Fig. 10.1. Greenhouse warmings of Mars, Earth and Venus are about 5°C, 33°C and 500°C.

Sophie's Planet #7: Chapter 10 (Runaway Greenhouse)

19 May 2020

James Hansen

Earth is certain to have a baked-crust runaway greenhouse. It will destroy all life on Earth, but it is nothing to worry about. The baked crust runaway is still at least a billion years in the future, and before then, if humanity survives, it will have technology to escape to a more hospitable place.

The runaway that we should be concerned about is the existential threat (ET) runaway. ET runaway will occur if we let high fossil fuel emissions continue to the point that rapid disintegration of the Antarctic and Greenland ice sheets begins, with sea level rise of many meters and loss of all coastal cities. At the same time, low latitudes would become unreasonably hot and humid. Global emigration pressures would become so great that global governance breaks down. Chaos ensues. That is the ET runaway greenhouse.

I am optimistic that we can avoid the ET runaway greenhouse. I believe the United States and China will realize that we are all in the same boat. We can, together, use our technological prowess to pull back from the brink. Pulling back from the brink will not happen without effort. It is not enough to demand that governments address the global climate change matter. None of the political parties are advocating an approach that would actually work. It is necessary that the public, especially young people, understand the actions that are needed. That is my purpose in writing this book. (Chapter 10 draft for fact checking)

I opened a Twitter account @DrJamesEHansen, (https://twitter.com/drjamesehansen), but will minimize interactions until the book is finished.

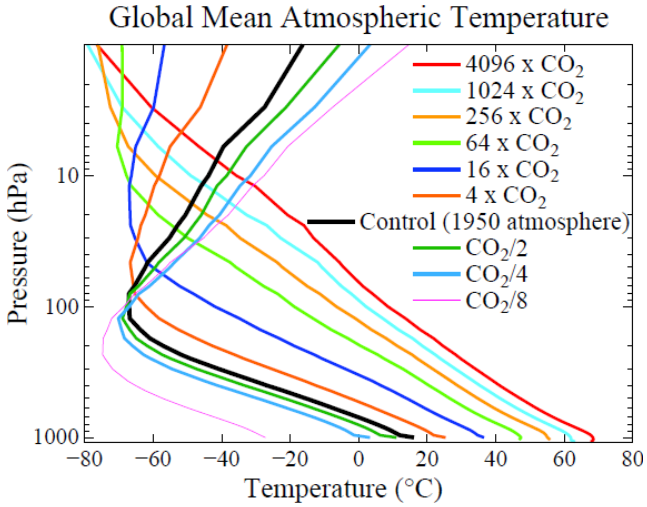

Fig. 10.2. Global mean temperature profile for successive doublings of atmospheric CO_2.