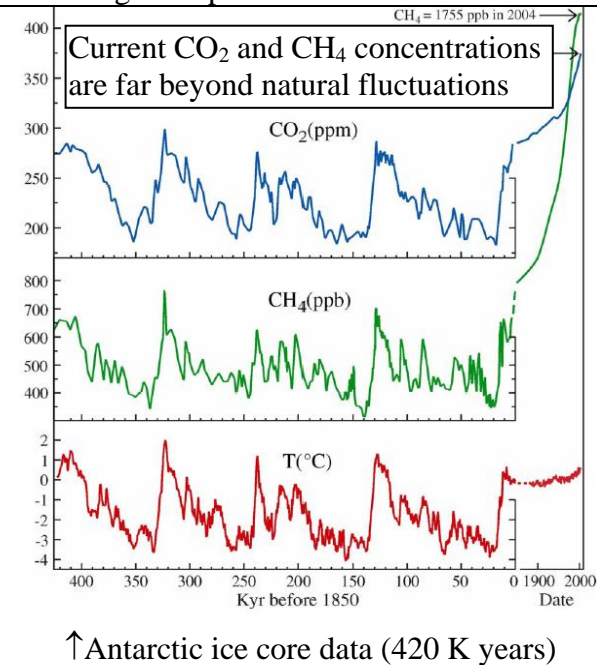


Is there still time to rescue our climate?

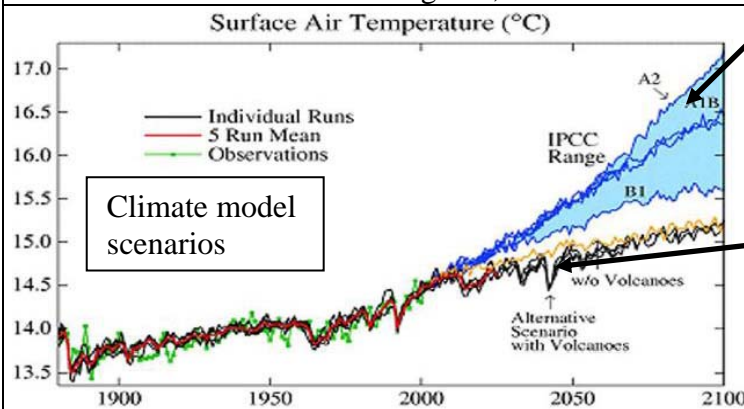
Read J. Hansen's http://www.columbia.edu/~7Ejeh1/newschool_text_and_slides.pdf

- (1) Green house gas (GHG) emissions from burning fossil fuels (oil, coal, gas) since the industrial revolution are now **IRREVERSIBLY ACCUMULATING** in the atmosphere and heating up an already warm planet Earth. An increase in temperatures of 0.75 °C since 1880 has already been measured. Due to the time lag inherent in our climate system (warming up of oceans), a further 0.6 °C is unavoidably in the pipeline.
- (2) Planet Earth is out of energy balance with space at the rate of 1 Watt/m²
- (3) The Earth will warm up until it reaches a new equilibrium at a higher temperature when a warmer planet radiates more heat back into space. The new, higher equilibrium temperature depends on the future concentration of GHG. The more GHG we put in the atmosphere, the warmer it will get.
- (4) We are now in the Holocene, an interglacial period, which lasted for about 10,000 years with a comparatively stable climate and sea level. The preceding ice age, at its peak 20,000 years ago, was around 5 °C cooler than now. Sea levels were 110 m lower. The previous interglacial period was 1 °C warmer and sea levels 5-6 m higher than at present



- (5) Carbon dioxide concentrations and temperatures are highly correlated (left)
- (6) Temperature changes between ice ages and interglacial periods are caused by slight changes in the Earth's orbit. Cooling is slow and warming is rapid. Increase in temperature by 2-3 °C would lead us into a hot, unknown world and sea levels 25 ± 10 m higher than today.
- (7) In order to avoid such sea level rises and other disasters like crop failures, water shortages, stronger hurricanes, floods etc. we must reduce annual GHG emissions to 60 – 80% of present levels by 2050, that is –1.5% pa.
- (8) This alternative scenario can stabilize the Earth's climate, but this strategy is currently not being pursued

- (9) **Another 10 years of business as usual** with GHG increasing at the current rate of 2% pa and an alternative scenario at a later stage will no longer be able to keep temperature increases under 1 °C . Action is therefore needed NOW, not later
- (10) The public must understand these facts and put as much pressure on politicians as is needed to overcome shortsighted, vested interests of the fossil fuel industry



These BAU scenarios with CO₂ emissions growing around 2% pa will mean a different planet Earth and a climate outside our experience

This alternative scenario with a reduction of green house gases by 60 to 80 % in 2050 must be pursued NOW, not when it is too late

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