v) strengthening the capacity of negotiators, the private sector and financial institutions. Differences between Asian countries were also evident, however, on issues such as (i) ways to consider equity in the future climate regime; (ii) the form, time and type of involvement of developing countries; (iii) national preferences for low carbon technologies; and (iv) approaches to, and funding for, facilitating adaptation, especially regarding the need for a separate protocol and the introduction of market-based mechanisms.

Further discussions and analysis of post-2012 regime proposals revealed that efforts to reflect Asian concerns on energy security and developmental needs in global climate negotiations have been far from satisfactory. Future efforts, therefore, should focus on demonstrating and facilitating the most pragmatic measures to mainstream climate concerns in energy and development planning, and on supporting implementation of integrated development and climate strategies at various levels. Since energy security is an issue in which both developing and developed countries share common interests, the future climate regime should facilitate further development of climate-friendly energy policies in Asia by sharing good practices, setting standards and guidelines, building adequate human and institutional capacities, and initiating new partnerships for regional collaboration.

A few post-2012 regime proposals have involved participation from Asian researchers and policymakers; several fail to reflect Asian needs, concerns and aspirations, and none examine the implications for future development of different Asian countries. For example, studies on the implications of a global GHG emission reduction target of 50-70% by 2050 on development prospects of Asian countries are inadequate and urgently needed. Indeed, none of the reviewed proposals simultaneously meet distributional equity, cost-effectiveness, environmental outcomes, and flexibility criteria, thereby demonstrating the complexity of developing a comprehensive, equitable and effective framework. As most countries in the region favour a comprehensive multilateral framework instead of a fragmented regime based on regional or thematic coalitions, efforts to realise the former must be accelerated.

Our preference is for a framework that relies on the established United Nations Framework Convention on Climate Change (UNFCCC) concepts of common but differentiated responsibility for GHG mitigation, the polluter pays principle and precautionary approaches for adaptation. A multi-stage framework characterised by (i) progressively increasing emission reduction and adaptation commitments or actions; (ii) new grouping of countries based on responsibility, vulnerability, capability and mitigation potential; and (iii) a differentiated framework of incentives and compliance provisions should be the basis for discussions on the future climate regime. One condition is that the grouping of countries should be reassessed at the beginning of each commitment period. Furthermore, in all countries, efforts to reduce inter- and intra-regional, high- and low-income group disparities in emissions should be promoted, recognised and rewarded. Developing countries in Asia must not shirk from their mitigation and adaptation responsibilities, but the form of participation of each developing country can and should vary significantly from the current regime's emphasis on "targets and timetables."

Since technology is a cornerstone of several non-UNFCCC initiatives, which have the potential to provide the necessary paradigm shift to reduce GHG emissions in selected industries, building synergies between UNFCCC and non-UNFCCC initiatives is crucial. In the short term, the climate regime can provide CDM opportunities in methane recovery and additional income for project developers, while the methane to markets (M2M) initiative and/or the Asia-Pacific Partnership on Clean Development and Climate (APP) can provide access to necessary technologies. Likewise, technologies for carbon capture and storage (CCS) may be transferred through the APP, if the future climate regime makes CCS projects eligible for the CDM. The future regime should also facilitate synergies among North-South and South-South technology cooperation and transfer initiatives, especially in relation to adaptation.

Since widespread deployment of low carbon technologies is crucial to realising the vision of a low carbon economy in Asia, innovative options should be considered such as (i) collaboration with developing countries in Asia in the early stages of technology development leading to joint ownership of intellectual property rights (IPR); (ii) creation of a regional technology acquisition fund, which could be structured to buy-out IPRs and make privately owned technologies available for deployment in Asia's developing countries; and (iii) establishment of a regional/international code of compulsory licensing for low carbon technologies along the lines of approaches taken for treatment of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) or the US Clean Air Act. Ensuring additional finance through innovative public and private support mechanisms is critical to make the currently available technologies commercially viable and to provide seed funding to help achieve economies of scale for emerging new technologies.

Adaptation to climate change

Adaptation should receive as much attention as mitigation because several countries in the region are already facing the impacts of climate change. Designing a new protocol on adaptation may enhance its profile at the international level, but the process may require considerable resources and time in terms of negotiation. A combination of both "top-down" support and "bottom-up" engagement approaches is crucial to advance the adaptation agenda in the region. For this to happen, the identification of options for mainstreaming adaptation concerns in development planning and assistance in Asia both at policy and operational levels is important. The agenda for adaptation financing at the international level needs to be clarified. Options for (i) enlarging the funding base and developing flexible but clear guidance to access adaptation funds; (ii) differentiating between actions that can be funded inside and outside the climate regime; and (iii) creating market mechanisms and incentives for the private sector to become more involved in adaptation must be explored.

Enhancing adaptive capacity of Asian populations and ecosystems will require multiple actions at various levels. Regional cooperation mechanisms on adaptation must be addressed on a high priority basis, especially in dealing with trans-boundary issues such as integrated river basin management, forest fire management and early warning systems. All policy areas, including those of development assistance agencies, must undergo "adaptation screens" to ensure that those policies do not exacerbate current and/or future vulnerabilities. Obstacles and tipping points for "climate-proofing" of infrastructure development and mainstreaming adaptation concerns in development planning must be assessed. A regional platform to support adaptation efforts through the creation of an Asian clearinghouse for databases and a compendium of good adaptation practices is considered vital.

Development of national policy frameworks for adaptation is urgent but there is significant scope to build on existing institutional frameworks. Asian developing countries are a good reservoir of indigenous knowledge and local coping strategies to deal with climate variability. Opportunities for integrating such knowledge in local adaptation plans and for widespread application of such strategies in new areas must be explored. An assessment of the current financial instruments available to support adaptation in Asia suggests that the amount of resources flowing through such instruments is inadequate. Therefore, options for (i) enlarging the funding base for

adaptation both within and outside the UNFCCC; (ii) involving the private sector (e.g. insurance sector) in facilitating adaptation at regional, national and local levels; and (iii) establishing a region-wide adaptation financing and insurance facility should be examined.

Market mechanisms

Although many Asian developing countries have expressed a keen interest in drawing benefits from the CDM and despite the initial expectation that the CDM could be made into an effective tool to promote sustainable development, concerns about the CDM implementation in Asia remain salient. Concerns include complex modalities for project approval, lack of a development dividend in projects delivering high certified emissions reduction (CER), uncertainty over post-2012 carbon credits, and uneven geographic distribution of projects within Asia. Developing countries in Asia, in close collaboration with the UNFCCC Annex I parties, should strive to remove each of these barriers so that the power of market mechanisms can be fully exploited, particularly for the most vulnerable segments of Asian society.

In the short term, strengthening of human and institutional capacities and improving the operational setting for CDM implementation in Asian countries is an urgent priority. Based on IGES' experience with integrated capacity strengthening for CDM in Asian developing countries, substantial scope exists for streamlining the CDM approval process in both host countries and the CDM Executive Board. As many CDM projects in Asia are unable to get off the ground due to insufficient underlying financing, innovative options should be explored such as the use of official development assistance and other multi-source funding approaches to cover projects risks, especially in least developed countries (LDC) and middle-income countries. The Asian Development Bank should consider using its CDM facility to support post-2012 CERs, similar to the World Bank's "carbon market continuity fund."

In the medium term, the scope of CDM should be expanded to include sector-based and policy-based approaches based on the experience gained from approval of the "Programme of Activities" in different Asian countries. On a priority basis, binding transnational sectoral emission limits for some key sectors represented by multinational companies such as steel, cement and aluminium must be explored. Likewise, CDM should be expanded to cover sectors that can deliver significant reductions in GHG emissions in Asian countries, such as forestry. In the medium to long term, options for promoting the developmental dividend of CDM projects in Asia through quantifying and preferentially rewarding projects with high developmental benefits must be explored both within and outside the UNFCCC. Japan and other G8 countries should play a lead role in supporting Asian projects with high developmental dividends by streamlining guidelines for development assistance.

Sustainable development co-benefits

The widely-held assumption in Asia that GHG mitigation is inherently incompatible with sustainable development must be corrected. Despite numerous integrated climate and development policies in Asia (as identified from World Resources Institute's database on sustainable development policies and measures [SD-PAMs]), awareness of these

policies remains limited in the region. Therefore, institutional frameworks and incentives to promote the awareness and implementation of such policies and to mainstream the concept of co-benefits of mitigation and adaptation in national planning need to be revisited in the short term.

In the medium to long term, opportunities for promoting co-benefits through building on synergies among multilateral conventions should be examined. The future climate regime discussions must examine options for funding SD-PAMs in return for emission reductions as compared with the business-as-usual scenarios. Suitable metrics of performance that enable the monitoring of co-benefits should be developed. Operational support from the climate framework, for example, through the maintenance of a registry of SD-PAMs and identifying synergies between sustainable development benefits and GHG mitigation and adaptation, would be helpful.

Communities in several Asian countries have acquired a significant amount of experience with innovative low carbon lifestyle patterns including material reuse and recycling. However, recent trends and future projections in Asia suggest development patterns with an ever-increasing carbon footprint. A roadmap to achieve rapid transformation of social, industrial and economic structures in each developing Asian country must be built on the basis of national circumstances, without sacrificing the right for development. Blueprints for switching to an emission stabilisation pathway do not yet exist even in developed countries; hence developing countries in Asia must not wait to learn lessons from developed countries. Future investments in the region, especially in industrial development, urban planning and transportation sectors, must aim to reduce energy use and GHG intensity. Likewise, policies for transformation of the energy sector (e.g. power distribution networks) to more renewable energy (RE) sources and to small-scale, decentralised power generation in homes and businesses will be crucial. Improvement of communication channels to accelerate informed debate on options for achieving a low carbon society is also vital for the region.

Climate policy alone will not solve the climate problem, as climate outcomes are influenced not only by climate-specific policies but also by the mix of development choices made and the development paths along which these policies lead (IPCC 2007). Asian policymakers, therefore, have a significant role to play in choosing appropriate development paths. In so doing, they should ensure that the region's climate policies are resilient, remaining flexible in the face of an inherently uncertain issue, while holding firm in the face of opposition from carbon-intensive industries and other vested interests. Striking this balance will depend upon the adaptability of key sectors (discussed in Part II) to climate friendly development and the alignment of climate concerns with sustainable development policies in the region.

In Part II of the White Paper, selected sectors are investigated to illustrate some of the complexities in aligning climate concerns and sustainable development policies in Asia-Pacific. The capabilities of key actors (government, civil society and the private sector) and how they have changed in order to respond to the challenges of climate change completes the analysis.

Reduced emissions from deforestation and forest degradation in developing countries

With deforestation as the second largest anthropogenic source of GHG emissions and a major contributor to unsustainable development, any scheme that will reduce the current rates of deforestation and forest degradation should be supported. Moreover, some policy responses to climate change, like biofuels, are inadvertently promoting deforestation in Asia. Therefore, the optimum policy choices in containing deforestation and forest degradation require careful analysis. The forest sector is an ideal vehicle for demonstrating the need to conjoin climate change and sustainable development policies, because millions of forest-dependent people are potentially affected by decisions by governments in developing countries that could constrain access to Asia's forests in return for payment by developed countries to sequester carbon dioxide.

The concept of providing a new incentive for forest conservation through international financial transfers connected with carbon, or reduced emissions from deforestation and forest degradation in developing countries (REDD), is now high on the international climate agenda. REDD is a low-cost option for reducing global GHG emissions; there are numerous side-benefits (like biodiversity conservation), and it has increasing support in the climate change negotiations. For REDD funding to be consonant with sustainable development objectives it must promote accountable and transparent forest governance, secure and equitable forest tenure, and sustainable livelihoods. The dilemma is that the developing countries that would benefit most from this proposed funding mechanism are those with historically weak forest governance and a poor record in defending the rights of forest-dependent communities.

For a credible REDD scheme to be agreed upon, negotiators need to resolve fundamental questions on trade of avoided deforestation emissions, use of a national or project approach, the scope of coverage, and mechanisms for community participation. Independent standards need to be formulated to protect the environment and ensure that forest-dependent people are not disadvantaged. Nevertheless, a well-designed REDD mechanism would not only contribute to reduced GHG emissions, it would also provide opportunities to reform forest governance and alleviate rural poverty, while promoting sustainable development in Asia's developing countries. The current piloting of different models will help to clarify many of these issues, before adopting a comprehensive scheme in accordance with the Bali Action Plan.

Biofuels

Biofuels, a renewable form of energy produced from plants or waste, have attracted significant attention in Asia because of their potential to reduce GHG emissions, promote national energy security, and revitalise rural economies. However, the reality is more complex, and more nuanced policies are needed. In particular, the rush to promote biofuels could be counterproductive if they are not produced by sustainable means. Research based on a life cycle assessment approach shows that first generation biofuels (i.e. from food crops, oil palm, sugarcane and other crops) could produce more energy than they consume in the production process and reduce GHG emissions, but this depends on the production process including energy and fertiliser inputs, and the nature of any land use changes. Inappropriate production methods or land use changes (e.g. destroying forests to plant biofuel crops) could result in

increased GHG emissions. Worse, by competing with food production, biofuels may increase the price of basic food items, making them unaffordable to the poor, and trigger new agricultural lands to be opened up through deforestation. Use of oil-bearing plants, like *jatropha*, to avoid the food-fuel conflict by utilising supposed “wastelands” may deprive landless poor farmers of common grazing land and offer no reversion to food consumption during times of drought or other food shortages. It is also questionable whether its production could be limited to wastelands.

Subsidising unsustainably produced biofuels or mandating their blending into existing transportation fuels could be counterproductive, especially on a large scale. Global trade in biofuels may help developed countries in Europe to meet their Kyoto Protocol commitments but unintentionally accelerate deforestation in tropical Asian forests.

Second generation biofuels have significantly more potential for reducing GHG emissions and avoiding the food-fuel conflict. They can be produced from a wider range of sources including agricultural, forest, and some municipal and other waste, and microalgae. The potential to convert waste to liquid fuel is particularly attractive. Unfortunately, the chemical conversion processes are more complicated, probably more costly, and not yet commercially viable. Even if the technology becomes commercially viable, the policy challenge will be to organise a collection system and address the issue of transport costs. Nevertheless, additional research and development should be devoted to this avenue rather than blindly continuing to follow the short term, easier path of converting existing crops into bioethanol and biodiesel.

In the near term, the policy priority should be to promote sustainable production methods for biofuel feedstocks, especially avoiding direct or indirect deforestation. This should start with sustainability standards and certification. Asian countries should conduct their own biofuel related research since their conditions are different. Trade related policies should not be prioritised until sustainability issues have been resolved. Biofuels are not a silver bullet, and they need to be placed in the context of comprehensive energy policies, which include conservation and other renewable energy forms.

Urban organic waste and climate change

Safely disposing of urban organic waste has been a problem for as long as the history of human settlement. Organic waste is not just a health hazard and public nuisance but also contains valuable nutrients and energy, so merely removing it to a municipal dumpsite on the outskirts of the city is not a sustainable solution. The typical response of transforming uncontrolled dumpsites into more sanitary forms of landfill may control the health hazards, but then decomposition of waste under anaerobic conditions generates methane, a potent GHG. Methane from solid waste disposal sites contributes 3-4% of anthropogenic GHG emissions, and is growing. Under *status quo* urban waste management scenarios, methane emissions are projected to increase by 2.6-9.6 times in Asia’s developing countries, due to increasing urban populations and rising per capita consumption.

Compared to open dumps and landfills, biological treatment methods (composting and anaerobic digestion) are shown to have considerable advantages. They can drastically reduce emissions of GHGs, recycle nutrients and be introduced at small scale and at

low cost, thus contributing to sustainable development. Composting is identified as an especially interesting option since it is highly adaptable and suitable for community-driven initiatives. By examining policies and practices related to organic waste management in several Asian countries and six municipal case studies, a number of policy measures to promote more widespread use of composting are suggested.

The results show that centralised composting of fresh market waste, without any intention to generate income from selling the product, can only treat a limited share of a city's waste, but seems to be an easy and suitable model to start with. Composting of household waste is more difficult, because it requires changes in individual behaviour, although there are some successful examples that have typically started small and gradually expanded. Careful segregation at source is crucial for projects that need to create revenues by selling their product to farmers as soil conditioner or fertiliser. Municipal solid waste management is a good example of an issue where an integrated approach can generate significant co-benefits. Therefore, policymakers should promote more widespread use of composting, both as a way to solve some local development challenges and environmental problems and as a contribution to combating climate change.

Groundwater

Billions of people in the Asia-Pacific depend on groundwater for irrigation, drinking water and industry, but it has been poorly managed, partly because it is out of sight. Climate change impacts on groundwater now pose a completely new management challenge. Climate change will make some parts of Asia wetter, others drought affected; glaciers will melt, and seasonal flows will change; and everywhere climate variability and extreme events will become more problematic. Sea level rise, especially in deltaic regions and coral atolls, will increase saline intrusion into groundwater, making it unsuitable for use. Other changes like subsidence, soil temperatures and chemistry, impacts on transmissivity, land use changes and effects on evapotranspiration may have impacts on groundwater in ways that are not yet defined or adequately modelled. Groundwater may increase in importance and help to ameliorate the worst effects of climate change on water resources and sustainable development. However, once seriously damaged, recovering groundwater resources requires vast amounts of funds and time.

Policy responses to these changes should provide examples of how climate change adaptation and sustainable development need to be linked, although so far most countries in Asia have not realised or responded to the multiple effects of climate change on their water management plans. Policies and adaptation measures are needed in relation to structural adaptation (e.g. rainwater harvesting, artificial recharge of aquifers, desalination plants, underground reservoirs, and dams) and institutional changes (e.g. legislation, tenure rights, improved governance, groundwater pricing, zoning, and access to adaptation funds). However, to fill the knowledge gaps and reduce uncertainty regarding the prediction of impacts of climate change on groundwater resources and evaluation of future groundwater management options, more research is needed.

Institutions

All countries in the Asia-Pacific have new institutional arrangements to respond to the global challenges of climate change. The White Paper examines how national governments are structuring their agencies to respond to climate change, and how countries are mobilising the participation of other stakeholders, including local governments, the private sector, civil society and academia to play a role in climate related activities. Five Asian countries were selected for comparative study: China, India, Japan, the Philippines, and the Republic of Korea (ROK).

Most countries in Asia have developed some form of inter-agency coordination to ensure integrated domestic climate policies. Common success factors found in building domestic institutional capacity include (i) strong overall coordination by an executive leadership body; (ii) industry and environment agencies as joint lead agencies; (iii) extensive involvement of other agencies covering sectors related to mitigation and adaptation; and (iv) well established mechanisms to empower stakeholder participation. Nevertheless, there is no “ideal” institutional arrangement that will work equally well for all countries.

The attention to domestic mitigation and adaptation arrangements, as part of ongoing national sustainable development efforts, needs to be enhanced. The enigma of why climate change has been treated in some countries as a stand-alone development issue rather than being integrated into existing national sustainable development structures, measures and implementation plans requires further research. The final goal of effective institutions is to achieve grass-roots behavioural change. Unless the relationship between specific institutional arrangements and associated behavioural changes at individual and group levels are understood, the effectiveness of institutions cannot be assessed.

Industry

Globally, industry is increasingly aware of its responsibility for climate change and, despite much uncertainty surrounding the issue, private sector investment decisions that will have implications for the next 30-50 years are tentatively factoring in CER pricing and the possibility of carbon taxes. Eventually, Asian industries will have to make a transition to non-fossil fuels, as current projections indicate that Asia will contribute almost one third of global GHG emissions by 2030. In the short term, however, major contributions can be made by minimising energy demand through adoption of a wide range of EE options. A vigorous EE strategy will enable greater emission reductions than any other climate change alternative with short payback periods and will add to bottom line profits as energy prices continue to increase. Many companies have made a profit while saving 20–40% of energy use, with payback periods of only one to three years.

The apparent barriers limiting greater government intervention in EE include a lack of sectoral targets, standards and incentives, and perverse subsidies. Barriers limiting private sector adoption of EE include risk aversion, minimal capacity of small industries, access to energy efficient technologies, finance, and human resources. Some actions have been taken in Asia (e.g. energy conservation policies, tax incentives and subsidies, voluntary certification and agreements, supply chain cooperation, energy

service companies, and research and development support) to overcome these barriers and many lessons can be drawn from Japan's experience. The key element in effective EE strategies is implementation of combined actions in a parallel, coordinated and consultative manner. The future research agenda should focus on collecting detailed case study information from all sectors and all sizes of companies on successful implementation of EE measures.

Conclusion

The historic development pathway of Europe and the US is clearly not sustainable in developing Asia, with its larger population, constrained by resource limitations, and now facing the global challenges of climate change. So far, however, Asia has not framed an alternative future that simultaneously provides for an escape from poverty, improves standards of living, and responds to the need for a low carbon, climate resilient sustainable development pathway. Asian countries need to become more involved in the global climate change negotiations, if only to ensure that sustainable development and climate change remain as a single pathway to development, not diverging tracks.

Four priorities were identified in the White Paper: (i) building a fair, effective, and flexible post-2012 climate regime; (ii) enhancing the region's adaptive capacity; (iii) utilising market mechanisms more effectively; and (iv) building a low carbon society and exploiting developmental co-benefits, of which the task of transforming Asia's social, industrial and economic infrastructure towards a low carbon society is the most daunting. Nevertheless, the climate change regime beyond 2012 can be designed to assist Asia in this transformation—encompassing market mechanisms that transfer financial resources into the world's most cost-effective climate change mitigation options and ensuring that future infrastructure investments are designed and implemented to enhance the adaptive capacity of Asia's population and ecosystems.

Cost-effective mitigation options that are intimately linked with sustainable development were detailed in the REDD proposals, and are potentially available in second generation biofuels using Asia's abundant organic waste, and in composting municipal solid waste. Protecting the region's groundwater resources, as a reserve or insurance for future climate variability that will impact on surface water resources already stretched to the limit, is just one example of the inevitable adaptation measures that must be integrated with sustainable development planning and implementation.

These far reaching mitigation and adaptation measures, however, will not happen unless Asia's multiple stakeholders—governments, the private sector, and civil society—stand together with a shared vision of a low carbon, climate resilient future for Asia and the Pacific.

As a strategic environmental policy research institute, IGES is committed to continue bringing together all of these stakeholder groups and forging a common vision for the future, conducting research that contributes to real-time policy processes, and disseminating informed views on policy options for stronger reconciliation of climate change responses and sustainable development. On the occasion of its 10th anniversary, IGES hopes that this White Paper will be a significant contribution to this agenda.

PART I

