

COMPARATIVE ANALYSIS OF DEVELOPING COUNTRY NATIONAL CLIMATE CHANGE STRATEGIES



	INDIA	SOUTH AFRICA	CHINA	MEXICO	BRAZIL
	National Action Plan on Climate Change (NAPCC)	Long Term Mitigation Scenarios (LTMS)	National Climate Change Program (NACCP)	Special Program on Climate Change (PECC)	National Plan on Climate Change (PNMC)
Issuing agency	Prime Minister's Council on Climate Change, July 2008	Cabinet of South Africa July 2008	National Development and Reform Commission, June 2007	Inter-Secretarial Commission, 2008 (public review draft)	Inter-Ministerial Committee on Climate Change (CIM), September 2008 (public review draft)
Process for development	Plan developed by a special council appointed by the Prime Minister. Efforts began in 2007. Council includes ministers, bureaucrats, scientists and business. Council has met infrequently; little effort made to engage stakeholders in the development of the plan. Ministries are to submit detailed implementation plans to the Prime Minister by Dec 08.	Commissioned by Cabinet in 2006: tasked Department of Environment and Tourism to develop plan. A "Scenario Building Team" was set up, including research institutes, business, and civil society. LTMS identifies measures to reduce emissions and adapt: (i) activities to "start now" as they will save money over time (ii) measures to scale these actions up with additional resources (iii) tax and incentive packages (iv) parallel options e.g. behavioral changes and generation technologies. Approved in July 08.	China was the first major developing economy to issue an action plan. Process was led by the National Development and Reform Commission, with input from leading universities. Chinese Premier Zeng Peiyan and State Councilor Tang Jiaxuan now head a National Coordination Committee on Climate Change, which includes 17 ministries and agencies, to orchestrate climate change policy.	Inter-Secretarial Commission on Climate Change (CICC) formed in April 2005. CICC prepared National Strategy on Climate Change (ENACC), presented by President Calderón in May 2007, who ordered development PECC based on ENACC and National Development Plan (PND). 17 "sectoral programs" (review of what each sector can accomplish) fed into draft PECC. Review draft PECC published July 2008. Received 53 sets of comments from range of stakeholders, which will be integrated into a revised final copy by 4 expert roundtables.	President initiated PNMC in April 2007 on the recommendation of the Ministry of Environment and Brazilian Forum on Climate Change. In Nov 2007, President appointed CIM (15 ministries plus the President's Secretariat of Strategic Affairs, overseen by Casa Civil) to oversee Plan. CIM surveyed government ministries to identify actions that could be incorporated in the Plan. Input solicited through stakeholder consultation process that included the Sectoral Dialogues, and the Third National Conference on Environment.
GHG emission scenarios framing plan	NAPCC notes that there is evidence of climate change, and references the IPCC reports. Makes a commitment that the emissions per capita of Indians, will not exceed those of people in developed countries.	LTMS are developed with reference to emission scenarios if growth was "not constrained", and emission levels "required by science" to prevent climate change. The actions identified in the LTMS are to reduce emissions to the levels required by science.	NACCP makes reference to IPCC reports and Stern reports to confirm the need for early action on the part of all countries to reduce emissions. Notes that emissions intensity is reducing. Emphasizes China's right to development, and the need to consider developing country emissions on a per capita basis.	PECC notes that although decarbonisation must be led by industrialized countries, productive processes of developing countries whose economies are growing rapidly should also be transformed. Gap between reasonable self-effort and needed transformations should be met with large-scale cooperation, and new financing.	Cites the IPCC as scientific consensus that anthropogenic climate change is occurring. Brazil has contributed little to the problem (in terms of comparative per capita and per area emissions), but has done its part in mitigation to date, and is determined to do more while ensuring the well-being of its citizens.
Key Mitigation Interventions	<p><i>Energy generation/use</i></p> <ul style="list-style-type: none"> -Increased deployment of PV solar -1,000 MW of concentrating solar thermal power -Energy efficiency in industries, Small enterprises, and in energy production -Promotion of ESCOs and retrofits -Efficiency in residential+ commercial sectors -Improved municipal solid waste management -Regulate power tariffs for irrigation -Retire or rehabilitate 10,000MW old capacity -R&D + deployment of supercritical coal -Promote nuclear power (closed cycle technology) -Exploit hydropower potential (large, medium, micro) - renewables esp. biomass combustion+ gasification 	<p><i>Energy generation/use</i></p> <ul style="list-style-type: none"> -Accelerated energy efficiency and conservation across all sectors, including industry, commerce, transport and residential (including stringent building standards) - Ambitious and mandatory targets for energy efficiency - Response to the electricity-crisis should be reviewed and amended to ensure alignment with the LTMS -Explore options for a price on carbon through escalating CO2 tax, or an alternative market mechanism -Diversify energy mix away from coal while promoting cleaner coal (e.g. stringent thermal efficiency and emissions standards) -Incentivize renewable energy - feed in tariffs - Set targets for renewable energy 	<p><i>Energy generation/use</i></p> <ul style="list-style-type: none"> -Optimize energy mix; reduce energy consumption/ unit GDP by 20% -Strengthen energy laws regulations to support mitigation -Accelerate institutional reform -Foster market for renewables: wind, solar, geothermal + tidal -Develop hydropower resources -Actively promote nuclear power -Ultra-supercritical coal, methane bed, and mine methane technology -Promote bioenergy including garbage burning plants and biofuels -R&D for efficient coal mining, oil & gas exploration/use technologies -Improve efficiency standards - Improve efficiency programs and monitor implementation -New financing mechanisms and tax policies to promote energy savings 	<p><i>Energy generation/use</i></p> <ul style="list-style-type: none"> -Improve energy efficiency; reduce GHG emissions from oil & gas -Evaluate use of ESCOs to enhance efficiency; develop framework for sourcing co-gen energy -Develop National Renewable Energy Program + financing to enhance renewable energy production and use -Include climate change in evaluating projects in the Electric Sector Investment Program (POISE) -Identify and reduce SF6 leakage -Nuclear generation options -Enforce efficiency goals for national electricity utility -Assess efficiency in building standards -Promote efficiency through standards, incentives, certification <p><i>Industry</i></p> <ul style="list-style-type: none"> -Enhance GHG accounting and reporting; 	<p><i>Energy:</i></p> <ul style="list-style-type: none"> -Improve efficiency of energy supply and distribution -Substitute less carbon-intensive/ renewable fuels -Carbon capture and storage <p><i>Transport:</i></p> <ul style="list-style-type: none"> -Use efficient vehicles, rail systems, and collective transport; land use and transport planning <p><i>Buildings:</i></p> <ul style="list-style-type: none"> Efficiency; solar energy; integrated planning to permit efficiency gains <p><i>Industry:</i></p> <ul style="list-style-type: none"> -Efficiency; adoption of recycling and material substitution <p><i>Agriculture:</i></p> <ul style="list-style-type: none"> -Enhance soil storage -Restore degraded areas -Intensify bovine ranching; improve cultivation /fertilization to reduce CH4 and N2O emissions; cultivate energy crops <p><i>Silviculture/Forests:</i></p>

	<ul style="list-style-type: none"> -Explore a dynamic minimum renewables purchase standard (excluding large hydro) starting in 2009-10 <p><i>Transport</i></p> <ul style="list-style-type: none"> -Urban public transport -R&D in Indian railways -Transport pricing reform and higher regulatory standards <p><i>Forests</i></p> <ul style="list-style-type: none"> -Greening India Program to expand forest cover to 1/3 of country's area -Afforestation programs 	<ul style="list-style-type: none"> - Set targets for nuclear energy - Explore CCS and Coal to Liquids (eventually, coal plants without CCS may not be allowed) - Industrial policy to favor less energy use per unit economic output -Build domestic industries in clean sectors <p><i>Transport</i></p> <ul style="list-style-type: none"> -Targets to reduce transport emissions (voluntary + mandatory if needed including through stringent and escalating fuel efficiency standards) - Promote public transport, hybrids and electric vehicles 	<ul style="list-style-type: none"> -Raise sectoral efficiency standards -Most efficient technologies for iron & steel; cement; oil & petrochemical; agricultural machinery industries 	<ul style="list-style-type: none"> create registry + verification system; benchmarking -Advance voluntary and mandatory regulation of equipment, energy generation systems, consumption <p><i>Agriculture and Forestry</i></p> <ul style="list-style-type: none"> -Promote afforestation, reforestation, and conservation tillage -Improve fertilizer and manure management -Promote sequestration through payment for environmental services -Develop + test a REDD mechanism with international financial support <p><i>Waste</i></p> <ul style="list-style-type: none"> -Integrated waste management -Promote waste-to-energy projects 	<ul style="list-style-type: none"> -Reduce deforestation -Stimulate sustainable forest management -Afforestation and reforestation -Use sustainably sourced forest products <p><i>Waste:</i></p> <ul style="list-style-type: none"> -Recuperation of methane from landfills -Energy recuperation and recycling
Key Adaptation Interventions	<p><i>Water</i></p> <ul style="list-style-type: none"> -Increasing water efficiency -Mandating water harvesting and recharge in urban areas -Recharge of sources and groundwater aquifers -Water assessments and audits -Conservation of wetlands through mapping, inventory, regulation -Desalination technology development <p><i>Ecosystems / Biodiversity</i></p> <ul style="list-style-type: none"> -Monitoring of Himalayan glaciers and ecosystems -Improve land use/ development planning in Himalayas + sustainable tourism -Biodiversity conservation -Drought and pest resistant crop development -Weather modeling, risk insurance; improve access to weather + agricultural information -Strengthen disaster management + communication <p>General:</p> <ul style="list-style-type: none"> -Support research and modeling to build strategic knowledge on climate change 		<p><i>Agriculture:</i></p> <ul style="list-style-type: none"> -Eco-agriculture in intensive areas, improve agric. infrastructure -High yield +stress resilient crops -Improve livestock management <p><i>Forests</i></p> <ul style="list-style-type: none"> -Incorporate climate change into laws+ regulations on forests, conservation, and wetlands -Afforestation at all levels of govt -Expand forest monitoring systems include all ecosystems -Improve municipal waste systems -Prevent grassland desertification (increase by 24 mill. hectares, and restore 52 mill. hectares) <p><i>Water</i></p> <ul style="list-style-type: none"> -Unified water management -Speed up water infrastructure development including North to South Water Diversion project -Slope and shore protection through engineering and biological measures 	<ul style="list-style-type: none"> -Deepen understanding of impacts of climate change on agriculture, forestry, water, ecosystems, infrastructure, cities -Preserve + widen + connect protected areas -Build resilience of continental, coastal & marine ecosystems -Avoid and control spread of invasive species, diseases, parasites -Reduce soil degradation -Modernize hydro-agricultural infrastructure -Databases on resilience of key crops -Payments for environmental services -Reduce vulnerability to extreme weather 	<ul style="list-style-type: none"> - Improved regional modeling of climate change impacts - Vulnerability mapping for coastal zones, biodiversity, water resources, electricity generation, oil and gas, desertification, urban areas - Proposed adaptation measures fall under national desertification plan and water resources plan <p>General:</p> <ul style="list-style-type: none"> - Institutional strengthening - Research and development
Extent to which interventions are new / additional	Many programs in the NAPCC underway for some time. It is not always clear how the plan will build on / expand upon these existing programs. Proposes to revisit many difficult / stalled policy and regulatory reform processes. Proposed programs to significantly expand solar power and Concentrating Solar Thermal Power are new. Overall, sets few new targets or goals to impact emissions.	Plan explicitly identifies actions that would be new / scaled up as part of a response to climate change. Actions identified in the "start now" scenarios reflect ongoing priorities and programs; next the plan identifies measures to scale up these initiatives; explores how market and other instruments might allow South Africa to take higher cost steps.	Varies from sector to sector. Much of the plan builds on ongoing programs. Emphasis on building research and development / technical capacity within the country. Identifies potential emission reductions of some interventions. Strong new emphasis on institutional reform, and coordination across agencies in implementing the plan.	Varies from sector to sector. New programs are proposed in several sectors (aviation standards, sulfur hexafluoride program); others are strengthened or enhanced (Mexico GHG Program, energy efficiency standards, Fund for Electric Energy Savings). Existing efforts are mentioned for several sectors without clarifying what additional steps will be taken.	Lists "Actions in Implementation Phase" and "Actions in Conception Phase." Numbers of actions in each category are comparable; further analysis would be required to determine the additionality of the actions' impacts on GHG emissions.