THE UNIVERSITY OF MELBOURNE

CHINA AND THE TRANSITION TO A LOW CARBON NATIONAL ECONOMY

Ross Garnaut

Vice-Chancellor's Fellow and Professorial Fellow in Economics,

The University of Melbourne

Keynote Speech at the Low-carbon Economy - Actions and Cooperation Conference, Beijing, 25th September 2009

Conference organisers:

Nagoya University (Graduate School of Economics, Asian Core Project), Peking University (Shenzhen Graduate School), University of International Business and Economics (UIBE), Institute of Energy Research of National Development and Reform Commission, Institute of World Economics and Politics, Chinese Academy of Social Science, and the United Nations Economic and Social Commissions for the Asia and the Pacific

The Chinese Interest in Climate Change Mitigation

China has an immense interest in effective global mitigation of climate change. China's strong science community has shown that, like Australia, and like many of our neighbours in Asia and the Pacific, China faces risks of damage that are larger than the considerable risks faced by most established developed countries.

One example of the special risks which has been the focus of Chinese science is associated with the deglaciation of the Tibetan Plateau. This could destabilise what for thousands of years have been steady flows in the great rivers, first of all the Yangtse and the Yellow, that have nurtured Chinese and human civilisation from the cradle. Another is the effects on run-off for irrigation and therefore the threat to agriculture in the warming of the North China plain. A third is the threat that rising sea levels poses to the huge concentrations of economic activity that have developed in the era of reform in low-lying areas of coastal China, including through the Pearl River delta and around Shanghai, Ningbo, Tianjin and elsewhere. Like Australia, China would share the trauma in Southeast and South Asia that could be associated with rising sea levels, disruption of the flows of the other great rivers flowing from the Tibetan Plateau and the Himalayas and any dislocation of the poorly understood South Asian monsoon.

We are too late to avoid substantial damage from climate change, so part of the response of each country and the international community must be to adapt efficiently to the change. But we are not too late substantially to reduce the likely costs of climate change. As countries facing large potential costs, Australia and China share interests in ambitious and effective mitigation.

Assessing the Costs and Benefits to China of Mitigation

The NDRC is to be commended for the research that it is doing to identify the costs and benefits to China of varying levels of mitigation.

The costs are associated with a reasonable Chinese contribution to a global

effort to reduce greenhouse gas emissions. These are relatively straightforward, and are amenable to general equilibrium economic modelling. They can be reduced by international cooperation in the development and dissemination of new technologies.

The benefits come from reduced risks of various climate change damage to China. Some of the damage to China will be direct. Some will be indirect, through its effects on economic development and political stability in countries which are important to China's own prosperity and stability.

Only some of the benefits from avoided climate change are amenable to standard economic modelling, based on scientific assessments of the "average" or "median" of the possible impacts on China's industries and infrastructure.

Three categories of costs of climate change and therefore benefits of mitigation are not amenable to standard economic modelling, and therefore must be assessed qualitatively. One drives from the increasing difficulty of modelling economic effects as we go further into the future. It is necessary to define some cut-off date after which formal modelling is considered to be too unreliable to be useful, and to recognise, and to assess qualitatively, benefits from reduced damage from climate change beyond that date.

A second comes from the uncertainty of impacts, and the possibly catastrophic damage from the outer ends of the probability distribution of impacts. These also need to be assessed qualitatively.

The third comes from the non-market dimensions of many of the benefits of, avoided climate change, such as greater environmental amenity and longevity and better health.

When I did all of these assessments for Australia in the Garnaut Climate Change Review, it turned out that the benefits of strong global mitigation that could be calculated by economic modelling exceeded the costs of Australia playing its proportionate part in a global mitigation effort, even though Australia's proportionate part, as a developed country, was relatively large. This

meant that the benefits after this century, the insurance value of reducing the chances of extreme outcomes and the non-economic benefits of mitigation were all “bonuses”. Moreover, the net surplus of benefits was greater for stronger (450ppm) than weaker (550ppm) mitigation objectives.

Why Early Participation by China and Other Developing Countries is Essential

The world is moving rapidly towards the concentrations of greenhouse gases in the atmosphere that the science tells us are associated with high risks of dangerous climate change. Until late in the twentieth century, the increase in concentrations came mainly from changes in economic activity in what are now the developed countries. This is the source of a special responsibility on the high-income countries to take the lead in mitigation, developing low-emissions technologies, and assisting poor developing countries to adapt to climate change.

But most of the increase in global emissions in recent times and as far into the future as we can see is expected to come from the advanced developing countries, led by the three most populous of them: China, India and Indonesia. Even if the developed countries now dropped their emissions to zero—so long as this occurred without diminution of growth in the developing countries--the growth in emissions from developing countries alone would take the world beyond the thresholds of dangerous climate change in a relatively short period.

Effective mitigation will require participation of all developed and all substantial developing countries. Within the framework of common and differentiated responsibility, it will be necessary for developing countries to reduce emissions substantially below business as usual from an early date, and to put them on a declining path before too long.

This is unfamiliar territory for developing countries following successive discussions within the United Nations framework at Rio de Janiero, Kyoto and Bali. These discussions did not contemplate early binding commitments to

mitigation from developing countries. While it is unfamiliar territory, it is territory that we will have to cross if any of us is to avoid high risks of dangerous climate change.

There is no avoiding the need to define a set of mitigation responsibilities across all including developing countries that is widely recognised as being fair. That, in turn, requires discussion of concrete proposals for distributing the burden across countries, that 'add up" to concentrations of greenhouse gases that avoid high risks of dangerous climate change.

The Elements of a Fair International Agreement

The Garnaut Climate Change Review put forward for discussion one approach to distribution of the burden of mitigation across countries. It could be described as "Modified Contraction and Convergence Plus Compensation" (MCCC). The starting point is the classic Contraction and Convergence, favoured and much discussed in India and many developing countries over a long period. I note that this is the core of an approach favoured by scholars in the NDRC. Under Contraction and Convergence, each country's per capita emissions entitlements move in a linear way from current levels to some low level at a specified future date. This approach reconciles the fairness of equal per capita entitlements, with the practicality of moving entitlements towards that level at a rate that was not seriously disruptive of global economic growth.

The Garnaut Climate Change Review suggested that the specified convergence date could be 2050. Per capita emissions entitlements would be equal and low in 2050.

The "modified" part of MCCC allows the entitlements of the rapidly growing economies for a period to grow faster than the rate that would be allowed under Contraction and Convergence. This recognises the principle that countries that are successfully lifting their people from poverty at a rapid rate should not be required to compromise their development ambitions if these can be accommodated within a global agreement. It also recognises the reality that

successful developing countries will not be willing to compromise their development objectives. The Garnaut Climate Change Review allowed for this principle and reality by proposing that the emissions entitlements of rapidly growing developing economies should be allowed to grow at half the rate of their economic output until their per capita emissions had reached the rapidly declining levels of the developed countries.

Note that we are talking about entitlements to emit and not actual emissions. Any country can emit more than its entitlement if it purchases unutilised entitlements from another country.

The "compensation" part of MCCC recognises that contraction and convergence allows the currently developed countries to emit more greenhouse gases than developed countries for some time to come, and also that the developed countries in the past have used much more than their shares of the capacity of the earth to absorb greenhouse gases. The Garnaut Climate Change Review suggested two elements to the compensation: high-income countries accepting responsibility for high levels of investment in research, development and commercialisation of low-emissions technologies; and developed countries accepting responsibility for providing assistance to developing countries for adaptation to climate change.

The form, quantum and distribution across countries of the support for low-emissions technologies and adaptation are at an early stage of international discussion. The Garnaut Climate Change Review suggested that economies with per capita incomes exceeding $11,000 should contribute a total of $100 billion per annum of public funding to research, development and commercialisation of new, low-emissions technologies. A proportion—perhaps half—of the low emissions technology commitment would be deployed in developing countries. The $11,000 corresponds to the World Bank's definition of a high-income country. This threshold would require contributions from the Special Administrative Region of Hong Kong, but not from the mainland of China at this stage. The contributions of high-income countries would be in

proportion to the excess of their incomes over $11,000.

The Review stressed the importance of developed country commitments to adaptation to climate change in poor developing countries, in addition to current development assistance, but did not place numbers on those commitments.

In the lead-up to this month's G20 meeting in Pittsburgh, and to the Copenhagen conference in December, there has been increased focus on developed country support for low-emissions technologies and for adaptation in developing countries. These discussions are crucial to the agreement at Copenhagen and subsequently.

The Suitability of MCCC to China

There has been considerable discussion of the Garnaut Climate Change Review's approach in developing countries, including China. Scholars based here at the NDRC have supported the broad principles underlying the approach, but have suggested that equity would require convergence on equal per capita entitlements before 2050. Similar sentiments have been expressed in India.

This is a discussion that we have to have. It raises important questions for research. In particular, it raises important questions for research in relation to the Chinese interest in effective global action on climate change being undertaken at China's NDRC. Or rather, these are important questions for research, as there are several inter-related matters that require investigation. What workable rules for distributing the global mitigation effort across countries have a chance of being accepted within the international community, for each of several levels of ambition in an international mitigation effort? What is the cost and benefit of each of these for China, presuming that China will need to play its proportionate part within some agreed set of rules for allocating the international mitigation effort?

Unfortunately, these are urgent matters. The answers have to come in time for China to play a productive part in international negotiations on the post-Kyoto international arrangements.

It is not going to be easy to find a basis for international agreement. The difficulty means that none of us will be able to hold out for what is most in our own narrow national interest: there will be no agreement without early compromise and accommodation of the perspectives of others.

The Garnaut Climate Change Review's suggestions took into account China's domestic mitigation policies. In particular, the proposal to limit emissions growth to half the GDP growth rate is comfortably within China's ambitions to reduce the energy intensity of GDP by four percentage points per annum, and to rapidly increase the roles of renewable and nuclear energy. As a failsafe, China's strong fiscal and external payments positions would allow it to purchase permits from abroad if there were any overshooting of emissions above entitlements.

The Importance of International Commitments

It is important for China not only to achieve strong domestic mitigation outcomes consistently with current policy, but also to enter firm international agreements to do so. The difference between China implementing its own announced policies for slowing the growth in emissions, and entering a commitment to that same outcome within an international agreement, may well be the difference between success and failure in the effort to reduce the risks of dangerous climate change. An international commitment by China to implement its own domestic policies would also have important beneficial effects on the stability of the global trading system and on global recovery from the Great Crash of 2008.

Why is it so important for China to bind by international agreement the emissions outcomes to which it is already committed in domestic policy?

Chinese domestic policies are relatively unknown outside China and outside China are not treated with the seriousness that they warrant. In truth, Chinese domestic policies have already moved the trajectory of emissions growth substantially below business as usual, but the rest of the world considers that China has done nothing. This false impression can be removed, and China's

major mitigation efforts brought to account internationally, through China entering an international agreement to do what it has already committed itself to do.

If China entered a binding international agreement, it would be in a position to accept a cap on emissions (albeit, determined differently to developed country targets). This, in turn, would allow Chinese participation in a productive way in international trade in entitlements. This would lower the costs to some extent of China and the rest of the world meeting their respective emissions reduction targets.

It would also establish comparable emissions pricing in China and other countries, mainly the developed countries, which have accepted a cap on emissions. This would weaken the claims that firms producing emissions-intensive tradeable products in other countries make for subsidies, as free permits within emissions trading schemes in other ways. It would remove any valid basis for developed countries to impose emissions-related tariffs on imports from China. It would weaken a major negative influence on implementation of effective mitigation policies in the developed countries.

The removal of the case for free permits or other forms of subsidy in developed countries would free large amounts of revenue-raising capacity—so large that it would materially improve the prospects for restoring sound fiscal arrangements in the developed countries after the Great Crash of 2008. That, in turn, would materially improve the prospects for restoring global economic stability and sustainable growth.

China and Global Leadership

China is now an essential participant in any effective global action in any area of policy. This follows simply from China's importance in the international political and economic systems. That importance has been growing steadily since the reforms began, and more rapidly since the turn of the twenty first century.

The rise in the relative importance of China in the international system has been

accelerated by the global financial crisis. The Great Crash of 2008 and its recessionary aftermath have placed long-term growth in the United States and Europe on a lower trajectory. They have had relatively little effect on the long-term growth trajectory of China and such other large developing countries as Indonesia and India. A long term tendency towards increased Chinese influence in the international system has accelerated.

We are now in a world in which China's international commitments are centrally important to good international outcomes. China's domestic policies affecting climate change mitigation broadly meet the current requirements of strong global outcomes. Turning those same policies into international commitments could make all the difference to effective global action on climate change.