

grew at only .43% or at only 67 % of the models assumptions.<sup>675</sup> This is not a trivial gap and it obviously greatly affects the model's output. A second major assumption made by the IPCC models is that the mean CO<sub>2</sub> output will rise by more than 1 % meaning a doubling in CO<sub>2</sub> output within 70 years. Once this occurs, the mean temperature will supposedly increase by 1.5-4.5 C and cause widespread environmental and human dislocation.<sup>676</sup> However the observed output of CO<sub>2</sub> and the observed mean temperatures are not even close to the IPCC models, in fact they are double. For instance it was assumed in the 1995 modeling that during the year 2000 the temperature would increase 0.91C. it grew at 40 % of that level<sup>677</sup>

Further, non-IPCC studies show other issues that the IPCC does not address:

1. Ice core records show that at the end of each of the last three major ice ages, temperatures rose several hundred years before CO<sub>2</sub> levels increased.
2. At the beginning of the most recent glacial period about 114,000 years ago, CO<sub>2</sub> remained relatively high until long after temperatures plummeted.
3. Global average CO<sub>2</sub> levels have been found to lag behind changes in tropical sea surface temperature by six to eight months. As the ocean warms, it is unable to hold as much CO<sub>2</sub> in solution and consequently releases the gas into the atmosphere contributing to the observed CO<sub>2</sub> level rise.
4. Climatologists Marcel Fligge and Sami Solanki demonstrated in the respected journal, *Geophysical Research Letters*, that the warming or cooling of the Earth during the past four centuries closely matches variations in the Sun's brightness.
5. Publications in journals, "Science" and "Paleoceanography" show that CO<sub>2</sub> levels were higher at the end of the last ice age than during the much warmer Eocene period, 43 million years earlier. These studies also found that CO<sub>2</sub> levels are far higher today than they were during the relatively hot Miocene period, 17 million years ago.<sup>678</sup> There is little correlation therefore between warmth and CO<sub>2</sub> levels.

In general terms IPCC modeling of climate change cannot possible replicate the complexity of interaction in the Earth's exchange of energy with the Sun, the atmosphere, the oceans, its land surface, ice sheets, and the biosphere. The relationships and variables are not detailed in the IPCC's modeling to account for how these 5 factors interact, nor are the five observations just given mentioned in the IPCC's documentation. Further complicating matters is that some of the most important climate processes like clouds or ocean convection are much smaller than the computer grids being used and cannot be modeled explicitly, instead they are approximated by parameterization.<sup>679</sup> This is at best a gross approximation of these complex natural variables. Given the paucity of real understanding of how important variables and key determinants of climate change interact, modeling temperature levels is an art and not a methodically detailed and substantiated computer driven analysis. Yet the IPCC puts forward its findings under the heading of qualified and exact science.

Further limiting the value of IPCC modeling is the fact that interactions of various GHGs with the atmosphere is not well understood, making CO<sub>2</sub> based climate forecasts and assumptions rather risky, 'There is growing evidence that increases in sulphate aerosols are partially counteracting the [warming] due to increases in greenhouse gases.'<sup>680</sup> These aerosols reflect solar energy and have a cooling effect. These are not accounted for in the IPCC's modeling. There are a host of other variables as well that impede straightforward algorithmic analysis. For instance water vapour discharge is a main reason why there is temperature warming.<sup>681</sup> As the earth heats up it traps more water vapour raising the temperature.<sup>682</sup> The lower atmosphere accounts for 90 % of water vapour feedback. This area increases at a faster rate than the surface.<sup>683</sup> Lower atmosphere tests actually reveal no warming.<sup>684</sup> Such findings do not correspond at all to IPCC models.

Also there is the lack of reliable modeling of cloud cover and feedback and its effects on temperature. No one knows if clouds cool or warm the atmosphere.<sup>685</sup> Data shows that a higher sea surface temperature of one degree increase seems to cause 22 percent fewer