



India's prime minister Manmohan Singh has an eye on renewables, but critics charge that he is dreaming about wish lists.

Singh's action plan

India's government plans to confront climate change with a "national mission." But how much action does this mission really include?

By Andrea Röder

Could India be a climate leader? In international negotiations so far, the country hasn't been considered a forerunner – it has yet to make a commitment to reduce carbon emissions. In fact, this country of over a billion people currently emits the fourth largest amount of carbon dioxide in the world (see chart). However, unlike Europe and China, the Indian subcontinent is almost at the per capita emissions level at which many climate researchers think everyone on Earth should make do (see chart). Nevertheless, the International Energy Agency (IEA) predicts that the second largest country in the world will significantly increase its need for energy in the coming years, possibly more than doubling pollutant emissions by 2030.

The Indian government is therefore looking closely at renewable energy, environmental protection, and climate change. In fact, India is the first country in the world to have a separate Ministry of Renewable Energy. Two years ago, the government created a Council on Climate Change, which reports directly to Prime Minister Manmohan Singh. Singh presented the council's first recommendations in the National Action Plan on Climate Change in the summer of 2008.

The Indian climate protection concept has eight focal points or "national missions": an increase in energy efficiency in the energy sector, with a target of saving 10,000 megawatts (MW) of power plant capacity by 2012; an expansion of solar energy; a 20 percent reduction in water use; an efficiency program for buildings, urban development, and traffic; measures for adapting agriculture to climate change; an independent program to preserve the Himalayan ecosystem; reforestation on six million hectares; and encouragement of more scientific expertise on climate change.



Soon an everyday occurrence? Climate researchers fear that this picture of a train station in Calcutta could become a common sight if climate change overtakes India.

Indian media immediately criticized Singh's action plan, calling it a "wish list." Environmental activists, lobbyists, and energy experts wondered as well how much of the agenda was actually "action" and how much was just "plan." Not much has happened yet. None of the eight missions have been backed up with official policies. With the UN summit in Copenhagen looming, Prime Minister Singh recently convened the climate council again and promised faster results. The first concrete result is the "national solar mission," which, after a few weeks' delay, is to begin in November. The initiative's noble goal is to increase installed photovoltaic capacity in India from almost zero to 20 gigawatts (GW) by 2020 (page 82).

Light monsoon as climate effect

Meanwhile, scientists discussed how much climate change affects extreme weather situ-

ations like floods and droughts. This summer, the significantly delayed and rather light monsoon presented Indian farmers with significant problems. More than half of the population makes its living from agriculture, and the lack of precipitation resulted in great losses of harvest in many regions.

This year's rainfall has yet to be analyzed with all climate factors taken into consideration, but "there's growing evidence that climate change is making the monsoon season more difficult to predict and worsening the severity of floods and droughts," explains Vinuta Gopal, climate and energy expert at Greenpeace India. A comparison of monsoon data from the last few years shows decreasing precipitation in three-fourths of the country and increasing precipitation in one-fourth, Nityanand Singh writes in a research paper for the Indian Institute for

India: sharp increase in energy predicted

The Indian subcontinent performs well compared to other countries. At 1.2 tons per capita, the carbon emission level is far below the double-digit figures in Europe. Successful climate policy must try to keep pollution at this level while still encouraging economic growth.

The main emitter of carbon dioxide (CO₂) in India is the power plant sector, which accounts for about 50 percent of all pollutants. As of 2007, 150 gigawatts (GW) of power plant capacity had been installed, 68 percent of which is coal-fired. The International Energy Agency (IEA) predicts that another 370 GW of new power plants could be added by 2030, thereby increasing energy consumption threefold. This situation would then result in a doubling of CO₂ emissions (plus 132 percent).

IEA and Greenpeace have used various scenarios to calculate how this "worst case" could be prevented. The IEA focuses especially on efficiency, clean coal, and nuclear energy. In contrast, the scenario from Greenpeace and the European Renewable Energy Council (EREC) developed for the Energy Revolution study focuses on two main points: greater efficiency gains and massive expansion of all forms of renewable energy. In the Energy Revolution scenario, India's CO₂ emissions would slightly increase to 1,820 million tons (1.2 t per capita) by 2030 before dropping to 1,600 million tons (1.0 t per capita) by 2050.

took a strong position on global climate issues; after all, about a sixth of the world population lives here. "India can't be a junior partner in Copenhagen – it needs to take leadership."

UN negotiations decisive

It's clear that the country's consciousness is growing. At the G8 world economic summit in the summer of 2008, the G5 group, including India and China, refused a general agreement to at least halve global carbon emissions by 2050. The G5 countries could only accept "collective but differential responsibility," since emerging nations could not contribute as much to climate protection as more well-off countries. To this end, Manmohan Singh and his Chinese counterpart Hu Jintao called on the industrial nations to reduce their greenhouse gases by 80 to 95 percent and provide emerging countries with financial and technological support. Only then could they also contribute to climate protection. Singh repeatedly emphasized that he would only take part in objectives that would not compromise development in his country.

Still, at this year's summit, the G8 and G5 nations agreed on the mutual goal of cutting emissions in half and limiting the increase in global temperature to two degrees Celsius this century. "This may create the atmosphere we need to reach an agreement in Copenhagen," Deepak Gupta, State Secretary of the Ministry of New and Renewable Energy, says hopefully.

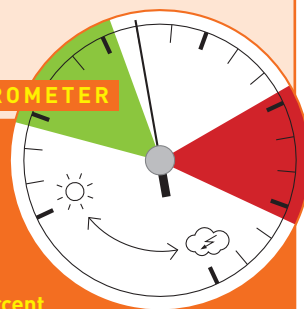
Climate protection was also a central theme in conversations between Prime Minister Singh and Hillary Clinton. The U.S. Secretary of State expressed understanding for the special situation of emerging countries during her visit to India in July. The official message was that the U.S. wants to support India and in no way slow down its growth. In return, India is expected to commit to reducing its greenhouse gases in the run-up to the Copenhagen meeting.

The Indian government's position is supported by the latest World Economic and Social Survey. The UN report says that while a mutual effort is necessary, developing and emerging nations should not be put at a greater disadvantage. "Industrialized countries have to take deeper emission cuts if we want to avert a climate catastrophe," Sunita Narain, head of the Centre of Science and Environment, comments on the report. Countries' participation must be determined in a "new global deal" in line with their technological and economic levels. ◀

INDIA

CLIMATE BAROMETER

- CO₂ emissions (2008) 1,450 million tons
- Increase over 2007 + 7.2 percent
- Increase since 1990 + 146.0 percent
- CO₂ emissions per capita (2008) 1.2 tons
- Percent of global CO₂ emissions 4.46 percent
- Percent of global primary energy consumption 4.82 percent
- Percent of global population 16.98 percent
- Rank among largest CO₂ emitters 4th place
- Rank in Germanwatch's climate protection index 7th place
- Signatory of Kyoto Protocol Yes
- Commitment to reducing emissions No



Sources: UNFCCC, Germanwatch, Hans-Joachim Ziesing/Berlin, IEA

Tropical Meteorology (IITM). The institute reports to the Federal Ministry of Earth Sciences, which forecasts rainfall and other climate parameters. Kankicharla Krishna Kumar, head of the IITM program on climate change, says with certainty, "Climate change will have profound effects on the monsoon season." The scientific director of multiple climate studies warns that the annual average temperature on the subcontinent will "increase by three to four degrees Celsius by 2100 if India makes no efforts to cap its current greenhouse emissions."

A report from the United Nations' Intergovernmental Panel on Climate Change (IPCC) also assumes an increase in temperature in India that is even higher than the average calculated for Southeast Asia. The

report suggests that this situation will have a strong effect on the monsoons. If this trend continues, it would have devastating consequences for agriculture. Climate expert Kumar says that studies in individual regions have shown that an increase of one degree Celsius already diminishes harvests by ten percent.

"As usual, those who would suffer most from extreme weather are the poorest of the poor," says Malini Mehra, head of Climate Challenge India (CCI). As a co-founder of the Centre of Social Markets, a British-Indian nongovernmental organization, she founded CCI two years ago to "spread awareness on climate change in India in nonpolitical and independent ways." She says it's high time that the subcontinent