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The Deniers: The world renowned scientists who stood up against global warming hysteria, political persecution and fraud[1]

by Lawrence Solomon

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Does society benefit from a fear-driven science-funding policy that threatens the livelihood of scientists with the courage to argue against 'orthodox' and established 'beyond doubt' views on climate? The media drives this fear with increasingly hysterical messages that the earth is getting hotter, that this is being caused by human CO_2 emissions and, that without radical social and economic surgery, we will face a myriad of global catastrophes, the like of which have not been seen since the dawn of our history. We are told that all serious scientists agree with this and that those few who dissent are either charlatans or are funded by the fossil fuel companies. Other dissenters are regarded on a par with creationists, Holocaust deniers or supporters of tobacco companies. But is this true? Is the science really settled?

To answer this, Lawrence Solomon, the Canadian environmentalist and anti-nuclear campaigner, sought to find well-regarded scientists who disagreed with the AGW (anthropogenic global warming) hysteria promoted by Al Gore and the IPCC. The result was astonishing in that for all of the headline issues of the AGW hypothesis, he found dissenting scientists who were consistently the most accomplished and eminent people in their respective fields of expertise. In fact, the more he searched, the more there seemed to be, complete with data and analysis to support their positions. Chillingly, several of them, despite their substantial expertise and reputations, declined on-record interviews for fear of losing their funding and, in some cases, their jobs.

Solomon's book, *The Deniers*, is a tour-de-force of expert opinions organised into chapters corresponding to the headline issues of AGW. It starts with a chapter on the famous 'hockey stick' graph, created by Michael Mann from temperature proxies such as tree rings and ice cores. The graph purports to show that for the past 1000 years, temperatures had been declining until about 1900 when they began rising alarmingly in correlation with the growth of human-induced CO_2 emissions. It showed the 1990s as the hottest decade and 1998 the warmest year of the millennium. This graph of northern hemisphere temperatures for the last 1000 years appeared seven times in the IPCC report of 2001.

Curiously, the 'hockey stick' graph failed to show a well-known period of warming in the 1930s and essentially contradicted records from Russian naval log books that noted substantial Arctic warming during the period 1920–40. It also contradicted information from British naval log books that showed a period of rapid warming in Europe during the 1730s similar to that recorded during the 1990s. Most astonishingly, it failed to show the well-established existence of the Medieval Warming Period of 800–1300 CE.

Amongst many other critics, a Canadian statistician, Steve MacIntyre, recognised the graph as being similar to the deceptive graphics used by mining promoters to hype risky hard-rock mineral exploration projects based on isolated results. After analysing the statistical process used by Mann, he concluded that even when applied to random data, it would produce a 'hockey stick' graph. The Energy and Commerce Committee of the US Congress asked Edward Wegman, a man with a long, distinguished career, including being a past chairman of the Committee on Applied and Theoretical Statistics of the National Academy of Sciences, to examine the controversy. After he corrected Mann's errors in statistical methodology, the hockey stick disappeared. Along with the panel of prominent statisticians that he had recruited (pro bono) to help him, Wegman concluded that, at most, Mann's graph was valid for less than half of those 1000 years. As a result, despite its prominence in the IPCC's 3rd AR (Assessment Report) of 2001, the graph was dropped from their 2007 4th AR.

Another chapter of *The Deniers* discusses the work of Richard Tol, one of the world's leading environmental economists and an author for chapters from all three IPCC Working group contributions. A holder of multiple prestigious academic appointments, he was highly critical of the Stern Review on the Economists of Climate Change. Tol said that the Stern Report was a mishmash of bad mathematics and bad faith and had treated worst case scenarios with the unwarranted likelihood of being correct.

A lot of the alarmism connected with climate change is associated with the predictions of various climate modelling programs, sometimes referred to as GCMs (general circulation models). *The Deniers* contains a long chapter on the limits of predictability of these programs and how their simplifications do not begin to capture the complexity of climate processes. To quote Freeman Dyson, one of the world's most eminent physicists: 'The models solve the equations of fluid dynamics, and they do a very good job of describing the fluid motions of the atmosphere and the oceans. They do a very poor job of describing the clouds, the dust, the chemistry and the biology of fields and farms and forests. They do not begin to describe the real world that we live in.' Solomon notes that Richard Lindzen, a professor of meteorology at MIT, consultant to NASA and recipient of many professional society honours, testified that numerous problems had been found with the way the models treated clouds and water vapour, two very critical drivers of climate. He states: 'It isn't just that the alarmists are trumpeting model results that we know must be wrong. It is that they are trumpeting catastrophes that couldn't happen even if the model results were right.'

One example of this was Lindzen's observation that if the model results were correct, global warming would reduce temperature differences between the poles which would decrease rather than increase the energy in tropical storms. Nevertheless, fuelled by Hurricane Katrina and several other storms in 2004, many doomsayers predicted an apocalyptic increase in the number and ferocity of hurricanes due to global warming. Dr Christopher Landsea, of the Atlantic Oceanographic & Meteorological Laboratory, one of the world's top experts in hurricanes and a contributing author to the IPCC's 2nd and 3rd ARs, disagreed strongly because his work was showing the direct opposite. He resigned his involvement in the 4th IPCC report after the lead author of the chapter in which hurricanes were discussed had made a speech supporting the increased hurricane hypothesis. Solomon devotes several pages

[1]Climate Change and Emission Trading Schemes are certain to be newsworthy and will probably be controversial for many years, so for interest we have included two reviews from different viewpoints of the same book, *The Denters*.

describing the efforts of Landsea, Lindzen and others to combat this falsely generated hysteria. These efforts eventually succeeded, partially due to the failure of subsequent hurricane seasons to live up to prior billing. The latest IPCC *Summary for Policymakers* stated: 'There is no clear trend in the annual numbers of tropical cyclones'.

The Deniers discusses another of the apocalyptic predictions of AGW, the rise of sea levels and the concomitant flooding of low-lying heavily populated areas. After analysing satellite data from 1992 to 2003, Prof. Duncan Wingham, director of the NERC Centre for Polar Observation & Modelling and principal scientist of the European Space Agency Cryosat Satellite Mission, found that there was a net growth of the Antarctic ice sheet of 5 mm per year. This includes the well-publicised melting on the Antarctic Peninsula that juts so far to the north. Since Antarctica contains about 90 percent of the world's ice, the fact that it seems to be a sink rather than a source of sea water would indicate that concerns of rising sea level are misplaced.

Another headline issue discussed in *The Deniers* is the predicted catastrophic spread of malaria and other mosquito-borne diseases with increasing temperature. Prof. Paul Reiter, head of the Insects and Infectious Diseases Unit at the Pasteur Institute, chairman of the American Committee of Medical Entomology and contributing author to the IPCC 3rd AR regards this as utterly without foundation. He notes that until the second half of the 20th century, malaria was widespread throughout the world including Europe, the US, Siberia and with major epidemics as far north as the Arctic Circle. Malaria was an important cause of death in England during the Little Ice Age and only began to decline there in the 19th century when the present warming trend was well underway. It was largely eliminated through the use of insecticides, anti-malarial drugs and sound public health and land management practices. Reiter notes that the rapid recrudescence of mosquito-borne diseases is due to inept government public health policies and resistance to insecticides and drugs.

The Deniers features extensive discussions by prominent scientists of aspects of the greenhouse effect of CO_2. The technical details are difficult to summarise in a short book review but they include discussions of atmosphere–ocean interactions, radiative transfer, ice core measurements and the lifetime of CO_2 emissions in the atmosphere. All basically conclude that cultural CO_2 concentration has very little effect on global temperature. Several prominent researchers note that the graph in *An Inconvenient Truth* showing a 600 000 year correlation between increased atmospheric CO_2 concentrations and rising temperature is somewhat dishonest in confusing cause and effect. Temperature rise led rather than lagged the CO_2 increase, typically by a few hundred to a thousand years. In the same vein, Dr Syun-Ichi Akasofu points out that the dramatic fall in temperature from 1940 to 1970 doesn't correlate with increasing CO_2. Moreover, the IPCC's own models point to the irrelevance of CO_2 as a driver of climate change because different geographic regions were warming at different rates while others actually cooled.

Has the earth actually warmed during the 21st century? This is a contentious issue because of the problems associated with trying to define an average global temperature, especially from ground-based measurements. Although 70% of the earth's surface is ocean, 90% of the ground-based measurement stations are on land. Moreover, as urban centres have expanded, these are now disproportionately located near heat sources. The IPCC says that the data has been corrected for this but this is contentious. By contrast, satellite temperature measurements, which can sample the entire globe, show a cooling trend so far this century. Is this temporary or is it possible that the earth is starting to cool?

Dr Habibullo Abdussamatov the head of the Space Research Laboratory at the Pulkovo Astronomical Observatory, a man at the pinnacle of Russia's space-oriented scientific establishment, is a strong critic of manmade CO_2 as driving global warming. *The Deniers* presents his observation that parallel global warmings on Mars and Earth can only be due to a long term change in solar irradiance. He has identified a 200-year cycle in solar activity that has peaked and is now decreasing. He believes that a protracted cooling period will begin in the period 2012–15 leading to a deep freeze around 2055–60, similar to that of the Little Ice Age. His hypothesis is now the focus of Russian experiments on the International Space Station. Project Astrometria has been given high priority by the Russian and Ukrainian Academies of Science to try to identify the likely duration and depth of the predicted global cooling period.

The effect of solar cycles on our climate goes beyond the total solar irradiance reaching Earth. Periods of high solar activity result in high solar wind velocities and magnetic fields that shield us from the cosmic ray barrage from the rest of the cosmos. This shielding attenuates significantly during periods of low activity. *The Deniers* presents the science that links increased cosmic ray flux with global cooling because it promotes an increase in low altitude cloud formation. As shown by Project SKY at the Danish National Space Centre, this happens because the passing muons in the cosmic radiation release electrons that promote the formation of molecular clusters, the building blocks for cloud condensation nuclei. A follow-on study of this crucial effect, the CLOUD experiment has been established at CERN, with an interdisciplinary team of scientists from 18 institutes in nine countries, comprised of atmospheric physicists, solar physicists, and cosmic-ray and particle physicists.

The Deniers is a fascinating journey through leading-edge climate research. The experts cited by Solomon are clearly neither charlatans nor pandering to any particular funding channel. Rather, these eminent scientists present cogent reasons, strongly supported by data, for questioning the accepted 'truth'. One is left with astonishment and indignation that their work is largely ignored by the media.

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