



NTS ALERT

“Science tries to reduce to the possible minimum the personal bias of analysts. Whereas in politics one can say that it's a completely different game, completely different rules apply”

- Nebojsa Nakicenovic, Austrian scientist and one of the authors of the IPCC report

Debating Climate Change

The Intergovernmental Panel on Climate Change meeting held in Bangkok in early May 2007 attracted 30 of the world's leading climate experts and more than 217 government representatives from 105 countries whose task it is to fine-tune the report, which seeks an international consensus on how to reduce greenhouse gases and, perhaps more importantly, how much it would cost. It culminated in the release of a report titled "Climate Change 2007: Mitigation of Climate Change." The document, which was more than 1,000 pages long, was the subject of heated debate, lasting well after midnight on three days. In this issue, we highlight some of the salient issues that emerged and the debates surrounding the issue of climate change.

Outcomes at the meeting and responses to the report

The report was approved by the ninth session of the Intergovernmental Panel on Climate Change's Working Group III. It was the third such document circulated this year to address the dire consequences the world faces due to greenhouse gas emissions and the global response required.

Based on the IPCC's research in the last six years on latest development in the mitigation of climate change in various countries, the report analyzes mitigation options, including policy tools like carbon tax and alternative energy like nuclear power, for

limiting greenhouse gas emissions so as to undermine impacts of climate change.

Compared to 2001 analyses, this report – according to Chinese energy expert Zhou Dadi provides a *clearer picture of mitigation options for policy makers*. It has greater focus on practices conducted by various countries, as well as their social and economic impacts, benefits and costs, on cutting greenhouse gas emissions.

After the week-long meeting at the UN building in Bangkok, the IPCC's working group on Climate Change Mitigation concluded that the *world needs to cut annual greenhouse gas emissions between 50 percent and 85 percent by 2050 - just to keep global warming in check*. The report included that this was possible as preventing climate change from reaching dangerous levels would only cost between 0.2 per cent and 3 per cent of the world's gross domestic product in a few decades.

According to Clive Hamilton, Director of the Australia Institute, a think tank located in the Australian National University, the findings are very interesting as they somewhat confirm the conclusions of the Stern Report. *The economic costs of doing nothing, that is, of climate change, will be*

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much greater than the costs of reducing greenhouse gas emissions, and that's essentially what this IPCC report finds.

A range of technologies and measures have been suggested to slow down global warming to not more than three degrees, including putting a clear price on carbon, emissions trading, and adopting technologies such as energy efficiency, nuclear power and renewables. Moreover, ***while voluntary measures are politically more attractive, legally binding targets are more effective***. This would possibly give greater impetus to extend the Kyoto Protocol.

Although the report stated that industrial countries accounted for 46 per cent of global greenhouse gas emissions the recommended actions were focused on developing countries. This was substantiated by the fact that ***an estimated 65 per cent of the total mitigation potential is located in the tropics and about 50 per cent could be achieved by reducing emissions from deforestation***.

Despite the report stating that carbon dioxide (CO₂) was the number one greenhouse gas and mostly came from the burning of fossil fuels, the report did not recommend that usage of fossil fuels should be reduced. This was to accommodate the needs of developing countries, including their financial abilities and natural resources. It was recommended nonetheless that ***countries should switch from using coal to cleaner sources, including nuclear and renewable energies. However, no timeframe was given***.

The report also mentioned that ***carbon capture and storage (CCS) for gas, biomass, and coal-fired electricity generating facilities could be key mitigation technologies***. However, Tara Buakhamsri, climate change campaigner of Greenpeace Southeast Asia, said CCS is just a technique for storing carbon in confined areas and did not contribute to the reduction of greenhouse gases. Even so, not everyone in the green lobby is opposed to so-called carbon storage. Stephan Singer of the World Wildlife Fund said such a system could be a stopgap measure to cut emissions while the globe converts to non-carbon fuels over the next 50 years

The report was also significant as it was the first panel report to call for a reevaluation of wasteful lifestyles. ***Dramatic lifestyle changes are also necessary in managing the severity of global warming***. This included changes in lifestyles and consumption patterns that emphasize resource conservation can contribute to developing a low-carbon economy that is both equitable and sustainable. This point was raised by the Indian delegation and was welcomed by other participants. According to Catherine Pearce of the environmental lobby Friends of the Earth International "There was no opposition -- it was approved without question." Experts such as Rajendra Pachuri and Ogulande Davidson, Chairman and co-chairman of the intergovernmental panel, added that shifts in individual behavior to help cool an overheating planet does not mean sacrifices in lifestyle changes. Rather it was more about individuals having to accept a different threshold of comfort.

Ismalel Elgizouli, a mathematician at the Khartoum University, Sudan, and an African representative at the panel further added that lifestyle changes were essential because while governments have to take the lead in finding solutions, people too have to play their part in making changes to reduce [greenhouse gas] emissions.

Nongovernmental organizations also felt that lifestyle changes was a significant element in mitigating climate change. Shailendra Yashwant, climate and energy team manager for the South-east Asia office of Greenpeace, expressed that it was a strong message to the citizens of the United States and Europe to reassess their personal carbon footprint and help the rest of the world to achieve a common goal. According to the World Wildlife Fund, an average U.S. citizen requires 10 hectares of the planet to support his or her lifestyle, while an average European needs more than five hectares. An average person in Africa, by contrast, draws on about one hectare of the earth's resources to live.

But the challenge that awaits governments to take a radical turn in their energy supply line is daunting, given that renewable energy accounts for only 13 percent of the world's primary energy demands, of which, biomass is the largest alternative energy source. According to Greenpeace, about 80 percent of primary energy supply still comes from fossil

fuels, out of which oil provides 36 percent of the world's fuel needs, while coal supplies 25 percent.

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What do the big players say?

This section takes a look at the reactions and opinions of the two biggest carbon emitters in the world – the US and China.

United States

Usually fingered as a key culprit in protecting economic interests over climate change concerns, the US escaped largely unscathed from the conference, with most delegates pleasantly surprised by its performance. According to Gavin Edwards from Greenpeace the United States delegation had kept a low profile, but burst into life when it came to nuclear power.

Tension over accountability from larger nations like the United States also is hurting the situation. While China blames industrialized nations for the world's emissions, the United States has said it will not adhere to any emissions reduction treaties unless China does as well.

China

Shouldering most of the blame for trying to stick a political oar in the proceedings was **China**, who were said to be trying to play up the costs of taking immediate action to battle global warming. China's 18-strong delegation was active in voicing its views over expressions and wording of texts, and accountability of some evidence and conclusions in the report. The Chinese delegation, led by China's Meteorological Administration Deputy Chief Wang Shourong, is comprised of experts and officials from various economic, social, environment, legal sections and key think tanks with regard to almost every issue covered by the IPCC report. China energy expert, Zhou Dadi, noted that as the biggest developing country, China has devoted many efforts in the study of the impact of climate change and thus had the right to voice out its opinions.

Amongst the issues raised, the Chinese delegation lamented over how its pleas for assistance with energy-saving technology have been largely ignored and thus suggested a need to analyse the various barriers to technology transfer. Chinese officials also attempted to water down language discussing the stabilization of CO₂ concentrations as low as 445 parts per million but was unsuccessful in gaining support. China has long argued that industrialized nations were allowed unlimited economic growth unencumbered by emissions constraints while producing most of the CO₂ emissions that have caused the current crisis. Moreover, they are of the opinion that rapidly growing economies such as China's and India's should enjoy similar freedom of releasing carbon emissions for the sake of their economic growth and development.

Nonetheless, China is making efforts in adopting more European oriented policies. According to David Zhou, researcher at Beijing's Energy Research Institute and a member of the intergovernmental panel's body of experts, "When China adopted the open economy policy, we used the U.S. model, but now we need to change that by stressing efficient use of energy and consumption that uses less energy. We are trying to create new models by looking at some European countries."

China has launched a national plan to address climate change – known as the National Climate Change Program (see page 7). The plan aims to restructure China's economy, promote clean technologies and improve energy efficiency. Yet, the plan does not indicate any quantified targets and hence China is still under pressure by the EU to adopt mandatory targets in reducing its carbon emissions.

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Science triumphs over politics at UN Climate Change Meeting, *AFP*, 5 May 2007





Moving forward...

Despite the tiring and tedious process of drafting the report, most agreed that they were broadly happy with the results of the lengthy and exhausting process. While there was a need for quicker actions to curb the carbon dioxide level, reality is such that different countries have taken different positions regarding climate change. The meetings and battles have thus been about reaching a fair compromise of different countries' positions.

The battles are typical to previous IPCC meetings on its assessment reports, which are expected to provide key technological and scientific background information for later policy making on climate change. "You could argue that some of the delegates that are most critical and difficult towards the text are the most important to the text," said Michael Williams, spokesman for the UN's Environment Programme. "By challenging and nitpicking and asking questions, that just increases the chances of us getting a better text rather than just being polite about it."

Where does this then leave the world? Simply put, action must be taken at once. G8 meetings for the rest of the year will include participation from China and India. Moreover, discussions on extending the Kyoto Protocol will take place in late 2007. Till then, the international community must persevere in convincing carbon emitter such as China and the United States in committing themselves to reducing carbon emissions.

Civil society action is also essential in initiating change. Seventy five professors of economics, for instance, called on the Australian Federal Government to stop undermining international efforts to tackle climate change and to ratify the Kyoto Protocol without delay. The 75 professors are among 271 Australian university economists who have signed a statement drawing attention to the economic damage to Australia of failing to reduce greenhouse gas emissions. The economists' statement follows warnings from the Intergovernmental Panel on Climate Change of new and stronger evidence that global warming is attributable to human activities, and warnings from the CSIRO that climate change has the potential to

G8 Developments

German Chancellor Angela Merkel had put the issue of tackling change top of the agenda for the G8 Summit. Germany proposed ambitious targets, including halving carbon emissions by 2050 and keeping global warming down to no more than 2 degrees Celsius. These proposals were supported by the European Union (EU) and would form the basis of a successor to the Kyoto Protocol on cutting greenhouse gas emissions, which runs out in 2012.

The US, however, still maintained its position that it would not agree to any specific figure unless other major polluters such as China and India did too, although Canada and Japan agreed to them.

Nevertheless, leaders agreed they are "committed to taking strong and early action to tackle climate change" and would seriously consider the decisions made by the EU, Canada and Japan which include at least a halving of global emissions by 2050.

At the end of the summit, Merkel expressed that the G8 had established a "clear mandate" on tackling the issue, but behind the scenes some leaders were clearly frustrated by the US' obstinacy.

Canadian Prime Minister Stephen Harper criticised the US refusal to sign up, saying that it is difficult to meet the targets "if your major partner does not have those targets too".

In spite of this, the German environment ministry noted that twenty environment ministers worldwide would convene in Sweden to discuss the compromise agreement to tackle climate change reached between the G8 members at their summit in Heiligendamm. German Environment Minister Sigmar Gabriel said that the meeting was at the invitation of the Swedish authorities.

The meeting will make preparations for the climate conference in Bali, Indonesia, in December, which should pave the way for negotiations towards reaching a post-Kyoto agreement on reducing greenhouse gases, the spokesman said. The Kyoto accord expires in 2012.

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G8 Summit 20 environment ministers to meet in Sweden Mon on climate change deal, *Forbes*, 8 June 2007
G8 Summit: At a glance guide to the main points, *Forbes*, 10 June 2007

seriously disrupt agricultural output, water flows and natural systems in Australia.

The statement says that serious effects of climate change on Australia include more heat waves, fires of greater intensity, reduced soil moisture, declining water security, greater risks to life and property from sea-level rise and storms, risks to major infrastructure from extreme events and substantial impacts on agriculture and forestry.

Support has also been given by Japan, which has pledged US\$100 million in grants to the Asian Development Bank on Sunday to combat global climate change and promote greener investment in the region, and called for a beefed-up international agreement to cut greenhouse gas emissions. The money is part of a new initiative by Tokyo to support sustainable development amid increasing concern that Asia's breakneck economic growth is leaving the environment in tatters. It comes just days after a breakthrough agreement in Thailand set the world's first roadmap for fighting global warming. As part of Japan's push, it will also provide up to US\$2 billion in loans to the Asian Development Bank over the next five years to promote investment in the region.

Tackling environmental problems is emerging as a top priority at the ADB, which was founded four decades ago to fight poverty through economic growth. The ADB is working to counter a mentality that poor nations must sacrifice the environment to the march of progress, amid criticism that the bank funds such rampant development.

Japan, which has the biggest voting power in the ADB along with the United States, will channel up to US\$100 million into two new funds -- the Asian Clean Energy Fund and the Investment Climate Facilitation Fund. The funds are to promote renewable energy resources, such as solar power, and encourage nations to build environmentally friendly infrastructure. They also aim to attract greener investment.

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Rocking for Climate Change

On 7th July, some of the world's most popular stars performed at Live Earth Concerts worldwide. Tens of thousands of people attended the concerts held in Sydney, Tokyo, Shanghai, Hamburg, Johannesburg, London, Washington, New Jersey and Rio de Janeiro. Beginning in Sydney, the concerts spanned 22 hours to end in Rio's Copacabana beach and a New Jersey football stadium.

Live Earth was organized by former US vice-president Al Gore and Kevin Wall, an Emmy-award winning producer, who was inspired by the Oscar-winning documentary authored by Gore, *An Inconvenient Truth*. The concerts kick start a three to five year campaign aimed at increasing awareness of the detrimental effects of climate change. Live Earth was modeled after Live 8 held in 2005, also organized by Wall, a worldwide concert aimed at making poverty history. The event was made green by using recycled goods and concert-goers were shuttled from distant carparks in biodiesel buses and using biofuels for generators.

“The tipping point in the political system will come when the majority of the people are armed with enough knowledge about the crisis and its solutions that they make this cause their own...Then, you will see the entire political system shift dramatically.”

~ Al Gore, Former United States Vice President and author of *An Inconvenient Truth*.

Gore told the crowd at New Jersey's Giants Stadium, "You are Live Earth," on a stage made with recycled tires. At the concert, Gore took a seven-point pledge pushing for reduced carbon emissions and for governments and employers to do more to save the planet. Gore also asked Live Earth viewers to pressure their leaders to sign a new treaty by 2009 that would cut global warming pollution by 90 per cent in rich nations and more than half worldwide by 2050. The Live Earth website indicates that 150 000 people have signed the pledge.





A failed attempt?

Despite the positive intentions behind Live Earth, the event sparked criticism for its lack of a clear-cut achievable goal. Critics called the mission of the event vague – merely an unnecessary and wasteful repetition of a message the world was already familiar with. Others have questioned the effectiveness of getting pop artistes, many of whom lead extravagant and environmentally unfriendly lifestyles, as spokespersons for the cause.

The massive amount of rubbish left behind by concert-goers further fuelled criticism and disappointment over the event. In Sydney, 20 cubic tonnes of rubbish was generated from the event, around the same amount left behind in a cricket match.

Reports indicate that the television viewer-ship ratings of Live Earth fell way below the usual weekend primetime average in the US and Britain. In both countries, Live Earth only drew about a quarter the number of viewers who watched the Princess Diana tribute concert screened a week earlier.

The event fared much better over the internet. Microsoft Corp's web portal MSN reported that Live Earth concerts generated more than 9 million

Internet streams, the most for an online entertainment event. Still, the event failed to reach the targeted 2 billion people via the radio, television and internet.

Many have acknowledged the difficulty of marrying serious themes such as climate change with pop music. Ultimately, Live Earth is but one of many respectable and creative efforts worldwide to bring about a shift in the global attitude towards climate change. Each attempt to reach out to the masses is essential fuel to push the level of global environmental consciousness over the tipping point.

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- Stars Rock the Globe for Climate Change, *Reuters*, 7 July 2007

Climate Change Not Caused by the Sun

Scientists have confirmed that the rise in global temperatures detected over the past two decades have not been caused by solar variations. Researchers factored in a solar radiation cycle which goes through peaks and troughs of activity over a period of 11 years. In fact, the sun has been less active since 1985, and the Earth's climate should instead be moving in the opposite direction. This information counters the main arguments presented in a documentary aired in Britain earlier this year, 'The Great Global Warming Swindle', which insisted that the recent upward trend in global temperatures have been caused by the sun.

Sources

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- Global Warming: Don't blame it on the Sun, *The Straits Times*, 12 July 2007

Europe's Extreme Weather Conditions

The United Kingdom has experienced its worst flood disaster in 60 years, which has left at least 350,000 people without running water and a shortage of electricity. The rising water levels of the Severn and Thames rivers had even exceeded levels experienced during the devastating floods in 1947. According to the UK's Environment Agency, about 5 million people, in 2 million properties, live in flood risk areas in England and Wales.

The financial costs of the floods are also on the rise. According to the Association of British Insurers (ABI), the flooding of June and July 2007 is expected to cost the insurance industry at least £2bn. Calls to insurance firms have soared, as thousands of homes have been damaged and lost power amid floods in central and western England.

The government has responded to the disaster by providing emergency relief to the affected areas. The Army said it would distribute three million bottles of water a day until tap supplies were restored. Environment Secretary Hilary Benn had also pledged to add a further £10m to the current £14m recovery fund available to local authorities to help with the aftermath of the flooding.

As political debate intensified as to whether the UK government could have done more, a poll from the UK's Channel 4 Television noted that only 8% of Brits blamed the government for the disaster. Only 25% believed that climate change was the cause while 61% perceived the incident as a freak event.

The UK government has also embarked on a series of measures to prepare itself for further disasters. Prime Minister Gordon Brown chaired a meeting of the emergency Cobra committee, which discussed the possibility of the floods spreading to London as well as different contingency plans for the flood waters moving east. The government has also unveiled plans for 3 million new homes, including on flood plains, by 2020. Housing Minister Yvette Cooper told ministers in parliament that new guidance would require town councils "to plan more widely for the consequences of climate change," including flooding. By 2010-11 more than 70,000 affordable homes a year would be built, of which 45,000 would be social homes and the rest shared ownership.

Weather conditions in Southeast regions of Europe were, however, starkly different from that in the UK as they experienced extensive heat waves. Countries affected include Hungary, Romania, Macedonia and Italy.

According to Hungarian medical officials, up to 500 people are estimated to have died across Hungary within a week, making it the country that was worst hit by the heat wave. Record-breaking temperatures also killed 12 Romanians, one man in Macedonia and another man on the island of Corfu.

The extreme heat had also triggered off wildfires in various parts of Europe. Forests in Bosnia, Serbia, Montenegro, Macedonia, Bulgaria and Greece have been ravaged by flames this week, blamed on record-high temperatures after the dry winter. In southern Italy, thousands of tourists were trapped on beaches in the Puglia region as a fast-moving bush fire forced people from campsites and hotels to run for their lives. Local authorities have reported that at least two people have died as a result of it.

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Southeast Europe hit by heatwave, UK flooded, *The Straits Times*, 25 July 2007





Managing Climate Change in Asia

Bangkok, Thailand

Mr Apirak Kosayothin, Bangkok's governor, unveiled the basics of the programme on May 9, and elaborated on it at a Large Cities Climate Summit in New York later. Mr Apirak also signed up for a US\$5 billion (S\$7.5 billion) initiative with major banks to retrofit buildings in their cities to conserve energy. The programme, initiated by former US president Bill Clinton, is financed by ABN Amro, Citibank, Deutsche Bank, JPMorgan Chase and UBS, each sponsoring US \$1 billion. Besides Bangkok, the following cities also signed up to be a part of the programme: Berlin, Chicago, Johannesburg, Karachi, London, Melbourne, New York, Mexico City, Rome, Sao Paulo, Seoul, Tokyo and Toronto.

Mr Apirak returned from New York with a list of 'best practices' from 40 cities ranging across both the developed and developing world. He launched a campaign to encourage shop owners of Bangkok's 200-odd wet markets to install compact fluorescent bulbs. In May, the state-run Electricity Generating Authority of Thailand (Egat) and the private sector donated an initial 1,100 compact fluorescent lamps which were presented to vendors at four wet markets. However, a total of 44,202 lamps are needed for the change across the city.

When the change to energy saving bulbs is completed, possibly by the end of June, 15,488,380 KW per hour or around seven million baht (S\$311,000) will be saved across the 200-odd markets. Carbon dioxide emissions will also be reduced by 7,883.43 tonnes annually. Hospitals will also be targeted for a similar campaign. Mr Apirak has engaged Toshiba Lighting Company's aid in promoting public cooperation in discarding fluorescent bulbs appropriately.

The Bangkok Metropolitan Administration (BMA) has set a target to cut carbon emissions by 15 per cent by the year 2012, in the city of around 10 million people and 5.5 million vehicles. The range of measures designed to achieve this include weeding out old and overly polluting vehicles from

the streets, improving waste removal and sorting, urging vehicle owners to switch to clean fuel, and getting major buildings to use energy-saving fluorescent light bulbs.

This month, the BMA will target reducing energy wastage from idling car engines. The BMA is in the process of a joint survey with central government agencies and the public sector, to collect data on the number of polluting vehicles and the number of vehicles needed to be removed from the road.

The BMA has also started a programme in Bangkok's Phra Khanong district in conjunction with Bang Chak Petroleum, where used cooking oil is bought from households to produce biofuel. The use of public transport will also be enhanced and promoted. A master plan is already in place for five new routes for the urban rapid transit, which will be implemented in the next five years. Some of these new lines and a new bus rapid transit system will use natural gas. In addition, congestion charges may be levied in a few business districts.

Source: Bangkok governor ups the tempo on green measures, The Straits Times, 23 June 2007

China

"Cutting energy consumption and pollutant emissions, and dealing with climate change are urgent, critically important tasks," China's Premier Wen Jiabao emphasized at the inaugural meeting of a high-level task force set up to research China's response to climate change. The task force will aim to set and implement policy to address global warming and the nation's worsening environment. However, no concrete initiatives were announced at the meeting.

The Chinese government rolled out a five-year goal (2006 – 2010) of reducing energy consumption per unit of gross domestic product by 20 per cent by 2010, but has fallen far short of its goals with the economy growing at 10.7 per cent last year. The efficiency plan calls for China to reduce energy use

Goals stipulated in China's National Climate Change Strategy 2007

Capping Greenhouse Gas Emissions

- Reduce energy consumption per unit GDP by 20-percent by 2010, and consequently reduce carbon dioxide emissions
- Raise the proportion of renewable energy (including large-scale hydropower) in primary energy supply up to 10 percent
- Maintain emissions of nitrous oxide at the level of 2005
- Promote bio gas utilization to control the growth rate of methane emissions
- Increase the forest coverage rate to 20 percent

Enhancing Adaptation Capacity to Climate Change

- Increase improved grassland by 24 million hectares, restore grassland suffering from degradation, desertification or salinity by 52 million hectares
- Increase the efficient utilization coefficient of agricultural irrigation water to 0.5
- Put 90 percent of typical forest ecosystems and national key wildlife under effective protection
- Boost nature reserve areas to 16 percent of total territory
- Bring 22 million hectares of desertified land under control

Source

National Climate Change Programme, *National Development and Reform Commission, People's Republic of China*, June 2007

from the equivalent of 1.22 tons of coal per 10,000 yuan (US\$1,300) of economic output in 2006 to 0.98 tons in 2010. Energy consumption fell only 1.23 per cent last year, less than one third of the stated annual goal of four per cent. The country also missed last year's targets to reduce emissions of major air and water pollutants by two per cent; levels instead rose close to two per cent.

The country's double-digit economic growth largely fuelled by coal burning exacerbates the problem. Energy-intensive manufacturing still accounts for more than half its economic output. China's oil imports rose 11.2 percent in the first half of this year to 570 million barrels. Total energy consumption rose by 9.6 percent last year, the first time in three years it has climbed more slowly than the rate of economic expansion. Among China's 30 provinces and regions, only Beijing met its efficiency goal last year, cutting energy use per unit of output by 5.25 percent.

Beijing has unveiled a series of initiatives to encourage rebates of value-added taxes on exports of cement, plastics and other goods deemed energy-intensive or polluting. Last week, the government

warned that companies exceeding pollution limits will be barred from receiving bank loans. Construction companies have also been ordered to make new buildings more energy-efficient. The government intends to further encourage energy saving by companies through price, tax, legal and administrative measures.

In the National Strategy for Climate Change Programme Report published in June, the Chinese government renewed its pledge to restructure its economy, promote clean technologies and improve energy efficiency. It also highlighted that regional administration systems are being established to better coordinate work dealing with climate change, energy efficiency and renewable energy across agencies. However, the report fell short of setting a mandatory cap on carbon emissions.

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China's premier urges action in energy-saving drive, *Reuters*, 11 July 2007

Paper calls to protect environment, *China Daily*, 5 June 2007





India

Prime Minister Manmohan Singh's Council on Climate Change held its first meeting in a bid to come up with a clear plan ahead of the UN climate change meeting in Bali in December. He highlighted that the country was already focusing on energy sources capable of reducing emissions, such as hydro, nuclear and solar power, but more had to be done. He announced that on 15th August, India's Independence Day, an afforestation programme called "Green India" would be launched to replant 6 million ha (15 million acres) of degraded forests. The Indian government has already approved more than 660 projects and invested nearly US \$15 billion to combat climate change.

Singh has called for a review of past efforts and plans for the future to be ready by November. He has also called for a strategy to deal with the melting of Himalayan glaciers. Receding Himalayan glaciers could jeopardise water supplies for hundreds of millions of people, and also threaten food security of Indians. Rising sea levels will be a menace to Indian cities like Mumbai and Kolkata.

A senior environmental official acknowledges that the lack of communication between the environment, industry and agriculture ministries have made it difficult to coordinate a single policy to counter climate change. The 21-member climate change council, which includes ministers, environmentalists, industrialists and journalists, will consider ways to increase energy efficiency without undermining growth and bolster the contribution of renewable energy sources.

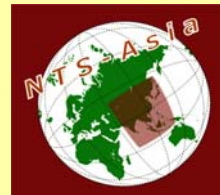
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