

crucial science

by Wan Gang

Global climate change is not just an environmental issue but, even more importantly, a development one. As a developing country, and a signatory to the UN Framework Convention on Climate Change, China has always taken an active part in the global campaign on climate protection, undertaken international obligations within its capacity and contributed to global environmental protection.

Protecting the environment is a time-honoured tradition, deeply embedded in Chinese culture. The philosophy of “harmony between man and nature” has guided the life and work of its people for thousands of years. The advanced agricultural civilization of ancient China testifies to the important achievements the nation has made in learning about the climate and properly using and preserving the environment.

China has always placed climate change and other environmental issues high on its agenda. It established a National Coordination Committee on Climate Change as early as 1990, participated in a series of domestic and international campaigns, and made important contributions to global environmental protection. Since 2006, it has stepped up national efforts as a key component of the Outline of the National Medium and Long-term Programme for Science and Technology Development. The Eleventh Five-Year Plan and Medium and Long-term Plan for Forestry Development published in 2007 set the target of raising forest coverage to 20 per cent and 23 per cent respectively by 2010 and 2020. In June 2007, the National Leading Group on Climate Change, headed by Premier Wen Jiabao, was established. China’s National Climate Change Programme was also promulgated, setting the goal of reducing energy consumption per unit of GDP by 20 per cent from its 2005 level by 2010, and proposing a series of national campaigns to deal with climate change. Other efforts include publishing the National Assessment Report on Climate Change and the Handbook on Nationwide Energy Conservation and Emissions Reduction, and launching the Public Campaign on Energy Conservation and Emissions Reduction. According to incomplete statistics, China has already introduced more than 60 regulations in this area.

Scientific advance is essential for protecting the climate and tackling climate change. China is introducing policies that set directions and programmes that turn words into deeds. The Law on Science and Technology Progress, enforced in 1993, legally guarantees the implementation of climate change policies. The Ministry of Science and Technology promulgated the



Outline of Science and Technology Programmes for Social Development, the Outline of Science and Technology for Sustainable Development and the Science and Technology Actions on Climate Change in 1995, 2002 and 2007 respectively, identifying the goals, tasks and supportive measures of China’s efforts to tackle climate change, save energy and reduce emissions.

Since 1991, China has been fully upgrading its ability to do basic climate change research and run research and development programmes on energy conservation and emissions reduction — such as the National Key Science and Technology Programme, the High-Tech Research and Development Programme, the Basic Research Programme, the Innovation Project of the Chinese Academy of Sciences and National Natural Science Foundation projects. Policy incentives have been introduced to engage the public and the business community in nearly 1,000 climate change projects (covering energy conservation, emissions reduction, low-carbon economy and renewable energy), with a total research and development investment of over RMB 20 billion. The country has taken an active part in global



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research on climate change with some 100 countries, participated in major international research programmes, and hosted the Monsoon Asia Regional Integrated Study

China has already established an observation system covering a wide range of subjects, such as meteorology, hydrology, disasters and ecology, and now has 18 state key laboratories, hundreds of research teams and nearly 10,000 professionals studying global climate change. It has developed its physical climate system and regional climate pattern and participated in the international programme on climate pattern comparison. Significant progress has been made in research on high-resolution climate series (loess, ice core and literature), the mechanism of monsoon change in East Asia, extreme climate events, and carbon estimation of the eco-system. China also contributed to the IPCC evaluation report on climate change. Backed by the Government, Chinese research institutes and enterprises have developed technologies and techniques that save energy and use such renewable sources as biomass. These achievements have been widely applied in industrial production.

The country has substantially curbed its greenhouse gas emissions by increasing energy efficiency and developing renewable energies. It is now the world's biggest producer of photovoltaic cells. It also has leading technologies for clean coal power generation which greatly facilitate energy conservation and emissions reduction.

Between 1991 and 2005, China saved 800 million tons of coal equivalent — equal to reducing CO₂ emissions by 1.8 billion tons. By the end of this period, renewable energies accounted for 7.5 per cent of total energy consumption, equivalent to cutting another 380 million tons of CO₂. Between 1980 and 2005, net CO₂ absorption through afforestation amounted to 3.06 billion tons, with another 1.62 billion tons absorbed through enhanced forest management. The Government has approved more than 1,000 Clean Development Mechanism (CDM) projects, accepted by the CDM Executive Board, achieving over 100 million tons of certified emission reductions a year. Since the turn of the millennium, it has been committed to developing and applying technologies for clean energy, energy conservation and emissions reduction while sustaining its economic boom — as well as to exploring a development path that balances economic growth with resource and environmental conservation.

China is to implement the National Climate Change Programme, based on science and technology, in pursuit of its scientific outlook on development. It will improve its industrial structure, energy mix and efficiency, and promote renewable energy, afforestation and family planning. The aim is to build a resource-conserving and environment-friendly society and enhance the capacity to mitigate and adapt to climate change.

China is fully aware of the crucial role of science and technology in dealing with climate change, and will inject more funds into scientific research projects, technology development programmes and capacity building efforts in this area. It will continue to improve its climate change monitoring network, establish more state key laboratories, and launch science and technology programmes to support research on Asia's monsoon system, typical regional climate change, the impact of climate change, adaptation and mitigation, renewable energy technologies and low-carbon economy strategy, among others. The goal is to provide science and technology support for protecting the global climate and tackling climate change.

From now to 2009 will be a crucial period for global negotiations on establishing an international system for climate protection, and will call for the concerted efforts of all countries. When it comes to climate change, helping others is helping oneself. Only cooperation can bring mutual benefits and win-win outcomes. The Bali Roadmap, concluded at the end of 2007, embodies the wisdom and expectations of people across the world, and should be fully respected and implemented.

Developed countries should continue to take the lead in honouring their obligations to substantively reduce greenhouse gas emissions, and are encouraged to transfer technologies and provide financial support to developing countries' capacity building in dealing with climate change. Developing countries should take corresponding measures and contribute to global environmental protection efforts in the light of their own conditions. Developed and developing countries should have more practical cooperation and concrete actions, and less disputes and empty talks. Only with mutual trust can we have harmonious and close cooperation on protecting the global climate. Only in this way can human beings triumph over the ecological havoc of climate change. We look forward to working with the rest of the world to build a new future. 