12-2011

Chilling a hot planet: Many solutions, no answers

Singapore Management University

CHILLING A HOT PLANET: MANY SOLUTIONS, NO ANSWERS

Published:
6 Dec 2011

If there was a report card on how the world is doing on issues related to climate change, it would read a resounding 'F'. Consider the figures. It took about 12,500 years between the last glacial age and today for global temperatures to rise six degrees Celsius. Yet in this century alone – despite heightened awareness of the need to arrest the ever-increasing levels of greenhouse gas emission – temperatures have risen up to four degrees Celsius.

“Climate change is a major problem, yet there is failure at all levels to provide solutions,” said James Tang, dean at Singapore Management University's (SMU) School of Social Sciences, at the opening of a Social Sciences and Humanities Seminar, 'Hot Planet, Cool Ideas: Why Climate Change will Drive Innovation and Challenge Security in Asia'.

Climate change will have a "huge impact" on Asia. Citing the latest findings from *The Garnaut Review 2011* that show sea levels rising faster than predicted, Ann Florini, a visiting professor of political science at the school, noted that many of the melting glaciers are located in the Tibetan plateau. Concurring, Linda Yarr, director of Partnerships for International Strategies in Asia (PISA) at George Washington University, said that such developments call for “decision-making and investments in conditions of deep uncertainty.”

There have been attempts at trying to control greenhouse gas emissions, but these have been grossly insufficient. Worse yet, some of the initiatives have backfired due to unrealistic expectations or the lack of support, suggested Florini. She cited figures from the *World Energy Outlook 2011* and highlighted that the high-carbon infrastructure lock-in has made the pledge to limit global warming by two degrees Celsius over pre-industrial levels “more challenging and expensive” – and thus more unlikely to be achieved.

Another disappointing attempt is the Kyoto Protocol, perhaps the most visible and the only legally-binding global document that commits countries to tackle global warming. This protocol however faces its first deadline in 2012 to meet an average of 5.2 per cent reduction in greenhouse gas emissions from 1990 levels. Furthermore, it seems only the European Union, which accounts for 11 per cent of global carbon emissions, might renew its vows. Top emitters

like the United States, Japan and Russia, are said to be considering a parallel forum that focuses on voluntary curbs.

Climate change is an "instability accelerant" that can affect the political, social and communal fabric of society, said Marcus King, an associate research professor of international affairs at George Washington University. And with an unprecedented number of natural disasters, this issue has become "more integrated" in national security assessments.

As one of the largest energy users in the world, the US is said to be exploring alternative energy sources and clean energy technologies through its defence innovation chain, including the test-bedding of ethanol-based fuel and algae-derived fuel. The military-developed Global Positioning System (GPS), for example, has made such innovations mainstream. Other defence-related technologies are now similarly proving useful in the battle against climate change, said King.

In fact, this thrust for serving the "common good" underlies the US forces' latest advertising campaign. With the tagline, "a global force for good", commercials for the US military now show forces participating in rescue operations and providing humanitarian assistance. This marks a shift towards playing a greater geo-political role, King observed.

Outside of the government, there are many projects tackling climate change. *The Carbon Disclosure Project*, for instance, is an independent not-for-profit organisation holding the largest database of primary corporate climate change information in the world. Richard Branson's *Carbon War Room*, brings together entrepreneurs to implement market-driven solutions**.** The *C40 Cities Climate Leadership Group* comprises 40 cities around the world, and *Local Governments for Sustainability* brings together over 1,220 local government members.

While each group may espouse different processes and goals, one seldom talked about solution is geo-engineering. Take for example, when a volcano erupts, ash and sulphur are forcibly pushed into the atmosphere. This results in a temperature drop. Using solar radiation management, particles can be sprayed into the stratosphere to form a shield that "bounces off the sun's rays", thereby further reducing the earth's temperatures. According to Florini, such relatively inexpensive solutions are already within the reach of most developed countries. However, it is "frightening" insofar as no one can know, for sure, the consequences, and there are no international forums, platforms or guidelines that might govern such actions.

Nevertheless, "knowledge mobilisation and management" are perhaps most important. This can include fostering inter-disciplinary dialogue, encouraging cross-sectional information-sharing, and collaborating using multiple forms of dissemination. In institutes of higher learning, there is a need to "challenge innovation; to let the students know that they can influence the future," Yarr concluded.