



NTS ALERT

Climate Change: Colossal Consequences for Asia

Deal with climate change or face devastating economic consequences. That was the message given by the former World Bank chief economist, Sir Nicholas Stern, as he represented his report to British officials. The report contained shocking statistics regarding the likely adverse implications that would occur if climate change was not dealt with seriously. The gravity of climate change must be addressed as it has the potential to engulf countries, especially less developed ones, into a vicious cycle of environmental degradation and poverty.

While the Stern Review's fact and figures astounded

According to Stern, carbon emissions have already resulted in an increase in global temperatures by half a degree Celsius. If concrete measures are not taken to reduce these emissions, there is more than a 75% chance that global temperatures will rise another two to three degrees Celsius within 50 years. In addition to this, the probability that temperatures could rise as much as 5 degrees Celsius is 50%.

As a result of this global warming phenomenon, melting glaciers would raise sea levels thus increase the risk of floods and coastal erosion. Such inhabitable environments would thus possibly leave 200 million people displaced. Many low lying regions and islands in Asia are at stake. Areas in Bangladesh, Thailand and Vietnam, for instance, are virtually flat and highly susceptible to sea level rise. The low lying regions of Bangladesh support more than 110 million people in one of the most densely populated regions in the worlds, and more than half of Bangladesh lies less than 5 metres above sea level. Major cities in Japan lie directly on the coast and are also threatened. Island nations such as

Climate Change's Vicious Cycle

many regarding the plight of the world's economy and eco-system, the conclusion was nothing new. Global calls for dealing with climate change have been in existence since the creation of the United Nations Framework Convention on Climate Change (UNFCCC) in 1994 and the Kyoto Protocol in 1997. Even so, very little has materialized as countries have often argued over carbon emission limitations which they see as impeding their economic growth and development. The Stern Review, on the other hand, provides more meat and substance to the need to address climate change as the whole world, especially poorer regions, stand to lose a lot more than a slight slump in economic growth.

In this Edition:

- Climate Change: Colossal Consequences for Asia
- Haze Contributing to Climate Change
- Twister a Result of Climate Change
- Climate Talks at a Stalemate
- ASEAN's Efforts in Tackling Climate Change
- Other International Events
- "Nukes" as an Alternative Source of Energy
- Nuclear Energy Not a Safe Alternative for Indonesia?



the Maldives are at particular risk to sea level rise.

There would also be more cases of extreme weather patterns thus contributing to what are increasingly seen as human-induced natural disasters. Several parts of Asia have already experienced this with typhoons and hurricanes of greater intensity. Recent typhoons such as Xangsane and Cimaron are proof of this.

In turn, extreme weather conditions could reduce global gross domestic product (GDP) by up to 1%, while a rise of two to three degree Celsius could reduce global economic output by 3%. What is more alarming is that if temperatures rose by 5 degrees, Stern suggests that up to 10% of global output could be lost while the poorest countries stand to lose more. Countries in Asia are highly vulnerable to this adverse impact as many of them are developing countries. While the more developed nations like Japan, Korea and Taiwan may have the capacity to provide post-disaster relief and mitigation strategies to guard against disasters such as typhoons, poorer nations in the Bay of Bengal probably could not. According to the World Bank, climate change would disrupt the livelihood of 13% of Bangladesh's population and reduce its GDP by 12%.

Crop yields would also lessen as a result of natural disasters. Even, China, which has been experiencing rapid and vigorous economic growth, has failed to protect its vast population from the wrath of droughts and floods. In August 2006, China experienced its worst drought in 50 years, which lasted for as long as 3 months. About 18 million people have faced water shortages as wells have dried up and water levels in reservoirs and lakes have fallen. Such consequences

What is the Kyoto Protocol?

"The Kyoto Protocol is an agreement under which industrialised countries will reduce their collective emissions of greenhouse gases by 5.2% compared to the year 1990 (but note that, compared to the emissions levels that would be expected by 2010 without the Protocol, this target represents a 29% cut). The goal is to lower overall emissions of six greenhouse gases - carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, HFCs, and PFCs - calculated as an average over the five-year period of 2008-12. National targets range from 8% reductions for the European Union and some others to 7% for the US, 6% for Japan, 0% for Russia, and permitted increases of 8% for Australia and 10% for Iceland."

Source: United Nations Environment Programme

have also taken a toll on China's economy. Qin Dahe, director of the China Meteorological Administration noted that disasters stunt China's GDP by as much as 6 percent a year, thus proving that the costs of global warming are very real. Hence, without sufficient funds to repair damaged infrastructure and restore vital resources, these states would suffer from economic inactivity and thus slower growth.

Climate change also directly and indirectly contributes to health deterioration. Food and water shortages caused by floods and droughts as mentioned above, would result in a lack of proper sanitation facilities and consequently put people at risk of a plethora of

What is the UNFCCC?

The Convention on Climate Change sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognizes that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases. The Convention enjoys near universal membership, with 189 countries having ratified.

Under the Convention, governments:

- gather and share information on greenhouse gas emissions, national policies and best practices
- launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries
- cooperate in preparing for adaptation to the impacts of climate change

The Convention came into force on 21 March 1994

Source: The United Nations Framework Convention on Climate Change, <http://UNFCCC.int>

diseases. Higher global temperatures also increase the rate of these diseases spreading. Moreover, poverty stricken countries would feel an even greater burden as they lack the funds and capacity to overcome the epidemic, thus causing higher mortality rates and a much weaker population. As a result, they are unable to effectively contribute to the economy and are caught in a vicious cycle of poor health and economic insecurity. South Asia is an evident example with the recent plague of dengue fever.

Given these highly adverse circumstances, it is without a doubt that climate change should be a top priority for the international community. Stern made several suggestions for change. Of prime importance is the need to prevent further carbon emissions by promoting cleaner energy and transport technology, with non-fossil fuels accounting for 60% of energy output by 2050. He also encourages reducing consumer demand for heavily polluting goods and services and also to make global energy supply more efficient.

Such measures, Stern claims, can only be possible with aid from the developed world as they have the funds to provide the necessary capacity to deal with this increasingly daunting task. What remains to be seen is whether the international community is willing to come to a consensus on the appropriate measures that need to be taken and speed up the pace in doing so.

Sources

Access to Water is a Right, *The Nation*, 11 November 2006
At-a-glance: The Stern Review, *BBC News*, 30 October 2006

Bangladesh the 'Golden Boy' of South Asia: UNDP report on Global Water Crisis Released, *Oh My News International*, 10 November 2006

Climate Change May Devastate Asian Economies, Increase Disease Risk, Researchers say, *The Associated Press*, 9 October 2006

Extreme weather costs China billions each year, *Reuters*, 09 Nov 2006

Regional Effects of Climate Change,

http://www.climate.org/topics/climate/impacts_as.shtml

Climate Change in the Asia/Pacific Region, *CSIRO*,

<http://www.csiro.au/csiro/content/file/pfkd,..html#4>

Haze Contributing to Climate Change

According to a study by the Netherlands-based Wetlands International and Delft Hydraulics, Indonesia has jumped to third place from 21st behind the United States and China as the world's top contributor of greenhouse gases because of its clearing and burning of peatland areas.

The study noted that over the past few decades, emissions from Indonesian peatlands when drained or burned, reached 2 billion tons of carbon dioxide a year -- almost a 10th of world greenhouse gas emissions from human activities.

The amount exceeds emissions from India or Russia and is almost three times German or British emissions on an annual basis. United States' emissions reach almost 6 billion tons of carbon dioxide while China emits over 4 billion tons.

Indonesia emits 6.5 times as much CO₂ from degraded peatlands as it does by burning fossil fuels every year, while it produces more gases than all the efforts of western countries to reduce greenhouse emissions under the protocol.

In turn, global warming caused by greenhouse gas emissions have further hastened the CO₂ emission rate, by contributing to hotter and dryer atmospheres that make it easier for peatland to catch fire easily during the dry season.

What is Peat?

Peat is undecomposed plant material that has accumulated over thousands of years, storing carbon equivalents equal to 100 years of current global fossil fuel use.

Such human-induced environmental degradation is driven by local economic development and global demands for hardwood, paper pulp and palm oil.

The significance of this issue has often been overlooked by the international community due to their focus on gasses from fossil fuel emissions. Nonetheless, the issue of peatlands has overtime been





brought to the discussion table. For instance, the Workshop on Vulnerability of Carbon Pools in Tropical Peatlands, jointly organized by the Global Carbon Project (GCP) and Centre for International Forestry Research (CIFOR) in Pekanbaru, Indonesia in January 2006 noted that peat was one of the world's most important carbon stores (storing about 30% of global soil carbon). Normally, peat is soaking wet and will not burn. Through drainage, the peat dries, starts decomposing, and emits carbon dioxide. Hence, it is vital to ensure that peatlands are well irrigated to avoid further carbon emissions.

Peatland irrigation not only reduces carbon emissions but also provides sustainable sources of livelihood for communities living in surrounding areas, such as efficient water management, biodiversity and food security. Such benefits not only provide communities with alternative options to less environmentally friendly practices but also protect them from any future adverse effects of climate change that may arise, such as droughts and floods.

Sources

RI ranked third for greenhouse emissions, The Jakarta Post, 7 November 2006
 Riau Declaration on Peatlands and Climate Change, 26th January 2006

Twister a result of Climate Change

The recent tornado that hit Japan on the 7th of November this year may have been a result of climate change. The tornado, which killed nine people and injured as many as 23 in Saromacho, Hokkaido was likely to be triggered by a cumulonimbus cloud formation--a difficult phenomenon to predict because the abrupt rush of air that causes it can occur in isolated areas.

Global warming is a highly possible contributing factor. At around midday when the incident occurred, the temperature in Saromacho was 15.9 C--unseasonably warm for the time of year, given the average peak temperature of 9.4 C. At its peak on that fateful day, the temperature had risen to 18.4 C at 11:40 a.m. This unusually warm weather may have thus been what caused the phenomenon.

About 20 tornados occur each year on average in Japan, some of which have had devastating effects.

What is a Tornado?

A tornado is a massive aerial whirlpool created beneath cumulonimbus clouds. It is short-lived, and wind speeds can vary from 36 kph to between 180 and 215 kph--equivalent to that of a typhoon. The deadliest tornado in world history occurred on April 26, 1989 in Bangladesh (Daultipur- Salturia Tornado), which killed approximately 1300 people.



Source: Wikipedia.com

According to the Meteorological Agency, a cold front stretching south from Soya Channel off northern Hokkaido was moving east around that time. Warm air in the east met cold air in the west, creating unstable weather conditions that are extremely conducive to updrafts and downdrafts.

What is more mind-boggling for scientists is that there have been no previous reports of such an event in that area bordering the Okhotsk Sea. According to the agency, in the area covered by the Abashiri Meteorological Observatory, including Saromacho, no tornado causing any significant damage was reported between 1971 and 2005. This figure contrasts with that for typhoon-related events, with 85 reported in Kyushu and along the Pacific coast, and 31 created by low pressure off the Sea of Japan.

There is a lack of technological capacity in detecting tornados nationwide. Unlike low-pressure areas that are several hundred kilometers and can be easily

detected on Japan's Meteorological Agency computers, cumulonimbus cloud formations which create a tornado or a strong gust of wind are usually only about 10 kilometers in length and thus difficult to determine. Hence, while it is possible to predict the creation of well-developed cumulonimbus clouds that can cause a tornado or storm winds, it is difficult to determine where and when a tornado would occur.

Moreover, the high cost associated with tornado detection capacity further complicates the matter. Radars located at major airports have the ability to track the wind movements in clouds and thus able to detect dangerous cumulonimbus clouds in advance. Yet, planting several of these expensive radars nationwide would require a generous amount of funds.

Sources

Twister Kills 9 in Hokkaido, *The Daily Yomiuri*, 9 Nov 2006

Forecasting Tornadoes an Imperfect Science, *The Daily Yomiuri*, 9 Nov 2006

Climate Talks at a Stalemate

Talks in Nairobi have stalled due to disagreement (yet again) over limiting carbon emissions. The UN conference in Nairobi is working to extend fix long-term rules to fight global warming beyond 2012, when the provisions of the Kyoto Protocol -- which calls for industrialised nations to put emissions back to below 1990 levels -- run out.

However, many of the 56 developed countries that have ratified the protocol are finding it difficult to achieve even the fairly minimal curbs on emissions required by Kyoto, and some of them have fallen way behind in terms of meeting their commitments. Moreover, they are reluctant to enter into further commitments after it expires in 2012 without indications that developing countries such as China are prepared to climb on board.

China is currently the second largest emitter of energy-related carbon dioxide emissions after the US, but its share of world carbon emissions is expected to increase to 17,8% by 2025. Sixteen of the world's 20 most polluted cities are also in China and 70% of Chinese cities do not meet World Health Organisation air pollution standards.

Yet, China – along with other major players India, Mexico and South Africa - have resisted calls for a cap on emissions growth, arguing that most carbon dioxide currently in the atmosphere was produced by developed nations as they industrialised, and they have no right to deny the same economic growth to others.

Sources

Frustration as Climate Talks Stall, *Irish Times*, 13 November 2006

Mandelson Urges China to Address Climate Change Problem, *Business Day*, 10 November 2006

Extreme weather costs China billions each year, *Reuters*, 09 Nov 2006

ASEAN's efforts in tackling Climate Change

Environment ministers of all 10 members of ASEAN signed the Cebu Resolution on Sustainable Development at the end of a two-day ministerial meeting at the Shangri-la Mactan Island Resort in the Philippines. Coming a month ahead of the 12th ASEAN Summit in December, the ministers resolved to further enhance regional cooperation and strengthen efforts to enforce environmental laws.

The ministers reviewed regional cooperation on a number of environmental activities and resolved to work towards an environmentally sustainable ASEAN community. Among the issues discussed by the ministers were pressing problems concerning transboundary haze pollution and biodiversity conservation.

Indonesia, Malaysia and Singapore, who bore the brunt of the haze this year, pledged to contribute US\$50,000 each towards the proposed 'Haze Fund' while the rest said they still have to seek the approval of their heads of state.

Philippine Environment Secretary Angelo Reyes, however, noted that the haze did not affect the Philippines, thus there was no need for the country to set aside money for the fund.

During the Environment Summit, ASEAN launched its Third State of the Environment Report 2006 which recognizes the enormous challenge the region faces





toward achieving an environmentally sustainable ASEAN community.

One of these challenges is conserving the region's biological and genetic resources, which include wildlife - plant and animal species - and microorganisms. To promote biodiversity in Southeast Asia, the environment ministers pledged to support the ASEAN Center for Biodiversity recently established in the Philippines.

ASEAN biodiversity is crucial in achieving a better quality of life in the region. In Southeast Asia, the average biocapacity limit per person is 1.8 hectares – meaning that at least 1.8 hectares of forest teeming with rich biodiversity is needed to produce useful biological materials to support an individual's need for

food or medicine. It is 1.4 hectares in Thailand, 1.1 hectares in Indonesia and the Philippines, 0.9 hectares in Myanmar, Laos and Vietnam and 0.7 hectares in Cambodia.

The ministers also agreed to expedite the signing of the ASEAN Framework Agreement on access to "fair and equitable sharing of benefits arising from the utilization of biological and genetic resources in order to effectively manage the rich biological resources of the region.

They likewise endorsed the ASEAN Environmentally Sustainable Cities Award to recognize exemplary national efforts in member countries to promote efforts toward environmental sustainability in ASEAN cities.

Aside from the UN conference in Nairobi and ASEAN negotiations, several other international events have taken/ are to take place across Asia in a bid to tackle climate change.

16th Asia-Pacific Seminar on Climate Change was held from 5- 8 September 2006 in Jakarta Indonesia. Jointly organized by the Ministry of the Environment, Japan (MOEJ), Australian Greenhouse Office (AGO), Ministry of Environment, Indonesia and Overseas Environmental Cooperation Center, Japan (OECC), it thematically discussed Climate Change issues by focusing on Education, Training and Public Awareness as well as Clean Development Mechanisms, Adaptation to climate change, and Co-benefits of climate change efforts. Participants for the Seminar were from a wide spectrum ranging from Officers and researchers from Asia and the Pacific region, to International Organizations, Non-Governmental Organizations, Academia, and Business Communities.

Carbon Expo Asia was held on 26-27 October 2006 in Beijing. The event was jointly organized by the International Emissions Trading Association (IETA), the World Bank and Koelnmesse, and co-hosted by the People's Republic of China's Ministry of Science and Technology, the National Development and Reform Commission, and the Ministry of Finance. It was organized in partnership with the Asian Development Bank, The Administrative Centre for China's Agenda 21, the Japan Bank for International Cooperation and the Ministry for the Environment, Land and Sea of Italy.

Better Air Quality (BAQ) 2006 will be held in Yogyakarta, Indonesia and will consist of several high level activities

- First Governmental Meeting on Urban Air Quality in Asia (13- 14 December 2006). Jointly organized by the Clean Air Initiative for Asian Cities (CAI-Asia), the State Ministry of Environment of the Republic of Indonesia, United Nations Centre for Regional Development (UNCRD), and United Nations Environment Program (UNEP)
- Second Regional EST Forum (11-12 December 2006). Hosted by the United Nations Centre for Regional Development (UNCRD), the Ministry of the Environment, Government of Japan and the Clean Air Initiative for Asian Cities (CAI-Asia).
- "Best Practices in Air Quality Management Exhibition" which aims to provide an ideal forum for participants to share and showcase air quality management success stories from their respective cities and countries. By doing so, via exhibits, poster displays and one-on-one interaction, the exhibition will help cities and communities highlight efforts to control or prevent urban air pollution.

Sources

<http://www.cleanairnet.org/baq2006/1757/channel.html>

Carbon Market Trade Fair and Conference, <http://www.koelnmesse.com.sg/carbonexpoasia/index.html>

Asia-Pacific Network on Climate Change, <http://www.ap-net.org/>

In a meeting with their counterparts from China, Japan and South Korea (ASEAN Plus Three), the environment ministers of ASEAN also agreed to work with the ministers of the three countries on such areas as environmental education, environmentally-sound technology, climate change, biodiversity management, and integrated water resource management. Officials believe that ASEAN Plus Three has the potential to effectively address environmental problems that affect the region because they comprise more than a third of the world's population and a tenth of the total land area of the world.

Sources

ASEAN begins Voluntary Contribution towards Fund to Fight Haze, *ChannelNewsAsia.com*, 11 November 2006
Cebu leaves footprint ahead of Summit: Cebu Resolution inked at environment gab, *The Philippine Star*, 11/12/2006

“Nukes” as an Alternative Source of Energy

The recent publication of the 2006 World Energy Outlook by the International Energy Agency (IEA) reveals that the energy future we are facing today, based on projections of current trends, is dirty, insecure and expensive. But it also shows how new government policies can create an alternative energy future, which is clean, clever and competitive.

The report notes that the increasing demand for energy is largely from developing countries. It predicts that from now till 2030, global primary energy demand is set to increase by 53%. Over 70% of this increase comes from developing countries, led by China and India. Imports of oil and gas in the OECD and developing Asia grow even faster than demand. World oil demand reaches 116 mb/d in 2030, up from 84 mb/d in 2005. Most of the increase in oil supply is met by a small number of major OPEC producers; non-OPEC conventional crude oil output peaks by the middle of the next decade. Consequently, global carbon-dioxide (CO₂) emissions would reach 40 Gt in 2030, a 55% increase over today's level thus amplifying the magnitude of global climate change.

The energy picture has also changed appreciably since the 2004 Outlook, the last major update of the IEA's global energy projection. The realities of the energy market have become harsher and the relative

competitive position of fuels has changed. Oil and gas prices have soared three and four times higher than in 2002 and this is reflected in a new oil price assumption for the projections.

But world economic growth has remained robust, as the recessionary effects of higher energy prices have been more than offset by other factors. Coal is now cheaper than natural gas for electricity generation, while nuclear power may, in some cases, be cheaper than both coal and gas – even where there is no penalty for emitting CO₂. Coal has thus led the recent surge in global energy demand and is on a stronger growth path than in previous World Energy Outlooks. China and India are the predominant sources of global energy demand growth.

The Outlook then demonstrates that nuclear power could make a major contribution to reducing dependence on imported gas and curbing CO₂ emissions in a cost-effective way. But this will happen only if the governments of countries where nuclear power is accepted play a stronger role in facilitating private investment, especially in liberalised markets. Nuclear power remains a potentially attractive option for enhancing the security of electricity supply and mitigating carbon-dioxide emissions.

Biofuels could also make a significant contribution to meeting future road-transport energy needs, helping to promote energy diversity and reducing emissions. Biofuels currently account for 6% of road-fuel use today, mostly in developed states such as the United States and the European Union as well as Brazil, who are the leading producers and consumers of biofuels.

But rising food demand, which competes with biofuels for existing arable and pasture land, and the need for subsidy in many parts of the world, will constrain the long-term potential for biofuels production using current technology. New biofuels technologies being developed today, notably ligno-cellulosic ethanol, could allow biofuels to play a much bigger role – if major technological and commercial challenges can be overcome. Strong policy action is needed to move the world onto a more sustainable energy path.

Hence for most of the developing world, nuclear energy would seem to be the best alternative. However, financing the upfront investment cost may remain a challenge. The Outlook identifies under-





investment in new energy supply as a real risk. To quench the world's thirst for energy, it projects a need for a cumulative investment in energy-supply infrastructure of over \$20 trillion in real terms over 2005-2030 – substantially more than was previously estimated. Roughly half of all the energy investment needed worldwide is in developing countries.

IEA executive director Claude Mandil is, however, confident that these policies are very cost-effective. Additional upfront costs would be quickly outweighed by savings in fuel expenditures, while extra investment by consumers is less than the reduction in investment in energy-supply infrastructure. Moreover, demand-side investments in more efficient electrical goods are particularly economic; on average, an additional \$1 invested in more efficient electrical equipment and appliances avoids more than \$2 in investment in power generation, transmission and distribution infrastructure.

Sources

The World Energy Outlook 2006 Maps Out a Cleaner, Cleverer and More Competitive Energy Future, *International Energy Agency – Press Release*, 7 November 2006

NTS Alert Team

Mely Caballero Anthony
Sofiah Jamil
Sujoyini Mandal



NTS Asia Secretariat

Secretary- General – Amitav Acharya
Coordinator – Mely Caballero Anthony
Research Analyst / Webmaster – Sofiah Jamil
www.idss-nts.org

Nuclear energy not a safe alternative for Indonesia?

According to the International Energy Agency's 2006 World Energy Outlook, nuclear power could help reduce carbon dioxide emissions and provide reliable electricity in the future. This has generated interest amongst many developing countries. Indonesia, for instance, is keen to consider this alternative to provide enough energy for its people as well as reduce international criticism for being a major contributor to carbon emissions, especially from its annual forest fires.

Indonesia, a member of the Organisation of Petroleum Exporting Countries (OPEC), sees nuclear energy as an appropriate alternative due to its diminishing oil supply in recent years to about one million barrels per day amid flagging fresh investment. Other OPEC members such as Saudi Arabia, Algeria and UAE have also heralded the new findings.

However, Greenpeace officials have rejected the IEA report as providing “misguided solutions” and stated that Indonesia does not need nuclear energy as an answer to climate change or for energy security. Resorting to nuclear power would only further endanger the lives of Indonesians due to the country's volatile geological structure.

The Indonesian archipelago sits on the Pacific Ring of Fire where continental plates meet, causing frequent seismic and volcanic activity. Recent disasters in Indonesia, such as tsunamis, earthquakes, volcano eruptions and mud floods only further reflect the countries extreme vulnerability to natural disasters, which are increasingly contributed by human activity. The mud flood in Java, for instance, was due to an industrial drilling error. As a result, hot spurts of mud continuously emerged from the ground and destroyed several villages and sources of livelihood.

Indonesia had previously said that it plans to build its first nuclear power plant, with a capacity of 1,000 megawatts, on densely-populated Java island by 2015. The government however has yet to secure investors.

Indonesia's nuclear power plans were shelved in 1997 in the face of mounting public opposition and the discovery and exploitation of the large Natuna gas field. But the plans were floated again last year amid growing power shortages

Some provinces have already initiated the process of embracing nuclear energy. In October, Indonesia's Gorontalo province on Sulawesi island signed a memorandum of understanding with a Russian company to develop a floating nuclear power plant for the province.

Sources

Indonesia Cannot Go Nuclear to Answer Climate Change: Greenpeace, *Antara*, 10 November 2006
Java Disaster Shows Mud Volcano Risks, *The Straits Times*, 21 October 2006
Six Arab States Join Rush to Go Nuclear, *Times Online*, 4 November 2006

