



Scientists will this week issue their starkest warning yet about the mounting dangers of global warming. In a report to be handed to political leaders in Stockholm on Monday, they will say that the burning of fossil fuels and deforestation have now led to a warming of the entire globe, including land surfaces, oceans and the atmosphere.

Extreme weather events, including heatwaves and storms, have increased in many regions while ice sheets are dwindling at an alarming rate. In addition, sea levels are rising while the oceans are being acidified – a development that could see the planet's coral reefs disappearing before the end of the century.

Writing in the Observer ahead of the report's release, the economist and climate change expert Lord Stern calls on governments to end their dithering about fossil fuels and start working to create a global low-carbon economy to curtail global warming. Governments, he states, must decide what "kind of world we want to present to our children and grandchildren".

The fifth assessment report on the physical science of climate change by the Intergovernmental Panel on Climate Change (IPCC) warns that humanity is on course over the next few decades to raise global temperatures by more than 2C compared with pre-industrial levels. Such a rise could trigger the release of plumes of the greenhouse gas methane from the thawing Arctic tundra, while the polar ice caps, which reflect solar radiation back into space, could disappear.

Although the report does not say so, Earth would probably then be facing a runaway greenhouse effect.

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