

# FROM THE UNITED NATIONS

## Energy, Economic Development and Climate Change

The Industrial Revolution in England in the 18th Century , was fueled by the replacement of hand tools by power driven machines like the power loom and the steam engine. A great deal of the energy required for this change came from the use of coal . This transformation had profound economic and social effects. The technological innovations and the use of coal added enormous quantities of carbon dioxide and other greenhouse gases into the atmosphere. In fact, over the past 150 years global warming is being caused by the release of carbon dioxide and other heat-trapping gases into the earth's atmosphere.

In 1988 James Hanson, a climatologist with NASA's Goddard Institute, warned that the world was getting warmer due to the build up of greenhouse gases and that an increase in floods, droughts and other dire consequences could be expected. The ten warmest years on record have all been since 1990 and the summer of 2005 broke heat records in hundreds of US cities. Global warming has been predicted to increase the intensities of hurricanes and in the past several decades the number of category 4 and 5 hurricanes have almost doubled. Because the ocean is getting warmer, tropical storms pick up more energy and become more powerful.

The UN has become central in raising the awareness of this global issue. Obviously, no nation can cope with this global threat by itself. The UN initiated an intergovernmental panel on climate change (IPCC) with 2500 scientists from 130 countries. They concluded with an overwhelming consensus, that there has been a marked increase in atmospheric concentration of greenhouse gases, as a result of human activity. Although these figures are from *direct* measurements over the past 150 years alone, scientists can get information from further back looking at tree rings, deep ice cores and ground cores. These prehistoric records reveal a staggering fact: *at no point in the last 2000 years has the earth's temperature changed as rapidly as in the 20th century.*

Climate skeptics (often funded by fossil-fuel industries) don't question that carbon dioxide is rising but claim that this rise is due to either natural variation, solar variation, and claim that the amount of warming is insignificant. An additional response is that the science is not settled . It

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must be understood that science does not *prove* an issue absolutely, but at the moment in question the best evidence to date is selected until newer and more definitive data becomes available. Therefore, if we go along with science skeptics. society should wait until the science is absolutely irrefutable before taking action. This leads to society never taking action. Scientists could be wrong- but in view of what is at stake, to rely on this possibility would be a risky strategy.

The UN has been active in promoting dialogue and action regarding the need for countries to reduce their greenhouse gas emissions. In a major conference, in 1997 in Kyoto, most nations ratified the resulting treaty except for the US. It was agreed to reduce emissions by specified amounts as compared to those in 1990 and these measurements would be revisited in 2012. Developing countries, including China and India were not mandated to reduce their emissions. Unfortunately, the US and China churn out more than enough extra greenhouse gas to erase all the reductions made by other countries during the Kyoto period.

The underlying tension at these conferences is between developed and developing countries. The rich countries got rich by using dirty energy like coal. The poorer countries need to develop and the cheapest way is by using dirty energy. They also argue that they did not cause the problem and are most at risk. They feel that the rich countries should seriously cut their emissions and help poor countries cope with the consequences of climate change.

More recently, in 2010, a conference was held in Cancun, Mexico. There was still no agreement as to how to extend the Kyoto agreement. However, they did agree to set up a Green Fund of \$100 billion a year by 2020 to aid the poor nations most affected mitigate the effects of climate change and to transfer clean energy technology.

Leaders of 193 countries are now set to meet again in November 2011 in Durban South Africa. These talks could stall again if the rich and poor countries renew their squabbling on how to share emission cuts and how to extend the Kyoto treaty. Looming over the conference is data showing that the world's carbon dioxide emissions hit their highest level ever in 2010,

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driven mainly by booming coal-reliant emerging economies like China. Politicians are not good at acting collectively, for the long term.

Fossil fuels currently supply 80 percent of the world's needs. This is likely to increase since developing countries use fossil fuels because it is cheaper and the consumption patterns of the growing middle class.

Nevertheless, there is good news in this dismal picture, namely a strong surge in investments in green energy. Investors put in a record \$211 billion in renewable energy in 2010, about a third more than the previous year. For example, China has provided some \$30 billion in subsidies for its solar industry leading the US in the makers of solar panels. Fossil fuels are still cheaper than clean energy thus government support for clean energy is needed. Historically, government support in research and development has always been a catalyst for new technologies.

If we invest in clean and renewable energy and the climate deniers are right we will still come out ahead with energy jobs and most important, less dependence on middle East oil as well as much healthier lives. If the mainstream scientific consensus is correct, i.e. global warming is here and growing, and we do not act now to control the emissions of specific gases, the global outcome can be catastrophic. Prudence requires action.

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