

Submission to the Senate Inquiry into Wind Turbines

No electric power producer would take power from a wind turbine operation if they had the choice. All the wind turbines in Australia have been forced upon the power companies that take their output.

So the question has to be asked why do we have wind turbines in the first place?

Wind turbines are commonly considered to produce renewable energy. This is distinct from energy sources that are once-through and thus finite.

The rationale for renewable energy is that its use reduces the consumption of fossil fuels by substitution. The rationale for that in turn is that fossil fuels contribute to the warming of the atmosphere through the greenhouse effect. This last rationale goes to the source of the wind turbine problem. So it is apposite to examine that claim.

While climate change is real in that the climate is always changing, and the greenhouse effect of carbon dioxide is real, the effect at the current atmospheric concentration of carbon dioxide is minuscule.

The greenhouse gasses keep the planet 30°C warmer than it would otherwise be if they weren't in the atmosphere. So the average temperature of the planet's surface is 15°C instead of -15°C.

Of that effect, 80% is provided by water vapour, 10% by carbon dioxide and methane, ozone and so on make up the remaining 10%. So the warming provided by carbon dioxide is three degrees. The pre-industrial level of carbon dioxide in the atmosphere was 286 parts per million.

Let's round that up to 300 parts per million to make the maths easier. You could be forgiven for thinking that if 300 parts per million produces three degrees of warming, the relationship is that every one hundred parts per million produces a degree of warming. We are adding 2 parts per million to the atmosphere each year which is 100 parts per million every 50 years and at that rate the world would heat up at a fair clip.

But the relationship isn't arithmetic, it is logarithmic. The University of Chicago has an online program called Modtran which allows you to put in an assumed atmospheric carbon dioxide content and it will tell you how much atmospheric heating that produces. It turns out that the first 20 parts per million produces half of the heating effect to date. The effect rapidly drops away as the carbon dioxide concentration increases.

By the time we get to the current level in the atmosphere of 400 parts per million, the heating effect is only 0.1°C per one hundred parts per million. At that rate, the temperature of the atmosphere might rise by 0.2°C every one hundred years. The relationship between atmospheric concentration and heating effect is shown in Figure 1 following:

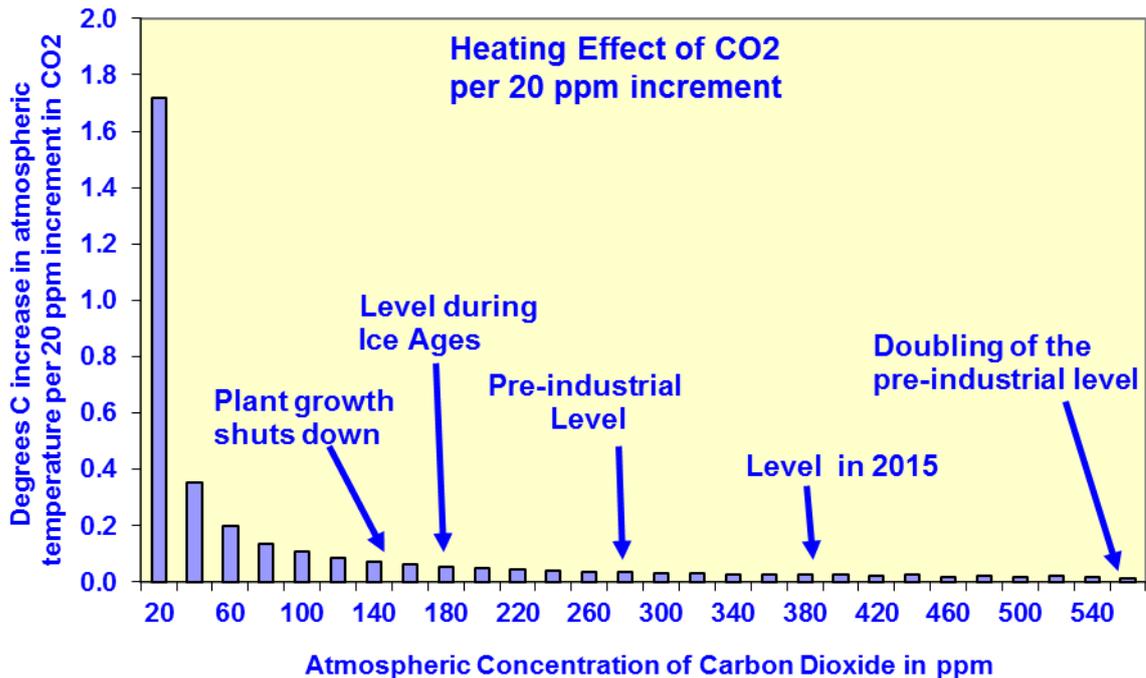


Figure 1: Heating Effect of CO2 per 20 ppm increment

The total atmospheric heating from carbon dioxide to date is of the order of 0.1°C. By the time humanity has dug up all the rocks we can economically burn, and burnt them, the total heating effect from carbon dioxide might be of the order of 0.4°C. This would take a couple of centuries. A rise of this magnitude would be lost in the noise of the climate system. This agrees with observations which have not found any signature from carbon dioxide-related heating in the atmosphere.

The carbon dioxide level of the atmosphere is actually dangerously low, not dangerously high. During the glacial periods of our current ice age, the level got as low as 180 parts per million. Plant growth shuts down at 150 parts per million. Several times in the last three million years, life above sea level came within 30 parts per million of extinction due to a lack of carbon dioxide. The more humanity can increase the atmospheric concentration of carbon dioxide, the safer life on Earth will be.

Further to all that, belief in global warming from carbon dioxide requires a number of underlying assumptions. One of these is that the feedback loop of increased heating from carbon dioxide causes more water vapour to be held in the atmosphere which in turns causes more heating in a runaway effect. And that this feedback effect only starts from the pre-industrial level of carbon dioxide in the atmosphere – not a higher level or a lower level, but exactly at the pre-industrial level.

Figure 2 illustrates some of the mental gymnastics and self-delusion required to believe in global warming. It shows the cumulative increase in temperature for a given carbon dioxide concentration:

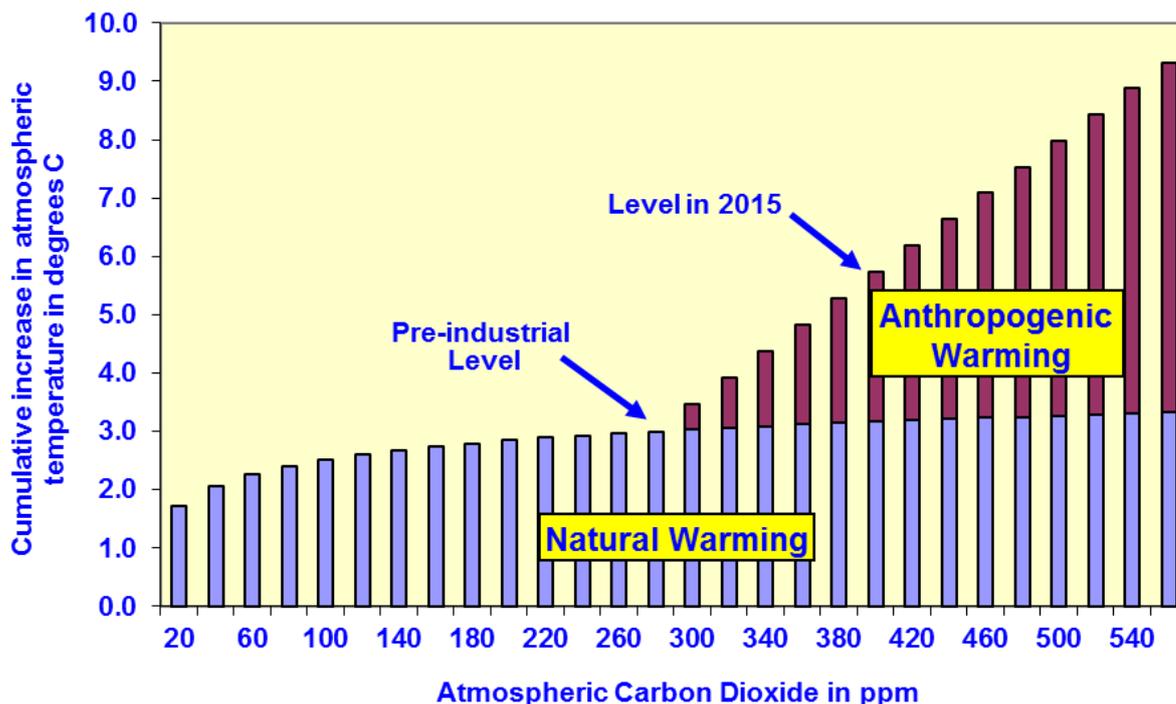


Figure 2: Required Feedback Effect for Global Warming from Carbon Dioxide

Some estimates of the heating effect of atmospheric carbon dioxide are as high as 6.0°C for a doubling of the concentration from the pre-industrial level. For this to be true, atmospheric heating of at least 2.0°C should have been seen to date.

In the real world, there has been a temperature rise of 0.3°C in the last 35 years as measured by satellites. This is well short of what is predicted by global warming theory as practiced by the CSIRO, Bureau of Meteorology and others.

This is also a far more plausible reason for the warming of the planet during the current Modern Warm Period which followed the ending of the Little Ice Age in 1900. The energy that keeps the Earth from looking like Pluto comes from the Sun and the level and make-up of that energy does change.

The Sun was more active in the second half of the 20th century than it had been in the previous 8,000 years. As shown by the geomagnetic Aa Index, the Sun started getting more active in the mid-19th century and the world’s glaciers started retreating at about the same time.

It is entirely rational to think that a more active Sun would result in a warmer Earth and this is borne out by empirical observation. To wit, the increased Antarctic sea ice cover observed during the satellite period. This is shown in Figure 3 following of 12 month running average sea ice extension from 1979 to December 2014:

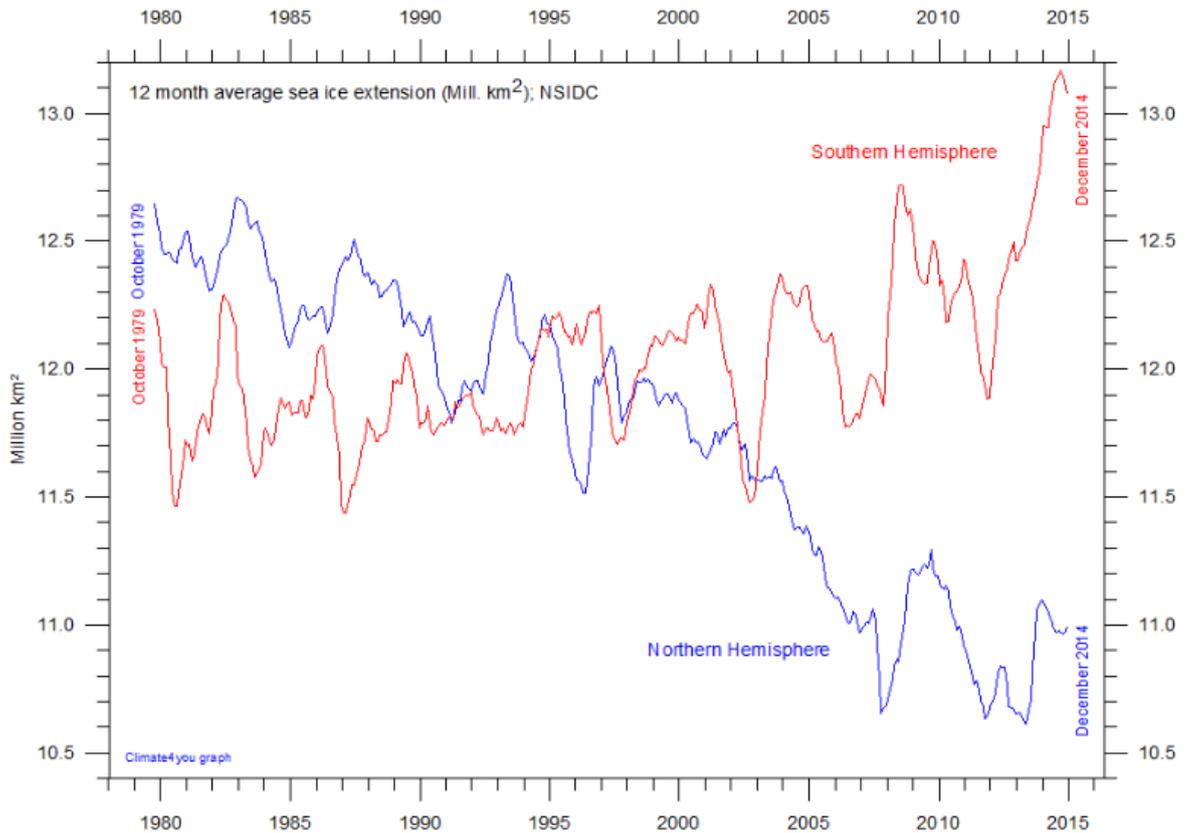


Figure 3: 12 Month Average Sea Ice Extension 1979 – 2014

Source: Professor Ole Humlum, University of Svalbaard

As Figure 3 shows, Arctic sea ice extent retreated for the last 20 years of the 20th century. That is compatible with global warming for any reason. At the same time, Antarctic sea extent increased by an amount similar to the Arctic sea ice loss.

This is not possible with global warming due to carbon dioxide. It also means that global warming due to carbon dioxide did not cause the bulk of the warming in the rest of the planet because carbon dioxide's effect was overwhelmed in Antarctica by some other force.

The increase in Antarctic sea ice extent is entirely consistent with increased global temperatures due to high solar activity as explained by Henrik Svensmark's theory. This theory holds that high solar activity produces a lower neutron flux in the lower troposphere from intergalactic cosmic radiation, in turn providing fewer nucleation sites for cloud droplet formation and thus less cloud cover.

Sunnier skies over Antarctica in turn mean that more solar radiation is reflected by high-albedo snow and ice instead of being absorbed in the cloud cover. Thus Antarctica has cooled.

The rest of the world has enjoyed the best climatic conditions, and thus agricultural growing conditions, since the 13th century. But what the Sun gives it can also take away. Solar physicists have been warning for over a decade now that the Sun is entering a prolonged period of low activity similar to that of the Maunder Minimum from 1645 to 1710.

Most recently, Livingstone and Penn have predicted a maximum amplitude for the next solar cycle, Solar Cycle 25, of 7. By comparison, the previous solar cycle, Solar Cycle 23, had a maximum amplitude of 120.

The longest temperature record on the planet is the Central England Temperature Record from 1659. Using the solar-based forecasting model developed by Dr David Evans and the Livingstone and Penn estimate of Solar Cycle 25 amplitude of 7, a prediction can be made of the effect on the Central England Temperature out to 2040. That is shown in Figure 4 following:

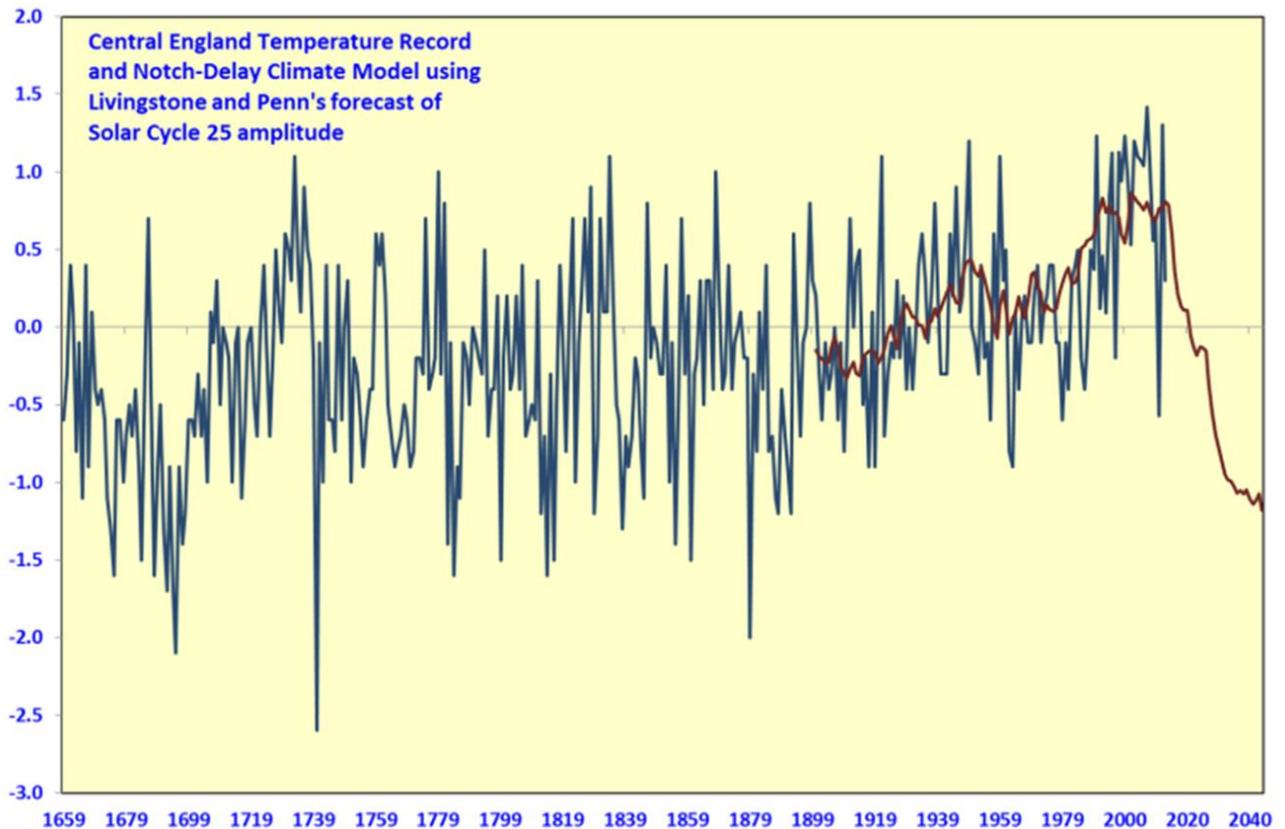


Figure 4: Central England Temperature Record 1659 to 2040

As shown in Figure 4, the reduction in solar activity now being observed will result in temperatures returning to the levels of the mid-19th century at best, with the possibility of revisiting the lows of the 17th and 18th centuries. Peak summer temperatures may not change much but the length of the growing season will shorten at both ends, playing havoc with crop yields.

The notion of global warming has resulted in an enormous miss-allocation of resources in some Western societies but we can be thankful to it for one thing. If it had not been for the outrageous prostitution of science in the global warming cause, then the field of climate would not have attracted the attention that has determined what is actually happening to the Earth's climate. Humanity would otherwise be sleepwalking into the severe cold period in train.

As demonstrated above, there is no moral basis for Australian society's investment in wind turbines if the purpose of that investment is to reduce carbon dioxide emissions

through a form of renewable energy. Global warming due to carbon dioxide is of no consequence and the world is cooling anyway.

Wind turbines may lack a moral purpose but might there be some other good involved? Let's go on to examine the claim that wind turbines provide renewable energy, thus reducing our depletion of finite energy resources.

Wind turbines are made using energy from coal at about 4 cents per kWh and provide energy thought to cost of the order of 10 cents per kWh. In effect, they are machines for taking cheap, stable and reliable energy from coal and giving it back in the form of an intermittent and unpredictable dribble at more than twice the price.

That is one thing. But what stops wind turbines from being renewable is that the making of wind turbines can't be powered using energy from the wind turbines themselves.

If power from wind turbines costing 10 cents per kWh was used to make more wind turbines, then the wind turbines so produced would make power at something like 25 cents per kWh. The cost would compound away and any society that attempted to run itself on wind energy would collapse.

Wind energy as a component of a power system relies upon transfer of energy at its inception from another source. It is not renewable energy. It is no consolation that solar power from photovoltaic panels is much worse in this respect.

That wind energy is renewable energy is the second lie that the RET Scheme is based on, the first lie being that renewable energy is a palliative against global warming.

There is not much more that needs to be said. The RET Scheme is a monstrous misallocation of the nation's resources and continues to make the Australian people poorer for no good reason. Those who concocted it and voted for it have sold the Australian people into the servitude and oppression of rent-seekers to the tune of \$5 billion per annum.

The science and economics it is based on are no better than voodoo and witchcraft. The wind turbines scattered around the Australian countryside are a physical manifestation of the infestation of the body politic by the self-loathing, millenarian cult of global warming.

Unfortunately the RET Scheme and its ilk have drawn resources away from the development of energy sources that would power Australia cheaply, efficiently and with enough of a return on energy invested to maintain Australia's high standard of living into the next millennium.

The same kind of intense interest from the wider scientific community that determined what is really happening with climate has also determined that the optimum nuclear technology for society to adopt is the thorium molten salt reactor. Any middle-ranking industrial power, such as Australia, could develop this technology, and should do so.

Much time and treasure has been lost already chasing the phantom menace of global warming. The sooner the RET Scheme is put to rest, the sooner that the nation's efforts can be properly directed towards our security and welfare in developing the best possible energy source. This inquiry's interest in wind turbines is timely and I recommend that the Senate go on to redirect the ship of state towards the better energy future that the nation needs if it is to survive and prosper.

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Mr Archibald has published several books and a number of papers on climate science. He has lectured on climate science in both US Senate and Congressional hearing rooms.