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Researchers present newest update on climate change science

A report synthesizing the newest research results relating to climate change and what action can be taken in response to climate change was presented today at the European Policy Centre (EPC) in Brussels. The 36 page report is written for the non-specialists and is based on discussions and presentations made at the scientific congress "*Climate change: Global Risks, Challenges & Decisions*" held in Copenhagen in March.

This global launch takes place only six months before the UN Climate Change Conference (COP15) begins in Copenhagen. The host of the COP15, the Prime Minister of Denmark, Mr. Lars Løkke Rasmussen, received the report.

"The newest evidence indicates that society faces serious risks even with a global temperature rise of only about 2 degrees. If society wants to minimize these risks, then action must be taken now", says Professor Katherine Richardson, Chair of the Scientific Steering Committee of the congress and Chair of the writing team. She adds: "Society has all the tools necessary to respond to climate change. The major ingredient missing is political will. Already many societies are struggling with the effects of climate change. If society wants to avoid even more serious, and in most cases irreversible impacts of climate change, then there is very little time left. The greenhouse gases in the atmosphere are already at a level that is predicted to cause warming of around 2 degrees so major emission cuts should be made immediately to retain climate change. The clock is ticking"

The launch of the synthesis report took place before the EU Summit in Brussels begins later today. Here, the EU leaders will be discussing the climate change issue.

Professor John Schellnhuber, Director of the Potsdam Institute for Climate Impact Research and member of the writing team underlines that the need for action is bigger than often taken into account in the political negotiations. "Even if we keep global warming below two degrees, we will still see extreme effects of climate change on our societies", and data collected since the production of the 2007 IPCC Report indicate that several climate indicators (for example, sea-level rise, ocean temperature, glacier-melt, Arctic sea ice melt, ocean acidification) all are changing at the maximum rate projected at the time of the last IPCC report or even faster.

"Even with only one to two degrees warming there is evidence pointing towards the very real possibility of triggering tipping points caused by human made climate change. This would lead to societal disruption for very large numbers of people. The tipping points we are looking at is for example the melting of the Greenland ice sheet, the abrupt change to the Asian Monsoon to a substantially drier state, or the loss of water storage capacity in the Himalayan glaciers. But we're also starting to see signs of tipping points in connection with ocean acidification. This may cause creation of areas in the ocean with less oxygen which could put places in danger such as the Great Barrier Reef. To recover ecosystems like that would likely take hundreds of thousands, if not many millions of years, although true recovery is impossible because extinctions are irreversible", Professor Schellnhuber says.

Professor Mohan Munasinghe, Vice-Chair of the IPCC-AR4, Chairman of the Munasinghe Institute for Development, Colombo, and Director General of the Sustainable Consumption Institute, Manchester University, is also a member of the writing team. He says: "The poor countries and the most vulnerable citizens today are suffering the most due to natural disasters, hunger, and sickness, even though the developed countries are mainly responsible for the climate changes we are beginning to see. As climate change continues the effects will also be seriously felt in developed countries".

He continues: "We cannot afford to take a business as usual approach to solving the climate challenge, because it will exacerbate all the existing problems we face, especially poverty. Future generations will inherit an unliveable planet. Climate change and sustainable development are serious, interlinked problems that can be solved together, provided we begin immediately. We know enough already to take the first steps towards making development more sustainable that will transform the risky "business-as-usual" scenario into a safer future. Adaptation and mitigation measures must be better integrated with sustainable development strategy. Low or no-carbon technologies are critical aspects of the mitigation efforts needed in the 21st century, and adaptation safety nets must protect the poor, who are the most vulnerable to climate change impacts".

The synthesis report is written by a team of researchers from around the world and it has been vetted by a long list of researchers and organizations.

The report can be obtained at www.climatecongress.ku.dk.

Background information

The synthesis report presents an extended and more detailed version of the six key messages that were presented in the closing session of the international scientific congress *Climate Change: Global Risks, Challenges & Decisions* held in Copenhagen 10–12 March. The congress attracted more than 2000 scientists from over 70 countries.

The organizers of the international scientific congress on climate change

The congress was organized by the International Alliance of Research Universities (IARU): Australian National University; ETH Zürich; National University of Singapore; Peking University; University of California, Berkeley; University of Cambridge; University of Copenhagen; University of Oxford; University of Tokyo; Yale University.

Review procedure of the synthesis report

The synthesis report has been put together by a writing team of 12 internationally respected scientists from all continents and has gone through an extensive scientific review by the Scientific Steering Committee, scientists from the International Alliance of Research Universities, the session chairs at the congress, and the Earth System Science Partnership (ESSP). See the whole review procedure at www.climatecongress.ku.dk/roadtocop15.

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