

Executive Summary

The Global Challenge

1. **The world is facing a prolonged period of planetary surface warming, which is unparalleled in human history.** The scientific consensus holds that this is largely a consequence of human-generated emissions of greenhouse gases (GHG). The impacts of higher temperatures are already being felt and are visible in melting glaciers, rising sea levels, more frequent storms and extreme weather events. The 1990s was the warmest decade and 2005 the warmest year on record since 1800. At current trends, scientists predict that the Arctic will be ice free within 100 years.

2. **Climate change has become central to the development and poverty reduction agenda.** Progress towards attaining the Millennium Development Goals (MDGs), such as eradicating poverty, combating communicable diseases, and ensuring environmental sustainability, could be in jeopardy. The effects of global warming certainly will be unfair and the impacts will not be evenly distributed across countries. Industrialized countries are responsible for the vast bulk of past and current greenhouse gas emissions. But the developing countries and the poorest people will suffer the most from climate change because of unfavorable geography, limited assets, and a greater dependence on climate-sensitive sources of income. Yet few developing countries are well adapted to even current climate variations. Climate change is predicted to increase the variability and frequency of extreme events in ways that are outside the realm of experience. Some of the impacts could be in the form of new challenges (such as sea level rise), others could emerge as old threats made more severe by climate change (such as flooding or drought).

The Strategy and Its Objectives

3. **The South Asia Region Climate Change Strategy (SARCCS) articulates the guiding principles for the World Bank's climate-related work in the South Asia region (SAR).** It builds upon the World Bank's *Strategic Framework for Development and Climate Change* that defines the pillars and priorities to the climate challenge. SARCCS recognizes that uncontrolled climate change threatens the development prospects of South Asian countries and that there is a need to develop an approach that addresses specific country risks and needs. Upon identifying key threats posed by climate change, the strategy explores the broad parameters involved in devising responses to the climate challenge consistent with the country assistance strategies that guide government-Bank partnerships. The strategy attempts to enhance the effectiveness of Bank assistance programs by building climate resilience and promoting sustainable growth. An effective response calls for adaptation, to address the inevitable; and mitigation, to prevent the avoidable.

4. **Climate policies in South Asia will need to be tailored to risks and country circumstances.** South Asia's climate is as diverse as its landscape. The region spans a variety of climate zones, including arid deserts, parched rangelands, freezing alpine mountains, and humid tropical islands. The projected impacts of climate change will be heterogeneous, suggesting that there can be no one-size-fits-all approach for building climate resilience across South Asia.

Responses will need to be customized to specific risks. Accordingly the strategy sets out the broad principles of an evolutionary approach that can be tailored to fit individual circumstances.

Why Is South Asia So Vulnerable to Climate Change?

5. **Geography coupled with high levels of poverty and population density has rendered South Asia especially vulnerable to the impacts of climate change.** The region faces daunting climate-related development challenges. High population levels translate into increased resource demands on an already stressed and largely degraded natural resource base. With an estimated 600 million people subsisting on less than US\$1.25 a day, even small climate variations can cause irreversible losses and tip large numbers into destitution.

6. **The region is highly susceptible to natural disasters.** Over 50 percent of South Asians – more than 750 million people – have been affected by a natural disaster in the last two decades. The human and economic toll has been high with almost 230,000 deaths and about US\$45 billion in damages. The region shares common geological formations and river basins, so that natural hazards frequently transcend national boundaries. With climate change the frequency and incidence of such natural disasters is projected to increase.

7. **Compounding these risks is the region's heavy reliance on the monsoon.** The monsoon is the most significant climate event in the region's economic calendar. It carries over 70 percent of South Asia's annual precipitation in a brief four-month period.² A buoyant monsoon heralds bountiful harvests and financial security, yet when the monsoons fail, or are excessive, suffering and economic loss is widespread. If climate projections are indicative of future trends, the risks associated with water-related climate variability are likely to worsen.

8. **The retreating glaciers of the Himalayas could present the most far-reaching challenge to the region.** The Himalayas are a vital life-sustaining resource for South Asia. The Himalayan ecosystem supports some 1.5 billion people who live directly in the floodplains of its many rivers (e.g. Indus, Ganges, Brahmaputra, and Meghna). The Himalayan system influences monsoon dynamics, acts as a natural reservoir to sustain crops, provides groundwater recharge, and is home to a unique ecosystem with an abundance of endemic species. But with rising temperatures the ice mass of the Himalayas and Hindu Kush is retreating more rapidly than the global average. This poses an unprecedented threat to water supplies, lives, and the economies of the region. With melting glaciers, flood risks would increase in the near future. In the long term, there can be no replacement for the water provided by glaciers, which could result in water shortages at an unparalleled scale. Agriculture and the region's economic structure will need to undergo significant adjustment to cope with these changes.

9. **Sea level rise is a further concern in the region.** The region has long and densely populated coastlines with many low-lying islands. In the severe climate change scenarios³ sea level rise poses an existential threat that would submerge much of the Maldives and inundate 18 percent of Bangladesh's total land, directly impacting 11 percent of the country's population. Salt water intrusion from sea level rise in low-lying agricultural plains could lead to food

² Most of the region relies on the summer monsoon, which runs from June to September. In Sri Lanka and the Maldives, however, it is the winter northeast monsoon that delivers most of the precipitation, between November and January.

³ Reference here is to the Intergovernmental Panel on Climate Change (IPCC) A2 scenario.

insecurity, further spread of water-related diseases, and reduced freshwater supplies. Many of the region's primary cities (e.g. Karachi, Mumbai, Kolkata, Chennai, Cochin) – the engines of its growth – are located on the coast and threatened by sea level rise. The immediate impact of sea level rise is on coastal communities and ecosystems. Ripple effects could be felt beyond borders if there is large-scale displacement of populations in densely inhabited coastal areas and erosion of protective coastal ecosystems.

10. **Many of the most severe impacts of climate change are likely to be regional and will call for coordinated regional responses.** Bangladesh has 54 shared rivers with India, so that changes in upstream runoff and demand due to climate change, could significantly impact future water availability across all these rivers. Likewise sea level rise could displace much of the population along the coastal zone and induce cross-border migration. Climate sensitive diseases could spread rapidly across borders in a globalized world. The last decade saw dengue fever, cholera and Rift Valley fever spread across and between continents. Adaptation to climate change might therefore require not just local action but also cross-boundary cooperative arrangements. Partnerships and coordinated approaches provide a cost effective way of adapting to the impending regional climate related risks.

11. **The cascading effects of more variable rainfall and higher temperatures will impact most aspects of life and the economy.** Weather extremes and greater fluctuations in rainfall have the capacity to refashion the region's comparative advantage. Food security, health, livelihoods, and access to basic services of water, sanitation, energy, and shelter could all be compromised. Expected impacts of climate change include the following:

- Reduction of yields of major crops by as much as 20 percent and an even sharper decline in agricultural incomes in the worst-case climate scenarios.
- Growing scarcity of water, with a need to balance more variable water supplies with the accelerating demand for water.
- Economic losses and damage to high-value infrastructure, particularly in the cities and vulnerable coastal belt.
- An increase in the incidence of diseases, with some ailments, such as heatstroke and vector- and water-borne diseases, becoming more widespread with higher temperatures or less reliable water supplies.
- The possibility that climate change could exacerbate prevailing social disparities among vulnerable groups such as women, children, the poor and indigenous people.
- Irreversible loss of ecosystems and ecological services, particularly in fragile and unique biomes covering terrestrial and marine ecosystems (such as the Himalayas, the Western Ghat biosphere encompassing India and Sri Lanka, and the fragmented coral reefs).

12. In sum, high population densities, a large concentration of poverty, and the region's climate variability have all combined to make South Asia especially sensitive to the consequences of climate change. Climate change has the potential to compound existing development problems and increase pressures on key resources needed to sustain future growth, urbanization and industrialization.

South Asia's Greenhouse Gas Contribution

13. **While vulnerability to climate change is high, the region has also recently emerged as a significant contributor to greenhouse gas emissions.** High economic growth has fueled an insatiable thirst for energy in South Asia. Rising energy demand is driven by urbanization, industrialization, and prosperity, all of which are part of a broader process of development that is lifting millions of South Asians out of poverty. Increased energy consumption has been accompanied by rising greenhouse gas emissions. On average, emissions have risen at about 3.3 percent annually in the region since 1990 – more rapidly than in any other region, except the Middle East. Total emissions exceed 2.5 billion metric tons of carbon dioxide equivalent. However, per capita emissions of the region are still extremely low by international standards – less than one-fifth of the developed countries.

14. **As the region strives to meet its development goals, the potential for further growth in emissions is enormous.** Over 500 million people in South Asia have no access to electricity. How the region meets the legitimate demands for energy and economic prosperity will have far-reaching consequences on global greenhouse gas emissions. Growth typically spurs emissions in rough proportion to the income it generates.⁴ Hence, South Asia, like the rest of the world, faces an enormous challenge to sustain its growth while addressing global warming.

15. **Coal is the backbone of the energy sector and is expected to remain the dominant fuel that will power the Indian economy.** India has the third-largest stock of proven coal reserves in the world, after the United States and China. Strategies to lower emissions by diversifying into cleaner sources of power are constrained by energy resources. India, the largest energy consumer in the region, is not well endowed with reserves of cleaner fuels such as oil, gas, and uranium.⁵ Hydropower potential is significant and large in absolute terms (150,000 megawatts), but small compared to the country's future energy needs.⁶ There are considerable and untapped possibilities for importing hydropower from Nepal and Bhutan and wind power from Sri Lanka, but there remain difficulties in establishing transboundary energy trade agreements. Because of the cost advantage of coal, Bangladesh, Pakistan and Sri Lanka will increasingly find coal emerge as the front-runner for incremental power generation. Cleaner coal technologies are likely to play a pivotal role in addressing the global climate challenge at least in the short term.

16. **There are large gains to be had from promoting energy efficiency and reducing power losses.** Much of the industrial output in the region is from small- and medium-scale enterprises that utilize outdated and inefficient technologies and processes. Cost-effective energy efficiency opportunities exist across the entire chain of energy production, distribution, and consumption in all South Asian countries. In addition there is scope for reducing emissions from existing thermal power plants. Many of the plants in the region are aged, inefficient, and highly polluting. Rehabilitation of these with cleaner technology can generate substantial emission

⁴ Globally, a 1 percent increase in per capita income has induced, on average, a 1 percent increase in greenhouse gas emissions.

⁵ In 2005-6 oil reserves were estimated at 786 metric tons and gas reserves are 1,101 million cubic meters (Government of India, Planning Commission 2006).

⁶ According to the Government of India's Integrated Energy Policy (2006), with 8 percent growth, 150,000 megawatts of hydropower would supply about 5 percent of total energy needs in the best case scenarios by 2030.

reductions. Such measures would be in line with the countries' needs for more energy to sustain their growth as well as with global mitigation objectives.

17. **Cities are major contributors to greenhouse gas emissions.** Rapid urbanization has been accompanied by increased demands for transportation, energy, water supply, and sanitation and increased generation of wastewater and solid waste, all of which contribute to greenhouse gas emissions. Fortunately there remain large and untapped opportunities for South Asia to simultaneously improve services (waste treatment, public transport, etc.) and quality of life while reducing the greenhouse gas footprint of the urban landscape.

18. **Agriculture is also a major significant to greenhouse gases.** Rice and livestock are the primary sources of agricultural emissions in South Asia and account for over 20 percent of emissions from South Asia. However, the per-hectare emissions from rice in South Asia are lower than the global average reflecting the special features of the agricultural landscape: poor soils, low levels of chemical application and the planting regimes. The most promising area for emission reductions is likely to be in the livestock sector, where changes in diet can simultaneously increase productivity and lower methane emissions. In addition in some countries a significant proportion of under-priced electricity is used for groundwater extraction and lift irrigation.

World Bank's Role

19. **The main objective of the World Bank is to support the development priorities of countries in South Asia by addressing climate change related risks and harnessing development opportunities that promote low-carbon growth.** The World Bank's (the Bank) current portfolio of activities in South Asia is already structured to promote growth under climate constraints. The adaptation dimension is closely linked to the Bank's core development mission and includes a well-targeted package of interventions aimed at reducing exposure to climate risks, promoting integrated coastal zone management, and building climate-resilient rural economies. There is also a growing engagement in understanding and addressing the risks in the large coastal cities of South Asia, which generate much of the region's investment and growth but where climate vulnerabilities are high. The Bank's energy portfolio in the region has been moving towards promoting energy efficiency, renewable energy and institutional reforms aimed at improving energy service and efficiency. The strategy envisions that the World Bank will continue to play a key role in facilitating South Asia's transition to a low-carbon-growth trajectory while promoting climate-resilient development.

20. **Building country ownership, capacity and awareness is the key to tackling the climate change problem.** Funds available for addressing climate change are limited. So expanding the many climate-friendly interventions in the Bank's portfolio will not be sufficient to tackle the climate challenge in South Asia. To leverage limited resources effectively the solution lies in promoting country ownership of climate change issues. This calls for selectivity with a focus on outcomes that build institutional capacity and deepen knowledge so that climate change risks are incorporated in country development policies, plans and programs. It also requires high-impact investments that could have catalytic effects.

Broad Principles of a Development Strategy for Climate Change

21. **Effective adaptation poses significant policy challenges.** Countries need to devise responses in the face of uncertainties on the timing, location and severity of climate impacts. The scale of these impacts will be contingent upon global mitigation efforts undertaken in the next few decades. Delayed or limited emission stabilization will necessitate considerably greater investment in risk management and climate change adaptation. These uncertainties need to be factored into the development of adaptation strategies and financing plans. The policies and institutions that enable South Asian countries to cope with these risks today, will build resilience in addressing future risks. Climate change is also predicted to bring new and unprecedented problems, such as those associated with sea level rise and melting glaciers. This will call for building new policies to prepare for the potential adverse impacts. However, given the large uncertainties a rational first-response is to invest in greater knowledge to better understand the scale and magnitude of these threats and to build institutional capacity to adequately respond to the challenge of climate change. In many cases, institutions will be considerably challenged by the crisis of climate change, in particular where structures and responsibilities are fragmented and technical capacity is limited.

22. To promote climate resilient development and growth in South Asia, adaptation activities will be guided by five pillars:

- **A “no-regrets” approach.** No-regrets approaches build resilience to climate risks and also generate co-benefits. Faced with uncertainty about future climate outcomes, no-regrets policies provide a strategy for hedging against climate risks. Irrigation supplies, health care, infrastructure, agriculture technology, disaster preparedness, habitat protection, and equitable and environmentally sensitive growth lend themselves to no-regrets interventions that simultaneously deliver climate resilience and development benefits.
- **Focus on the poor.** The most vulnerable are the poor in the developing countries, who have limited resources and whose assets and livelihoods are tied to climate-sensitive factors of production. Building resilience of these groups to current climate risks would generate immediate development dividends and reduce future climate vulnerability.
- **Investment in knowledge.** Climate science is imperfect and it is not possible to predict with certainty the path of future climate risks and the likely damages. Under uncertainty, knowledge has high value, and this will require vigorous investment in information and building awareness in the relevant policy agencies.
- **Regional Cooperation.** The most severe climate threats (such as glacier retreat and sea level rise) transcend national boundaries. Likewise in an increasingly globalized world, climate sensitive diseases spread rapidly beyond their origins. Finding effective solutions will require cooperation between countries to jointly address shared problems.
- **Maintaining the integrity of environmental services.** Recognizing that climate change is a consequence of damaged and diminished eco-services, the remedial measures need to be aimed at protecting and restoring ecosystem integrity. Indeed, maintaining ecosystem integrity can provide a cost-effective way of building climate resilience and a buffer against climate impacts.

23. With a large proportion of South Asia’s population living below the poverty line, any low-carbon growth initiative must be consistent with the development objectives of improving

living standards and incomes. This is the principle that guides the Bank's programs. Fortunately opportunities do exist to harness *win-wins* by focusing on measures that generate significant co-benefits such as improvements in energy and economic efficiency, reduction in local pollutants and improvements in natural resource management. The South Asia region has initiated a strong dialogue and a work program that includes knowledge sharing, and investments to realize these multiple benefits.

24. Recognizing the need for approaches to be informed and led by country development priorities there are three key pillars that guide the low-carbon development and growth agenda:

- **Win-win policies.** Such policies not only provide global benefits in reducing greenhouse gases but also pay for themselves in local benefits such as reduced fuel expenditure, improved air quality, and natural resource management.
- **Compensation.** South Asian countries would need to be compensated for the additional costs of mitigation actions that go beyond their development objectives. This approach underlies the United Nations Framework Convention on Climate Change (UNFCCC) principle of “common but differentiated responsibilities”. It recognizes that current climate risks are the consequence of past actions by developed countries and there is a need for assuring equal and fair access to the global atmospheric commons.
- **Technology transfer.** A third pillar is to promote research and the wider adoption of clean technologies. Developing new technologies are expensive and risky, but with continued research and early adoption, they can become more economical and accessible. Development, deployment, and diffusion of new technology are critical to enabling developing countries to meet the challenges of climate change. The Bank can play a supportive and catalytic role in this process.

25. Most South Asian countries already spend a significant proportion of their development budgets on disaster relief and programs that address climate related risks to welfare and development. Climate change is expected to increase the frequency of adverse climate events in ways that are outside the realm of current experience and could compromise the effectiveness of development efforts in climate sensitive sectors of the economy. To meet the additional costs of climate change South Asian countries will need to be well positioned to utilize the new funds that are being made available to address climate related problems. These include the Climate Investment Funds and its various sub-components, as well as mobilizing additional global resources (for example from bilateral donors). The Bank can play an important role in helping South Asian countries leverage resources to meet the additional costs of development under climate constraints.

26. Table E.1 provides a summary of the main climate risks and Table E.2 outlines the priority responses across the South Asia region. The risks and responses do imply the need for the development of a more climate-sensitive approach, which builds on many aspects of the current South Asia region portfolio that already contain dimensions related to both adaptation and mitigation. The region will need to make greater use of the existing range of instruments – knowledge partnerships and capacity building (including climate risk assessments, assistance with global negotiations where required, reports and technical support), as well as priority investments. In a resource constrained environment there will be a need to leverage funds effectively to achieve transformational impacts that could have significant effects in building climate resilient and low-carbon growth economies in the near to medium term.

Table E.1 Summary of Climate Risks by Country

	Afghanistan	Bangladesh	Bhutan	India	Nepal	Pakistan	Maldives	Sri Lanka
Sea level rise	-	High	-	Modest	-	Modest	High	High
Glacier retreat	High	High	High	High	High	High	-	-
Temperature increase		High	High (?)	High	High	High	Modest	High
Floods more frequent	?		Likely	High	High	Likely	High	?
Drought more frequent	Likely	High Some areas	?	High	?	Likely	-	?

Table E.2 Summary of Regional and Sector Impacts in the Context of Climate Change and Priority Responses

Sectors	Risks	Priority Response	World Bank's Potential Role
Regional and Cross-sectoral	<ul style="list-style-type: none"> • Information gaps • Limited coordination between sectors and countries • Funding gaps for both adaptation and low-carbon growth 	<ul style="list-style-type: none"> • Knowledge products • Institutional coordination and strengthening • Resource mobilization 	<ul style="list-style-type: none"> • Climate policy support targeted to needs • Low-carbon growth studies (India, Pakistan, Sri Lanka) • Trade barriers to clean technology adoption • Poverty-climate linkages • Build knowledge partnerships between countries and sectors • Assist with resource mobilization
Water	<ul style="list-style-type: none"> • Glacier melting in the Himalayas, including lake outburst • Floods • Droughts • Saline intrusion in coastal aquifers (due to sea level rise) 	<ul style="list-style-type: none"> • Regional cooperation on international rivers and river basins • Improved water resources management • Climate sensitive infrastructure “packages” to build climate resilience • Knowledge investments, e.g. to assess risks in Himalayas and the region’s large river basins • Increased research on new water efficient technologies and (drought resistant) crop varieties. 	<ul style="list-style-type: none"> • Convening power/leadership role to catalyze regional cooperation • Honest broker role without footprint • Technical assistance • Lending and financing for hydropower and storage
Agriculture	<ul style="list-style-type: none"> • Declining yields of major crops • Agriculture unviable in marginal areas e.g. arid, semi-arid, coastal (saline intrusion affected zones due to sea level rise) • Crop destruction by extreme events 	<ul style="list-style-type: none"> • Promotion of climate resilient cropping patterns and techniques • Agricultural research and extension for promoting climate resilient crop varieties • Improvements in risk management (e.g. climate insurance, contingent credit schemes) • Irrigation development and increased investment in water harvesting infrastructure at required scales that take account of climate risks 	<ul style="list-style-type: none"> • Technical assistance (TA) to help in dissemination of climate-resilient crop varieties and cropping systems • Investments in agriculture research, improved extension services, irrigation and livelihood diversification • Sector work to identify innovative financing mechanisms (e.g. climate insurance, carbon credits)

Sectors	Risks	Priority Response	World Bank's Potential Role
Natural Disasters	<ul style="list-style-type: none"> Higher probability of extreme climate events (cyclones, storms, floods, heat waves) Higher probability of slow onset disasters (prolonged droughts, sea level rise) 	<ul style="list-style-type: none"> Development of incentives and innovative approaches for rural development to diversify income and buttress against climatic risks Emergency preparedness and information (early warning systems) Risk mitigation: structural and nonstructural measures Catastrophe risk financing or transfers (where needed) 	<ul style="list-style-type: none"> Strengthening institutional capacity for disaster reduction management (DRM) and emergency response Technical assistance Funding support for disaster preparedness and adaptation Donor mobilization
Health	<ul style="list-style-type: none"> Increased incidence of water related diseases (malaria) Heatstroke Direct health risks; e.g. injury and death caused by extreme events 	<ul style="list-style-type: none"> Awareness of the health implications of climate change Monitoring and surveillance of disease and improved health sector response and training for new disease risk profiles Improved water supply and sanitation 	<ul style="list-style-type: none"> Analytical and advisory activities (AAA) and TA for impact assessments and review of the evidence base Lending and financing Convening role facilitating national and regional policy dialogues to prevent spread of climate sensitive diseases
Social	<ul style="list-style-type: none"> Increased poverty, vulnerability and nutrition insecurity Social conflict Aggravation of social exclusion and inequity Indebtedness in climate vulnerable areas Migration Increased urban slum population 	<ul style="list-style-type: none"> Awareness raising, social mobilization and capacity building Education and skill training for women, indigenous populations (IPs) and other vulnerable groups for reducing agricultural dependence Promotion of self-help groups (SHGs); and enhancing access to microfinance and banking services Strengthening public-private partnerships and social capital of vulnerable groups, their access and decision making Promotion of community-based asset building and sharing of natural resources 	<ul style="list-style-type: none"> Financial and technical support for promoting equity, inclusion, rights and livelihoods through targeting vulnerable groups and enhancing voice, decision making and capacity of the vulnerable to adapt Partnership with community-based organizations (CBOs), coastal state organizations (CSOs), non-governmental organizations (NGOs) and private sector for capacity building. Governance, strengthening institutions and social capital by initiating parallel capacity building and social accountability initiatives

Sectors	Risks	Priority Response	World Bank's Potential Role
Ecosystems and Biodiversity	<ul style="list-style-type: none"> Quantitative and qualitative damage upon freshwater, coastal, marine and terrestrial ecosystems with consequences upon livelihoods Loss of habitats, dependent species and important ecological goods and services Biodiversity loss in the Himalayas, glacier-fed ecosystems, forests and coral reefs Shifts in vegetation regimes in forests, grasslands and semi-arid deserts resulting in altered community structures and climate feedbacks 	<ul style="list-style-type: none"> Expansion of protected area networks and promotion of ecosystem-based approach in biodiversity conservation Mainstreaming of biodiversity and ecosystem management in development projects, climate mitigation, adaptation and risk management Designing and building biodiversity friendly and climate resilient infrastructure Generation of knowledge and capacity 	<ul style="list-style-type: none"> Financing for arresting and reversing ecosystem degradation, especially in <i>biodiversity hotspots</i> Pilot new approaches for protecting, upgrading, restoring, sustaining and expanding ecosystems—Payment for Ecosystem Services, Debt for Nature Swap Increasing the AAA and TA portfolio for building knowledge and capacity, particularly of the regulatory agencies
Energy	<ul style="list-style-type: none"> Political economy (non-climate) barriers to developing regional energy trade Poor quality local coal Aging and inefficient thermal power generation, high transmission and distribution losses Inefficient energy use Poor energy pricing frameworks including under-priced electricity for lift irrigation which can consume up to 20 percent of supplies in some countries 	<ul style="list-style-type: none"> Regional energy trade from power surplus countries (Bhutan, Nepal for hydro and Sri Lanka for wind) to energy-deficient economies (India and Pakistan) Cleaner coal – through rehabilitation and replacement of inefficient generation units Harness hydropower potential Energy efficiency and reduction of system losses. Investment in (non-polluting) renewable energy 	<ul style="list-style-type: none"> Scale-up transmission & distribution (T&D) loss reduction investments in India, Pakistan and Bangladesh, including selected Indian state-level T&D companies Expand renewable energy support through leveraging climate investment funds and advancing investments in hydropower (India, Nepal, Pakistan), coal (India), gas-fired (Bangladesh) Operationalize energy efficiency possibilities in India, Pakistan and Bangladesh Low-carbon growth studies for Pakistan, Bangladesh, and Sri Lanka Advance energy pricing reform dialogue Groundwork and dialog for investments in regional energy trade infrastructure

Sectors	Risks	Priority Response	World Bank's Potential Role
Transport	<ul style="list-style-type: none"> • Increase in number of private vehicles and usage per vehicle • Increase in age and efficiency of vehicle fleet • Ongoing deterioration of public transport in cities • Expansion of low-density urban land development which is not friendly to public transport and non-motorized transport • Rail freight competitiveness and efficiency 	<ul style="list-style-type: none"> • Sustainable and energy efficient public transport, and aggressive transport demand management, particularly in mega-cities • Reorienting urban growth patterns and practices so as to create networks of walkable neighborhoods, particularly in high growth, medium-sized cities • Slowing the modal shift to rail transport • Fuel efficiency standards for road vehicles 	<ul style="list-style-type: none"> • Financial and technical support for the <ul style="list-style-type: none"> – development of more energy efficient transport modes, such as public transport, non-motorized transport and clean transport – transitioning traffic management priorities from private transport to public transport and non-motorized transport – long-term land-use and transport planning • Greater weight given to assessment of transport impacts (particularly on energy use and climate change) in the project appraisal process • Institutional support to <ul style="list-style-type: none"> – Capacity development for transport planning, operation and management at national and local level – Regional or national initiatives that help develop and disseminate information on fuel efficiency standards and best-practices in vehicle maintenance – National or local initiatives that advance the adoption of transport CO₂ emission targets and monitoring mechanisms
Urban	<ul style="list-style-type: none"> • Climate related damage upon urban settlements, lives, assets and basic water and sanitation services, • Increase in urban vector and water-borne diseases, (associated with urban poverty mainly in slums). • Growth of GHG emissions of future urbanization 	<ul style="list-style-type: none"> • Integration of climate adaptation and disaster risk management within the urban climate change strategy. • Harnessing mitigation potential in industries such as solid waste, wastewater treatment, energy efficient buildings and infrastructure. • Improving energy efficient buildings 	<ul style="list-style-type: none"> • Technical, financial and capacity-building support on adaptation and risk management in urban areas • Building knowledge and capacity of cities to adopt mitigation strategies and in developing urban climate change agenda • Assist cities in integrating urban transport, energy and construction within urban climate change strategy • Supporting the improvement of urban water infrastructure and sanitation services and demand management