



Report on Wilton Park Conference WP1000
WORKING WITH CHINA ON SUSTAINABLE GROWTH:
THE CLIMATE CHANGE, ENVIRONMENT, ENERGY NEXUS
8 – 11 October 2009

Introduction

1. As a result of the ongoing global economic crisis, China is moving from an export-led economy to one that focuses on domestic consumption. Yet in the midst of this change, China is determined to continue rapid economic growth of approximately 8 per cent per year. This conference focused on the relationship between economic growth and environmental awareness; can economic growth and environmental protection fit together in a pattern of sustainable growth that limits carbon emissions effectively? Can green measures become an integral part of the economic recovery process?

2. In the past, Chinese leaders have been suspicious that the West is raising climate change as a smokescreen to hinder Chinese growth and preserve Western hegemony. However, as one Chinese environmental journalist commented recently, how nations should reduce carbon emissions “is not a right-or-wrong issue. It’s only about negotiation. Everyone is trying to grasp opportunities presented by this ‘green wave’ and make a compromise at the same time”. Precisely which compromises each nation needs to make are not yet clear, but, in some way, national self-interest needs to be considered in the context of sustaining the global environment. This complex relationship between ‘opportunities’ and ‘compromise’ among nations is heightened by the imminent Copenhagen climate conference in which 200 countries will attempt to negotiate an accord to succeed the 1997 Kyoto Protocol.

3. Participants at this historic, 1000th Wilton Park Conference wrestled with how to attain sustainable growth in China in the face of climate change. **Seeking policy proposals that would really make a difference over the next five years, attention focused on five key objectives:**

- **Integrating economic growth and environmental protection;**
- **Defining and implementing relevant technological innovations, while balancing urban and rural development;**
- **Achieving trust among nations, linked to an appropriate quality of life, that limits both excessive poverty and excessive affluence;**
- **Clarifying and promoting appropriate political leadership, and**
- **Establishing an appropriate time frame in which to curb climate change.**

4. For each of these policy objectives, the conference sought to agree a measure of consensus grounded in facts combined with an element of aspiration. Several case studies illustrate certain policy objectives, while a summary of working group recommendations and reflections is placed in an annexe.

Integrating Economic Growth and Environmental Protection

5. Achieving sensible integration of economic growth and environmental protection is closely linked to access to natural resources in an energy and resource constrained world. The use of natural resources involves a life cycle that can be influenced. From extraction (or design of use) to manufacturing to distribution to actual use to collection to reuse, recycling and disposal, real possibilities emerge of better products, leaner production and smarter consumption. This idea of 'eco-innovation' is one that needs to be implemented in every nation. Nevertheless, reducing the consumption of primary raw materials, improving the efficiency of resource use, as well as managing scarcity and shortages will not be achieved easily. The Ecodesign Directive of the European Union with its mandatory labels from the minimum 'C' requirement to the impressive 'A+++' performance benchmark offers an intriguing example of how to encourage continuous improvement of specific products.

6. It is helpful to view waste itself as a resource, in the context of the creation of a recycling society. For example, within the European Union, legal recycling targets have been established to improve resource efficiency. These targets vary from 85 per cent of all end-of-life motor vehicles, to 70 per cent in construction and demolition, and 50 per cent for household waste in the recycling of paper, metal, plastic and glass. More variable targets have been established of 50 to 75 per cent in electrical equipment, as well as 55 to 80 per cent for various forms of packaging. It is important to recognise that such targets need to be implemented at the national and community level, as well as within individual households, if success is to be achieved.

7. In China, there is increasing interest in shifting toward 'green leapfrogging development' rather than traditional economic growth. The goal is rather audacious because the term 'leapfrogging' refers to China gaining a higher level of economic growth than the North by some undefined date after 2050. This important initiative is grounded in a careful analysis of the environmental impact of economic growth. For example, the formula ' $I = P \times A \times T$ ' is relevant, in which 'I' represents the impact of development in the context of resource consumption and pollution, 'P' is the level of population, 'A' is the level of affluence based on specific levels of consumption for specific products, and 'T' is technology and management.

8. Historically, China's economic development might be divided into three stages: China 1.0 from 1949 to 1979—political (or red) China; China 2.0 from 1979 to 2009—economic (or brown) China; and China 3.0 from 2009 to 2049—harmonious (or green) China. Across the decades, there has been a steady increase in economic growth in terms of Gross Domestic Product (GDP) per capita (or per person). Whereas in the 1970s the average annual income per capita in China was only \$250, this has increased steadily from approximately \$500 in the 1980s, to \$2,000 in the early 1990s, to \$4,000 in the early 2000s. Now China aims to increase its present GDP per capita of \$6,000 to \$20,000 by 2020, and possibly as high as \$40,000 by 2027, a level of wealth that would still be below the current United States GDP per capita of \$47,000.

9. Chinese aspirations for increased wealth are so strongly held that even in 'Green China' increases in carbon consumption are anticipated annually until possibly the year 2030, although no specific date has yet been officially set. It is clear that it will be extremely difficult to reduce global carbon consumption during the next twenty years. To take one analysis, the Netherlands Environmental Assessment Agency (NEAA) has documented that China's present carbon consumption is already the largest in the world (24 per cent of the global total, compared to 21 per cent for the United States and 12 per cent for the 15 nations in the European Union on 2007 data); moreover, China's carbon production will increase to such an extent that China will be consuming more carbon than the whole of the rest of the world put together by the mid 2020s. Nevertheless, the NEAA has also reminded us that on a per capita level, Americans come top, with twice as much per capita carbon consumption as the European Union, while the Chinese level is presently less than one-third of the US level.

10. At the United Nations Climate Change Summit held in September, Chinese President Hu Jintao announced that the country will curb its carbon emissions per unit of GDP, known as carbon intensity, by a "notable margin" by 2020 from the 2005 level. A target has also been set to increase the share of non-fossil fuels in China's primary energy consumption to around 15 per cent by 2020. However, with coal accounting for 69 per cent of primary energy consumption, China's efforts to develop a green, low carbon economy are going to be difficult to achieve. International Energy Authority data for 2004 sets out how China's economy depends on inefficient coal power stations, with other sources of energy including oil (22 per cent), hydroelectricity (6 per cent), natural gas (3 per cent), nuclear energy (1 per cent) and renewables (0.03 per cent). Yet China aims to increase its nuclear energy output from 9 GW (Gigawatts) at present to at least 50 GW by 2020, accounting for 5 per cent of total power generation. With respect to wind power, China plans to build seven massive wind farms with a combined capacity of more than 120 GW—roughly equal to the world's total installed wind power plants in 2008. For solar power projects linked to grid networks, a target of 10 GW capacity has been set (China is already the world's largest consumer of solar water heaters, with nearly 1 in 10 households now owning one). Specific recommendations on a variety of energy

sources are laid out in the annexe to this report on Promoting Better Use of Cleaner Energy.

11. At the crux of the attempt to integrate economic growth and environmental protection is China's aspiration to become a global manufacturing hub for clean technology. By 2006, China had obtained 3/5th of the \$4.8 billion in subsidies for all Clean Development Mechanism (CDM) projects under the Kyoto Protocol, which has led to the approval of 1,550 CDM projects in China. Furthermore, \$31 billion of China's \$585 billion fiscal stimulus has been earmarked for 'environmental protection and energy' including a three-fold increase in railway investment. There is also ongoing discussion, within China, of extensive further investment in the renewable energy sector, said to be worth between \$440 billion and \$660 billion.

12. Despite this huge current and proposed investment in 'clean tech', China has not set coordinated development goals for clean technology, possibly because it hopes that developed countries will take the lead in transferring technology that would further boost the Chinese economy. One initiative in that direction has been a recent announcement that China and the United States are to create a joint clean energy research centre at a projected cost of \$15 million.

13. **In the case of fish supplies**, the tension between economic growth and environmental protection is vividly portrayed in the documentary film *The End of the Line* presented at the conference by its author, environmental journalist and writer Charles Clover. As a result of overfishing, many fish in the sea are threatened with extinction. Moreover, farmed fish are not a sustainable substitute food, especially as 40 per cent of farmed fish are fed with ground-up wild fish. The largest importer of fish in the world is the European Union, where fishery policies have been dominated by political, rather than environmental, considerations. Both individual consumers and supermarket chain managers need to consider carefully which types of fish to purchase and consume.¹

¹ For further information and showings of the film see <http://endoftheline.com>

Defining and Implementing Relevant Technological Innovations, While Balancing Urban and Rural Development

14. It is clear that China hopes its sustainable development will be strongly supported by international cooperation, especially technology transfer. Estimates suggest that global markets for environmental goods will more than double from some €1,000 billion in 2005 to €2,200 billion in 2020. At present, only 18 per cent of venture capital throughout the world is invested in clean technology, so green markets remain a niche part of the sector. However, this could be about to change significantly as a result of technological innovation. Not only in China (as noted above), but in many other nations too, current plans to stimulate the economy are speeding up the adjustment process toward eco-efficient national economies. Green measures incorporated into national recovery plans include improved energy efficiency, renewable sources of energy, greater stress on public transport and infrastructure, eco-innovation, car-scrapping schemes and improved water discovery, use and recovery.

15. Such extensive commitment to green technology will only be possible if international, national and local investors are convinced that the technology is both available and cost competitive, so that appropriate returns are achieved on specific investments. In financing low carbon technology, 'finance' requires not only funding but also putting in place regulations, standards, fiscal regimes, infrastructure and organisational forms necessary to mobilise investment. In structuring partnerships, it will be necessary to clarify who owns the right to the new technology, as well as to ensure that local investment is linked to local access and local knowledge. Specific recommendations on investment are set out in the annexe to this report on Financing New Technologies.

16. Technological innovations often take ten or more years to move from basic research to pilot project to mass production and global distribution. Therefore considerable foresight is needed to identify the specific areas in which to allocate resources for research and development ("R & D") as well as demonstration and deployment ("D & D"). Forecasting the challenges that will face China is further

complicated by the changing relationship of rural to urban development. In 1949, China was 85 per cent rural, whereas today China is roughly 45 to 50 per cent rural, although precise percentages are impossible to define with the increasing free movement of population and the weakening of the Hukou resident permit system granting permission to live in urban areas. While it is obvious that China is becoming an increasingly urban society, the nature of the relationship of large and small cities to the countryside, as well as the appropriate level of research and development funding to promote sustainable development, is far from clear.

17. Even with the agreed aim of a 75 per cent urbanisation rate in a 'modern' society, the resulting life styles, and the research and development necessary to maintain those lifestyles, are difficult to define. Some believe that small eco-cities with housing and employment located close together should be created, while others seek improved public transportation systems to bring people living in the countryside to work in the larger cities. Water and food shortages, air pollution and the desired pattern of energy use, as well as the precise link between housing and employment further complicate the question of which problems should have priority for research and development. The relationship between central, regional and local governance in setting and implementing these priorities is highly significant.

Achieving Trust among Nations and an Appropriate Global Quality of Life That Limits Both Excessive Poverty and Excessive Affluence

18. Although China's aspiration to increase per capita GDP significantly is understandable it carries a concomitant risk of severe ecological damage. China's approach to the climate negotiations in Copenhagen is that the core consideration should be common but differentiated responsibility, with a goal of mutual benefits and win-win outcomes, based on promoting common development, linked to partnerships in financing and technology. China is seeking a specific ambitious target for carbon intensity reduction per unit of GDP, a framework which would enable Chinese economic growth to continue with greater emphasis on promoting sustainable development. Possible topics for negotiation will include an absolute cut in emissions, definition of when China's emissions will peak, as well as a global target

to halve emissions by 2050. Although China intends to be a 'positive, constructive' player in climate change negotiations, it is difficult to see how Chinese determination to continue its present high level of economic growth can be reconciled with realistic targets for carbon reduction. Premier Wen Jibao has indicated firmly that China intends to integrate climate change into economic and social development, but this is a rather different objective than integrating economic and social development into the reality of climate change.

19. Such a frank assessment should not be construed as an attack on legitimate Chinese aspirations to improve the quality of life of its citizens. One estimate suggested that while survival is possible on a personal income of \$5,000, a decent standard of living requires somewhere between \$10,000 to \$20,000. Given that the majority of North American and European personal incomes are often between two to four times this level, tackling climate change effectively is going to require a willingness by the affluent North to reduce the current standard of living of many of its people quite significantly. It ill behoves any of us who enjoy such high personal incomes to be critical of those nations who have legitimate aspirations for all their people to attain a better quality of life. For example, it could also be argued that, given equally understandable North American and European aspirations to maintaining current levels of personal income, the prospect of environmental cataclysm is not merely possible, but highly probable. The Chinese desire to *increase* national economic growth is simply half of the picture, completed by the Northern desire to *maintain* economic growth, with the resulting complete picture revealing a high level of threat to China, Northern nations and, indeed, all of the rest of the world.

20. The precise nature and degree of government, company and citizen involvement as stakeholders in planetary protection is open to debate. It was suggested that governments need to promote more sustainable production and consumption patterns, while companies need to evaluate their products in the context of environmental impact, just as citizens should seek to improve their quality of life without adversely affecting the environment. From a Chinese perspective, a new Chinese consumerism would be based upon higher GDP, linked to a new Northern consumerism grounded in the limiting of personal economic desires. Yet from a

Northern perspective, a new Chinese consumerism should be based upon a much slower increase in Chinese GDP, linked to a new Northern consumerism grounded in a greater sharing of wealth within each northern country, as well as increasing recognition of the impossibility of continuing with current global patterns of inequality. Integrating these perspectives through a new form of growth based on global consumerism balanced by low carbon development is difficult, but not impossible.

21. In the United Kingdom, some climate activists have launched a 10:10 campaign which aims to reduce the carbon footprint of each individual, community and nation by 10 per cent during 2010.² Meanwhile, China is on track to achieve a 20 per cent energy intensity reduction per unit of GDP, as well as raising the proportion of renewable energy in primary energy supply to 10 per cent, with both targets to be met by 2010. The Chinese objectives are significant and have been called “by far the most aggressive global warming pollution reduction policy of any country in the world.” Further reflections on Developing Public Diplomacy are set out in the annexe to this report.

22. **In the case of China’s role in Africa**, Chinese trade with many of Africa’s 53 nations has increased from \$10 billion in 2000 to \$116 billion in 2008. Extensive investment in infrastructure has been linked to large energy projects, but all too often little attention has been paid to the long-term environmental impacts. From the Chinese perspective, Africa offers a new source for natural resources, while from the African, China provides a trusted development partner, with minimal conditions attached to development projects. In practice, sustainable development has not been a policy goal for either China or its African partners. There is urgent need for initiatives in African governance that allow for continued economic growth while providing stronger environmental safeguards.

Clarifying and Promoting Appropriate Political Leadership

23. China’s fragmented system of governance (960,000 villages, each with its own elected village elder and appointed Communist Party official) means that central

² For further information, see www.1010uk.org and the website of the film, www.ageofstupid.net.

government has real problems in implementing its policies throughout the country; as the saying goes “Heaven is high; and the emperor is far away”. This gap between central and local government in China has a significant impact on efforts to mitigate the impact of climate change. At present, GDP increment remains the only yardstick consistently applied to evaluate the performance of local officials; and, while this situation persists, there is little incentive at local level to adopt more sustainable approaches to growth. In practice, an alliance of money and unchecked local power often overrides any commitment to achieving sustainable economic growth.

24. One innovative proposal that emerged in 2003 was a new metric: Green GDP—that is Gross Domestic Product minus the costs of natural resource consumption, minus the costs of environmental depletion. Research suggests that the economic and social effects of pollution in China are extensive. For example, a Harvard University study estimated that for every yuan of coal produced in China, there was a cost of 0.58 yuan in damage to human health. In June 2007, however, the idea of Green GDP was shelved at central government level without explanation. This dearth of official transparency has diminished the impact of increasing numbers of environmental activists who want to hold *local* governments to account precisely by upholding *central* government directives. Yet it should also be noted that there are many examples of environmental activists publicising, and often achieving, sensible environmental goals, holding both international companies and local Chinese companies to a high level of accountability. An open government information law that came into effect in May 2008 should improve access to environmental information, but the law exempts from disclosure ‘state secrets’ and this is applied to ‘secrets’ concerning ‘economic and social development.’

25. China faces the conundrum of how to allow genuine local participation while not compromising national security. Climate change has the capacity to destabilise China particularly because ecological disasters are already occurring at a disproportionate rate in low-lying areas of the world (for example, New Orleans, Bangladesh, the Pacific Islands) and China, with its export-oriented economy built up along the eastern seaboard, has the world’s largest population living in a low-elevation coastal

area. Meanwhile, some British firms have effectively moved their carbon emissions off-shore by switching their plants to China. This process is mirrored within China, where the country's poor suffer to an excessive degree from the effects of polluting industries, the output of which benefits the nation's burgeoning middle class.

26. Real solutions to these difficult problems require national governments to promote long-term, holistic and sustainable environmental policies; however, in practice, the overriding concern of politicians, who form governments, is to stay in power and this leads to the formulation of short-term solutions to placate a variety of interest groups. This inherent conflict between short-term interests and long-term needs exists for both democratic governments and one-party states. Whether the battleground is the United States Senate, the Chinese Politburo³ or the European Parliament, the fight cannot be avoided.

27. Prior to 1978, **the media** in China was used primarily for propaganda, but since 1978 the media has broadened its role with links to business and implications for public service providers. The term 'eco-literacy' has come into vogue, as some of China's 338 million internet users (with their 108 million individual blogs) have joined forces with some of the country's 2,750 environmental Non-Governmental Organizations (NGOs) to motivate and mobilise people to engage on environmental issues. A study by the China Media Centre of the University of Westminster is exploring the role of environmental journalists in promoting greater transparency among local and central government leaders, as well as encouraging informed activity by local citizens and NGOs in the face of specific environmental incidents. The media in China is now becoming an important force to reshape values and highlight the rights of citizens, as well as change consumption behaviour and lifestyles. However, one environmental journalist stressed that "What matters is (not general public opinion but) that the Chinese leadership is paying attention because the leadership has an interest in doing something about environmental problems and the resources."

³ See Kerry Brown, *Friends and Enemies: The Past, Present and Future of the Communist Party of China* (London: Anthem Press, 2009).

Establishing an Appropriate Time Frame in Which to Face Climate Change

28. The negotiations in Copenhagen for a new climate change agreement focus on five key areas: adaptation, mitigation, technology, finance and long-term cooperation. Many G20 nations are offering constructive proposals in each of these. China and India believe that the European Union and the United States should commit themselves to a 40 per cent cut in emissions by 2020 against a 1990 baseline. However, the initial European Union commitment has been to cut emissions by 20 per cent by 2020, while a bill in the United States Senate to cut greenhouse gas emissions by 20 per cent from the 2005 level is unlikely to be passed before Copenhagen. Meanwhile, the new Japanese Prime Minister, Yukio Hatoyama, has pledged to reduce emissions by 25 per cent by 2020 against a 1990 baseline, while India has now said it will agree unspecified national numerical targets for curbing emissions after previously insisting that no national targets would be set. The United States position remains unclear, with President Obama having called at the United Nations for action to be taken “boldly, swiftly and together (to avoid) an irreversible catastrophe.”

29. Whatever emission cuts and target dates are proposed, the Copenhagen negotiations should be considered as “much more like an extended trade negotiation than like a typical environmental-treaty process”.⁴ The Kyoto Protocol was initially adopted in Kyoto, Japan in December 1997, but did not enter into force until February 2005. Whether or not a formal agreement is reached in Copenhagen in December 2009, years of protracted negotiation and implementation lie ahead.⁵

⁴ Michael A. Levi, “Copenhagen’s Inconvenient Truth: How to Salvage the Climate Conference.” *Foreign Affairs*, Vol 88, No 5, September-October 2009.

⁵ See “Practical Strategies for Making Copenhagen a Success,” from Wilton Park Conference 986, held in co-operation with Renewable Energy and Energy Efficient Partnership (REEP) in September 2009, listed under “News & Highlights” at www.wiltonpark.org.uk.

Conclusion: The Time to Act Is Now

30. Because new technologies take decades to implement (as noted above), it is not sensible to believe that technological innovation will “save us” from the impacts of climate change. The oceans will have risen, more flooding will occur, food shortages will increase, greenhouse gases will be stronger, the air will suffer more pollution and energy supplies will become erratic long before appropriate new technologies can be implemented effectively. Therefore, the responsibility for action rests upon us as individuals, whether we are elected leaders, appointed advisers or concerned citizens. The time to act is now.

31. The purpose of this report has been to make available to a wider audience some of the significant facts, attitudes and policy proposals that emanated from Wilton Park’s 1000th conference. The next step is up to you: Which of these policy proposals might be relevant to your own work and living situation? What modifications might be necessary? Are you ready to participate in facing what is probably the most important challenge to both public policy and personal lifestyles in the twenty-first century?

Robert Kahn⁶

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Wilton Park Reports are brief summaries of the main points and conclusions of a conference. The reports reflect rapporteurs’ personal interpretations of the proceedings – as such they do not constitute any institutional policy of Wilton Park nor do they necessarily represent the views of rapporteurs.

⁶ *Rapporteur*. Robert Kahn is Director of the educational website Flu Action, www.fluaction.org .

ANNEXE
WORKING WITH CHINA ON SUSTAINABLE GROWTH:
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Summary of working group discussion and suggested action points:

Promoting Better Use of Cleaner Energy

1. Improve the security of land tenure in rural China to obtain long-term benefits of forestry.
2. Try to improve the reliability of wind power. Consider whether temperature differences in sea water between the surface and deeper waters could be harnessed to promote energy production at a steady rate.
3. Try to lower the cost of solar power, possibly by encouraging the survival of only the most efficient manufacturers.
4. Note China's commitment to build 30 new nuclear power plants, more than all the rest of the world.
5. Further improve the gross thermal efficiency of coal-fired power stations by better manufacture and construction (continuing to apply Japanese know-how), as well as better quality control and more efficient management and maintenance.
6. Investigate whether demonstration projects for underground gasification of coal, e.g. carbon sequestration, are technologically feasible and safe as well as economically viable.
7. Promote China's preferred policy of carbon taxation, rather than carbon credits used in Europe, because carbon taxation is a sounder policy and would also empower China to take a lead in reducing global carbon use.

Financing New Technologies

1. Reduce subsidies for high carbon industries, especially by pricing coal appropriately.
2. Explore and support opportunities beyond big, high-tech top-down innovation projects.

3. In the North, prioritise significant increases in state support for research and development, as well as demonstration and deployment.
4. In the North, develop realistic carbon pricing mechanisms.
5. Globally, establish mechanisms for joint development of low carbon innovations, with a stress on improving innovation in the transition to a low carbon economy.

Ensuring Food Supply and Food Security

Rather than make specific recommendations, this group noted:

1. China has a good track record of feeding very large numbers of people from crops grown and livestock kept on widely varying types of terrain. In Confucian China, when the administration was functioning properly, grain was stored in large granaries by the state as a provision against famine, and, if necessary, shipped long distances on the Grand Canal and other waterways from areas of surplus to areas of scarcity. However, by the early twentieth century food production and distribution was being influenced politically, as in 1943 when 3 million people died in Honan province. Not surprisingly, the first priority of the Communist Party, when it took power in 1949, was to feed China's growing population. It managed to achieve this to a significant degree. However, with the Great Leap Forward of 1958, the severe weather of 1959 and 1960, as well as the Cultural Revolution, parts of China once again experienced famine. But, by the 1990s, China was, once again, a net exporter of grain. Today, China's grain production is increasingly geared to the provision of animal feed in order to enable the raising of more livestock to satisfy the growing domestic demand for meat.

2. **Land reform** is complex, as peasants can already grow what they choose and receive market value for their produce. There is a danger that land reform could increase disparities in wealth among different groups, because of the accumulation of land by landlords, as happened prior to 1949. Food security is about actual access to food, not simply increased food production. It might be possible to raise capital for agricultural purposes, using future crops as security, not land. What is appropriate for one region in China may not necessarily be suitable for another. Labour intensive models might make more sense than capital intensive models of land development, raising the issue of how much Chinese agriculture should be mechanized.

3. **Water resources:** Rice is cultivated by the movement of water; however, the present condition of the irrigation infrastructure is very poor, often dating from the 1950s or earlier, with considerable water wastage. In view of the increasingly drastic water shortage, there is an urgent need to consider rationing of water, price systems, incentives, transportation costs, appropriate models of water use, as well as the relationship between large scale hydroelectric projects and water use for agricultural production. The scale of China's problem with water resources is highlighted by the fact that the North China plain, home to half the country's population and most of its wheat, contains only 8 percent of the country's water resources. An educational campaign needs to be mounted to encourage careful water use in both rural and urban areas.

4. **Food safety:** The 2008 milk scandal, in which 22 companies added melamine to raw milk to make it appear higher in protein, led to more than 60 deaths among the 300,000 who became ill. The execution of one company director and the sentencing of many others responsible for the contamination highlighted the power of the Chinese government to enforce its policies, as well as the lack of an effective prior monitoring scheme. Transparency needs to be increased at local, regional and central government levels, in particular because the profit motive can lead to food contamination.

5. More collaborative discussion is needed between China and other countries to clarify the extent to which genetically modified (GM) food production is appropriate in China. Only GM cotton has officially entered commercial production in China, but other GM crops are apparently being grown. Chinese policy appears to be to promote Chinese development of GM, but to place barriers against imports of GM seeds and technology.

6. **Climate change:** The impacts of climate change, to which China has itself contributed, have given rise to floods, drought and desertification, thereby reducing the extent of arable land available for cultivation, and consequently lowering China's capacity to produce food. It may well be that the elevation of the environment to top priority status at the Party Conference of 2007, as well as the creation of the Ministry of Environmental Protection in 2008, were both triggered in part by the realization of the likely impacts of climate change on food production.

7. The size of China's population will inevitably play a significant role in determining the country's level of food security. If China were suddenly to abandon completely its practice of sanctioning only one or two children per family, such a policy change would greatly increase the difficulty of feeding the Chinese population.

Developing Public Diplomacy Strategies

Rather than make recommendations, this group noted:

We now have a better understanding of how the brain works; and we can influence behavioural change. Reason is important, but needs to be linked to emotions to lead to lasting behavioural change. What happens on the individual level is applicable to the organisational or collective level.

Until now, human relationships have been based largely on *rapport de force*, the balance of power among individuals, communities and nations. However, with contemporary cultural changes such an approach has become outmoded and ineffectual. Public diplomacy addresses the people concerned and identifies their aspirations and sets out possible steps forward. The goal is to induce change through transparent communication over specific policies, to empower genuine engagement, rather than grudging compliance. Such public diplomacy is becoming increasingly important in China with some 12,000 demonstrations a year throughout the country on a wide variety of issues.

Personal leadership on climate change: In order to get climate change firmly on the agenda, there needs to be a shift from the government level to the human level, with a focus on individual attitudes to the use of energy and water. Alongside national negotiations on trade and carbon tax, individuals need to demonstrate how to live in a manner which departs from materialism and moves toward a new paradigm.⁷

⁷ Should you wish to read other Wilton Park reports, or participate in upcoming Wilton Park conferences, please consult our website www.wiltonpark.org.uk To receive our e-newsletter and latest updates on conferences subscribe to <http://www.wiltonpark.org.uk/news>