

## The Urgency to Combat Global Climate Change

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### Weirdo Weather

The world is experiencing unprecedented weather havocs since last December. Extreme cold due to polar vortex hit Canada, eastern part of US and some parts of Central Florida in early January this year. In the early weeks of February, Tokyo experienced the heaviest snow in 50 years and since December; UK was hit by severe flooding from the worst spell of winter rainfall in 250 years.

Down south, thousands were evacuated from their homes as fast-moving blazes due to bush fires move towards the state capital Melbourne. The cause: extreme weather conditions brought strong winds and high temperature to the south-east part of Australia.

In Singapore, over 170 tonnes of farmed fish (about 3.3% of 5,128 tonnes of local farmed fish in 2012) perished in a couple of days probably due to the lack of dissolved oxygen level in the water arising from the hot and rainless weather for over two months. The National Water Body, Public Utility Board (PUB) has started pumping about 30 million gallons of NEWater per day since 17 February 2014 to top up the reservoirs water level. Up north, thousands of households in various parts of Selangor were hit by water crisis. In addition, over 6,000 open, peat and bush fires were reported since 1 February 2014 in Malaysia.

While many scientists refrained from associating such "isolated" weather conditions to climate change, Lord Stern, author of a 2006 report on the economics of climate change wrote in the [Guardian on 14 February 2014](#) that these events are clear sign of climate change. He warned that *"if we do not cut emissions, we face even more devastating consequences, as unchecked they could raise global average temperature to 4C or more above pre-industrial levels by the end of the century"*.

### More Signs of Climate Change?

A new research report released on 20 February 2014 in the Science Journal showed that the Pine Island Glacier, a major outlet of the West Antarctic Ice Sheet has been undergoing rapid melting for the past two decades. The melting ice mass dramatically contributes to the sea level of the West Antarctic Ice Sheet. The Pine Island Glacier is currently experiencing significant acceleration, thinning and retreat.

The rate of thinning from 2002-2007 on the grounding line (the part where the glaciers export the ice down the continent and lose contact to the ground and become a floating ice shelf) was between 1.2 meters per year and 6 meters per year. According to the lead author of the study, Dr. Joanne Johnson, *"our geological data show us the history of Pine Island Glacier in greater detail than ever before. The fact that it thinned so rapidly in the past demonstrates how sensitive it is to environmental change; small changes can produce dramatic and long-lasting results."*

After the invention of steam engine technology for production of energy in mid-1700s, economic development has been driven by the burning of fossil fuel. This has led to a rise in greenhouse gas emissions. Carbon dioxide is one of the major gases that contribute to the warming blanket around our planet. In 2013, the Mauna Loa Observatory in Hawaii recorded a milestone concentration of atmospheric carbon dioxide concentration of 400 parts per million, a record not reached in the past 1 million years. Measurements have shown that 90% of the carbon emissions come from the burning of fossil fuel with the remaining 10% contributed by deforestation from developing countries such as Brazil and Indonesia.

The final draft of the Intergovernmental Panel on Climate Change (IPCC) 5<sup>th</sup> Assessment Report (AR5) released in September 2013 concluded that it is extremely likely human activity has been the main global warming influence since the mid-20<sup>th</sup> century. The report added that *"the atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentration of greenhouse gases has increased."*

### **Taking Actions**

Some climate change deniers have argued that the bitter cold in the US might appear to contradict the increases in surface temperature as part of global warming but UK's wettest winter and hotter summer in Australia had pushed climate change back on the political agenda. U.S. Secretary of State John Kerry went furthest, calling climate change *"perhaps the most fearsome weapon of mass destruction" and ridiculing those who doubt that climate change is man-made*".

Eileen Claussen, President of the Center for Climate and Energy Solutions said the IPCC AR5 is the latest reminder that governments and business alike must take stronger action to reduce carbon emissions and to prepare for climate impacts that are too late to avoid. In this aspect, she noted that 90% of (Standard & Poor's) Global 100 companies see weather and climate change as current or near-term business risks and are taking steps to strengthen their climate resilience and investing in a low-carbon. The Global Risks 2014 Report (9<sup>th</sup> Edition) released in conjunction with the World Economic Forum held in Davos (Switzerland) from 22 to 25 Jan 2014, highlighted climate change issues as the top 5<sup>th</sup> (Failure of Climate Change Mitigation & Adaptation) and 6<sup>th</sup> (Greater Incidents of Extreme Weather Events) Highest Concerns for 2014.

The US and China who jointly are responsible for 40% of the world's greenhouse have recently pledged to produce "concrete results" ahead of the 2015 climate talk in Paris. While China has taken various measures to reduce the reliance on coal and to reduce the amount of air pollution (Combating Air Pollution in China: A Formidable Task dated 2 Jan 2014 by this author), Beijing has to issue an "Orange" alert, the second highest alert before "Red" on 21 Feb 2014 when the PM12.5 reading of 378 (A level of 300 is considered hazardous by the US Environmental Protection Agency) was detected by the US Embassy in the capital city. Stopping short of closing schools, the alert advises schools and kindergartens to cancel outside sport activities.

If past experiences from the various annual climate talks since 2008 are to be repeated, the world will be facing greater risks of global warming that result in extreme weather events of heat waves, droughts, heavy rain, snow, storms and floods that not only impact low lying regions but cause damages to crops, marine eco-systems and the security of food and water supply for the entire world.

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