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## **Economic crisis has given the world a second chance**

**By Joydeep Gupta**

Bangkok, Oct 6 (IANS) By 2020, India must reduce its energy use by 16 percent from a business as usual (BAU) scenario if global warming is to be kept within two degrees Celsius, the International Energy Agency (IEA) said here Tuesday. Any more global warming would have catastrophic consequences, scientists say.

By 2030, this reduction from a BAU scenario must go up to 19 percent for India and other developing countries, Fatih Birol of IEA said while releasing excerpts from the 2009 World Energy Outlook (WEO).

The global economic recession has reduced investments in energy generation from fossil fuels in 2009, and that gives the world a second chance to move to a greener and more sustainable energy pathway, Birol said.

But, he warned: "This window of opportunity won't stay open long. Unless the Copenhagen climate summit sends a strong signal that will significantly boost investments in green energy, by 2020 we'll be back" to a situation where catastrophic levels of climate change will become all but inevitable.

The IEA message was aimed at over 4,000 delegates from 177 countries gathered here for the Sep 28-Oct 9 preparatory meet for the December climate summit in Copenhagen.

Climate change is already affecting farm output, making droughts, floods and storms more frequent and more severe and raising the sea level, with India at the forefront of countries bearing the brunt. Increasing concentration of greenhouse gases - mainly carbon dioxide - in the atmosphere causes climate change. And the two biggest sources of carbon dioxide emissions are power generation from fossil fuels and transport using the internal combustion engine.

"We need a major revolution in the energy sector to change this situation," IEA Executive Director Nobuo Tanaka said. "Fossil fuel use must peak by 2020 and then fall. The share of renewables and nuclear in the global energy mix is now 18 percent. By 2030 it must grow to 33 percent."

The WEO says that of the reduction in energy use needed to keep global warming with two degrees Celsius, 65 percent must come from energy efficiency techniques by 2020, while 18 percent of the energy is generated through renewables, 13 percent from nuclear power plants, one percent from biofuels and three percent by using carbon capture and storage (CCS) techniques in coal-based power plants.

"This will lead to reduction of 3.8 gigatonnes in energy use from the reference scenario," Birol said. By 2030 the reduction will have to be 13.8 gigatonnes, with 57 percent coming from energy efficiency, 20 percent from renewables, 10 percent each from nuclear and CCS and three percent from biofuels.

In the area of electricity generation, the share of renewable sources has to rise from 18 percent now to 37 percent in 2030, says the report. As for vehicles, 95 percent of them use fossil fuels now, and this has to go down to 40 percent by 2030, with the rest coming from electric and hybrid vehicles.

All this change will need \$400 billion a year between now and 2020, the report says. "To put that in perspective, it is 0.5 percent of the global GDP," said Birol.

And what are the benefits of moving to this greener future? Apart from avoiding the worst impacts of climate change and the air pollution from use of fossil fuels, it will mean a saving of \$8.6 trillion by industry, transport and buildings sectors in reduced energy bills between now and 2020.

For India and China, it means their oil imports will come down 15 percent.

To move to this pathway is a huge challenge, said Tanaka. "It means building 18 nuclear reactors, 17,000 windmills, 270 combined heat and power (CHP) plants, 100 concentrated solar plants and 16 coal-fired plants using CCS every year. But it can and must be done."

Tanaka warned that the cost of inaction and consequent global warming had been estimated at \$500 billion per year, far higher than the cost of moving to a cleaner energy path.

International NGOs shadowing the climate negotiations here welcomed the report, with Greenpeace, WWF, Action Aid and the Environment Defence Fund saying it should act as a wake-up call to the negotiators so that they worked towards an ambitious outcome at the Copenhagen summit.