

**Review: Ian Plimer et al., *Climate Change-The Facts 2014*,
Institute of Public Affairs, Melbourne, Victoria, 2014**

Pages: 342

Brings Clarity to a One-Sided 'Debate'

Over twenty one bite-sized chapters, twenty-three contributors combine to attack the topic of human induced climate change from scientific, economic and political angles.

A couple of day's solid study will bring a new comer right up to speed with the main issues. Relevant scientific political terms, and an alphabet of acronyms will be demystified (e.g. IPCC, NIPCC, ICSU, SCOPE, UNEP, INC, SBSTA, WMO, COP, HadCRUT, UAH, ARGO, ANN, GCM, ENSO, POAMA, ERBE, CERES, PDSI, WGI, WGII, WGIII, AR5, UNFCCC, RCP, SRES, WCRP).

There is great educational value on: climate sensitivity; energy balancing; aerosol and volcanic cooling, short wave (solar) and long wave (feedback) radiation; natural historical cycles; computer modelling; extreme weather events.

The new age religious mantra 'climate change is real', 'the science is clear' and 'the scientists all agree' is demolished:

*31,487 U.S. scientists have publicly protested AGW in a petition.

*Equivocation of 'global-warming', to 'climate change', to 'climate-disruption' created due to the unexplainable warming 'hiatus', also the absent long wave solar radiation troposphere 'signature'.

*Fundamentally flawed expensive computer models which overestimate sensitivity/feedback, and are much worse than using a 'no-trend' assumption.

*Ignorance of a cyclical climatic pattern evidenced by the Medieval Warming, and Little Ice Age periods.

*Discounting the sun's radiation.

*Invoking a feel-good precautionary principle that is blind to the high-cost no effect scenario.

*Dishonest alarmist behaviour such as 2009 Climategate, Michael Mann's flawed pine cone derived hockey-stick graph and associated '1998 hottest year on record' claim.

By the end facts turn the green agenda into humour, which may be why it concludes in an entertaining way: the 9,000 nobel 'laureates'; a ride on Professor Chris Turney's Antarctic-bound 'ship of fools'; hearkening to modern day false prophets like Professor Tim Flannery, and economist Ross Garnaut (who bought a steel roof to mitigate increased hail stone damage)!

Climate change catastrophism could be said to be the second biggest scientific fraud ever foisted upon the public (the greatest being the 'theory' of evolution-see below).

The loss of one star is due to a negative-unfortunately frequent recourse to evolutionary 'science' is made which, if climate science is to be corrected as climate 'studies' as the book advocates, evolutionary science should likewise become evolutionary 'studies'.

Ian Plimer (the man who in a 1988 debate thought menacing the 'unclean false prophet' Duane Gish with a live wire had something to do with proving the idea particles turned into people) is highlighted with invoking evolutionary time scales

and fantastic stories of climate history, while at the same time appealing to an empirical approach for exposing AGW alarmism:

'Scientists must always be prepared to change their opinions.'
(except when questioning the 'theory' of evolution).

'Evidence must be repeatable...'
(except if required to produce experimental evidence of inorganic matter becoming life, and that life form subsequently developing into every living thing on the planet).

'If a scientific theory is not in accord with validated evidence, then the theory must be abandoned...'
(except if validated evidence contradicts the 'theory' of evolution, e.g. Mary Schweitzer's preserved '65Ma' [non bio-film] dinosaur tissue samples).

'The Great Barrier Reef disappeared and reappeared over 60 times in the last 3 Ma' (an astonishing claim devoid of reference to any repeatable 50,000 year data sets).

Anti-alarmists rightly expose double standards and hypocrisy of alarmists: scientists should have a 'heart of stone'; climate science has entered a 'post-modern' phase; science's reputation has been damaged; online 'astroturfing' behaviour; threats of job loss; denying access to journals.

What is disturbing is how evolutionists (which many anti-alarmists seem to be) have made an art form out of every one of the above behaviours when confronted by anti- evolutionists, to which the following can be said:

“Thou hypocrite, first cast out the beam out of thine own eye;
and then shalt thou see clearly to cast out the mote out of thy
brother's eye.”

Matthew 7.5, Authorized Version

Introduction (pp. 1-6)

Human-induced climate change (also **Anthropogenic Global Warming**) has been the political theme of recent Australian politics-from Kevin Rudd it is the 'greatest moral challenge of our time', to Julia Gillard's Carbon Tax, Malcolm Turnbull, and Rudd's loss to Abbot in 2013.

Club of Rome alarmist John Holdren (Obama's adviser) has made numerous excuses for the discrepancy between predicted outcome and temperature observations.

That 97% of scientists regard AGW as serious is a myth, and that solar-induced climate change (SICC) is the true cause. Also, major promoters of climate change in the UK and Australia are English Literature graduates (!) who attribute scepticism to 'Big Oil'.

Australian meteorological studies a century ago focused on solar, lunar and planetary effects to model climate, not atmospheric gases. This has changed to align with government scientific funding.

The 'denier' label originated with Prince Charles and UK climate change secretary Ed Davey.

'Climategate' shows scientists have moved into 'post-modern science' and their credibility has been seriously damaged. Scientists have become front men for the UN.

In terms of investment \$359B is now spent p.a.

The 2009 Copenhagen failure due to third world nation vetos is starkly contrast with optimistic Paris 2015 negotiations.

Mark Steyn wrote 'Ship of Fools' parodying Professor Chris Turney's trip to the North Pole stopped by expanding ice!

Since there hasn't been any warming, language has changed from 'global-warming' to 'climate change'.

Modern-day prophets have been shown up as false: Australian cities would run out of water, the Great Barrier Reef would die, the Murray Darling would face drought, warming would resume, and there would be more hurricanes!

The science and politics of climate change (pp. 10-25)

Science is defined as requiring measurement and observation with results being repeatable. Results must also have concord with other validated evidence (the 'coherence' criterion).

The climate change propaganda centres on five points:

i. CO₂ has increased from human activities.

True. From the Industrial Revolution in the West, and ongoing growth in China, India, and East Asia.

ii. Increased CO₂ will lead to ever-increasing global warming.

False. The main greenhouse gas is H₂O (g). Of the CO₂ concentration, up to 100ppm is significant but increases from 400ppm are not. CO₂ is readily sequestered in oceans, rocks and life.

Over the last eighteen years there has been no global temperature increase, falsifying this prediction.

Ice core samples imply temperature increases occur *before* CO₂ increases.

Interestingly, the ideal ppm for horticulturists in greenhouses is >1,600 ppm!

Human-induced climate change (AGW) has been the political theme of recent.

iii. There will be a tipping point, beyond which sea levels will rise, extinctions will occur and oceans will acidify.

False. Sea levels are determined largely by glaciation, and it is claimed the last glaciation was 20,000 years ago (when sea levels would be at a minimum). After such an event, sea levels would begin to rise (at a decreasing rate). *Nature Geoscientific* reported since 2002, rate of sea level rise has declined 31%.

As an aside, sea level changes are used by petroleum geologists to model the 3D shape of oil and gas reserves.

When ice melts, land rises due to the reduced weight (as in Scandinavia, Scotland and Canada).

Oceans are still growing at mid-oceanic ridges causing rapid changes on land.

Eastern Australia is two metres higher than 4,000 years ago.

Charles Darwin showed in 1842 that coral atolls grow with sea level rises. This means pacific island nations could enjoy a land area *increase* if sea levels rose.

Oceans change alkalinity and do not acidify (the lowest pH of 7.3 is adjacent to acid hot springs).

iv. Climate change will be irreversible and human CO₂ emissions must be reduced as soon as possible.

False. There has never been a scientific debate about AGW in the world.

If Australia reduced emissions by 5% by 2020, the globe would cool by 0.0007 and 0.00007°C!

The cost will impact the most vulnerable and also raise unemployment. In the UK power costs make up 10% of consumption, heating costs have risen 63%. Pensioners are even riding in heated buses! There are 6,000 wind turbines and in the 2012-13 winter there were 35,000 additional deaths (~six deaths/MW of power generated).

In Germany power is cut off from 300,000 houses p.a. and 800,000 people are in 'energy poverty'. Taxpayers pay €24B p.a. in green energy subsidies which produce electricity valued at only €3B!

In the 2011-12 winter, thousands of trees disappeared from Greece as they couldn't afford electricity.

v. To stop AGW, energy production needs to move to solar, wind, tidal and biomass.

False. These technologies emit CO₂ during construction and maintenance, also they cannot provide base load power 24/7 and require coal back up.

After shutting down eight nuclear plants, Germany is now building new thermal coal power stations. Denmark stopped building wind farms in 2004 due to economics. Surplus wind power could not be sold anywhere (e.g. Northern Germany) as they also had surplus simultaneously. With a shortage, French and Norwegian nuclear power had to be purchased. Fifty percent of the average power bill in Denmark is a green tax.

In the U.S., \$7B p.a. is being spent on warming studies.

Wind power is highly inefficient, producing only 30% on average of their rated capacity, often when electricity demand and prices are low. Few demolition and restoration investments are made with wind farms so towers will be left to rust on the landscape. Wind also requires base load backup, so it functions more like a parasite.

On environmental conditions, winter in the Northern Hemisphere brings a cold snap when wind doesn't blow. In the summer of 2014, SE Australia the 28 wind farms could only provide 128MW (1%) of the 12,000MW power required in summer. As a consequence, power prices peaked at \$10,515/MW. Gas turbine and diesel had to provide the power.

Why climate models are failing (pp. 26-371)

There are two major anthropomorphic variables used in climate models: (i) increase in infra red absorption in the lower atmosphere, (ii) increased backscattering of incoming radiation caused by aerosols. Cause and effect are not easy to determine.

Observational average global surface temperatures are published by HadCRUT (the Hadley Centre of the UK Met Office and the Climatic Research Unit at the University of East Anglia).

From 1984-2013, the **108** models (**GlobalCirculationModels**) used by the IPCC gave a warming of 2.6°C per century versus an observed of only 1.7°C.

Using backward yearly incremental periods from 10 to 62 years (i.e. 2004-2013 to 1951-2013) global surface temperatures were plotted and manual 2.5, 5, 95 and 97.5% result bands calculated. Comparing with observed value trend:

*Every one was lower than the model average.

*The trend fell below the 5% confidence limit 37 years ago (1977)!

*Since 1980, only four trends were between the 2.5 and 5% limits.

This has not been published in the scientific literature due to peer pressure and to maintain supply of government funding.

The 'sensitivity' of GCMs has come under more scrutiny-this is the surface warming realised for a doubling of the ambient CO₂ content from pre-industrial levels (i.e. 300-600ppm).

The IPCC average sensitivity is 3.2°C, Schmittner et al.'s average is 2.3°C and Annan and Hargreaves only 2.0°C. Given the discrepancy, the 2013 IPCC report has since reduced it's minimum sensitivity estimate from 2 to 1.5°C with no best estimate.

Using a simple model of the top 2km of the ocean over the period 1955-2011, Spencer and Braswell found El Nino, La Nina feedbacks onto cloud properties produced the best match to observations. Their sensitivity was only 1.3°C.

Long-term temperature trends are also affected by the 'Pacific Decadal' and 'Atlantic Multidecadal' Oscillations.

Global warming, models and language (pp. 38-56)

A four-question argument is usually put by climate change advocates:

(i) Does climate change?

(ii) Is CO₂ a greenhouse gas?

(iii) Does adding greenhouse gas cause warming?

(iv) Can man's activity increase greenhouse gases?

While very persuasive, the question of 'how much' is missing, also interactions with cloud and water vapour.

Three relevant questions are:

(i) What is the global mean temperature sensitivity to greenhouse gas increases?

(ii) What connection is there between weather events and global mean temperatures?

(iii) Does global mean radiative change driving global mean temperature impact climate change?

The focus on climate sensitivity may be flawed seeing as it operates on a logarithmic scale-doubling from a small base is treated as having the same effect as doubling from a large one.

Green activists rely only on the possibility of a high sensitivity and abuse of the precautionary principle.

GCMs generate climate sensitivity, whereas EBMs (energy balance models) take given sensitivities and estimate equilibrium restoration time.

It is said high sensitivities correlate to long response times.

Radiative forcing is an energy flow/area unit, while sensitivity is temperature change divided by this quantity. The two major radiative forces are greenhouse gases (which have grown from 0 in 1850 to $3W^{-2}$), and major volcanoes. The Krakatoa eruption late 19thC had a radiative force of $4W^{-2}$.

Solar variability and natural internal variability forces are ignored in models. Natural variability comes from the El Nino Southern Oscillation (ENSO), Pacific Decadal and Atlantic Multi-Decadal oscillations. If these were a cooling force they would be pointed to as a disguise for the greater warming.

Aerosols also importantly have a cooling effect. When 'adding' anthropogenic and volcanic forcing together, results need to be reduced to fit actual observations. By invoking aerosols, about 25% of anthropogenic impact is cancelled out (given a sensitivity of 1.5°C).

Global temperature change post volcanic eruption is negative, and assuming high sensitivity this cancels out most anthropogenic increases (also under a high sensitivity scenario).

On the famous 1850-2013 global temperatures graph, there is a trend increase from 1950 and volcanic eruptions appear as isolated *dips*.

There is an inverse relation between sensitivity and atmosphere-to-ocean 'coupling'.

Contrary to opinion, greenhouse forcing operates at the stratosphere and manifests at the surface via *latent heat flux*. This is the heat generated from increased water evaporation. Evaporation increases about 5.7% per degree of warming whereas GCMs calculate only 1-3%.

Water vapour and cloud changes bring 'feedback' mechanisms into play. The former is infra-red and occurs where there is no upper level cirrus. Importantly, feedbacks respond independent of source (man-made or natural). Satellite measurement (ERBE and CERES) of escaping long and short wave radiation is measured.

Equilibrium time is an important variable to control for in designing experiments. These times themselves depend on climate sensitivity. Low sensitivities (e.g. 0.5°C) yield times of years, while high sensitivities decades.

Experiment time must however be greater than feedback mechanism time (only days for water vapour and cloud effects).

Unfortunately short wave radiation measurement changes are unreliable due to a high signal-to-noise ratio.

Whereas GCMs assume a long wave feedback parameter value of +0.5 (doubling sensitivity), the data show *no* feedback. GCMs also assume 0.3 for short wave feedback giving a multiplier of 5 ($1/(1-0.3-0.2)$).

Extreme weather events are also utilised by alarmists. These are caused by baronic instability-temperature variances between the tropics and higher latitudes. Paradoxically, with increasing global temperatures, temperature differentials will *fall* leading to *less* extreme weather events.

It is also claimed in the tropics, higher evaporation will cause weather events. Evaporation depends upon temperature relativities between the wet surface and air immediately above. An increase in relative humidity of 80 to 83% would cancel an evaporation increase of up to 3°C.

Ice-core samples show a ppmv (v for 'volume') range for CO₂ of 180-280 equating to a radiative forcing range of only 2W⁻².

Milutin Milankovitch's orbital eccentricity theory and summer insolation with respect to the Arctic ice sheet is invoked as having a much larger effect than AGW (100W⁻²).

Sun Shunned (pp. 57-67)

With the invention of the telescope, Maunder noticed varying solar activity correlated with sun spots. From 1645 to 175 there was a scarcity. Jack Eddy revisited this study only in 1980. Combining this with C-14 atmospheric production, Jack showed at least ten periods of prolonged solar inactivity in the recent past, and that there may be another 'Maunder Minima'.

From 2009 and 2011 US Solar Observatory estimates, the trend is large sunspots might vanish by 2015 (which will reduce radiation).

The goal of the IPCC is to reach consensus on AGW and so they assume no solar impact in modelling:

- *Unique changes in earth's orbit and incoming sunlight.
- *Solar irradiation cannot yet be measured precisely (measurements vary $\sim 5-10W^{-2}$).

- *Eleven-year solar cycle theory is a myth.

- *Solar irradiance is crucial to understand the troposphere and stratosphere relationship. In the stratosphere it affects the amount of ozone.

- *Average solar zenith angle is not agreed (this can cause a difference of between $7W^{-2}$ and $20W^{-2}$).

Inter-annual irradiance is ~ 0 , but $90W^{-2}$ between from earth's rotational apogee to perigee.

It is said January temperatures in China 6,000 years ago were 6-8°C higher (based on paleo-vegetation and pollen studies).

The Equator-to-Arctic temperature gradient is suspected as being a key driver of earth's climate.

The IPCC has constructed an erroneous irradiance history by using three data points of radial magnetic field strength and irradiance. This history suggests changes have been small. It is actually impossible via direct measurement or reconstruction to create an irradiance history.

In ignoring the sun, the IPCC makes a false claim they are 95% confident the 0.7°C temperature increase since 1950 has been man made. Also, the '97% consensus' is false-of the 11,944 climate-related papers from 1991-2011 only 0.5% explicitly stated AGW was the cause.

The scientific context (pp. 67-82)

The complexity in the science of global warming lies in integrating all the diverse processes together which necessitates usage of computer modelling. The **IPCC** (established 1988) and the **Non-Governmental IPCC** come to opposing conclusions in the same context.

Four items are:

(i) Error bounds on reconstructing global temperatures from thermometer data.

HadCRUT has been discredited and the urban heat island effect is likely not accounted for correctly. Also, a deep dive into 1969 data found an error of 1-5C per individual sample area. This means there is no credible data set to rely on in measuring global temperatures.

(ii) Natural temperature variations over 'geologic' time.

Ice and sea bed cores are the only reliable temperature records. During the 'Holocene' period c8k years ago temperatures were 2°C warmer.

The Medieval Warm Period is ignored.

1°C warming since the Little Ice Age (14-19thC) in the 19thC is also ignored (it cannot be anthropogenic).

Proxy measurements of oxygen isotope ratios are being used by the author to infer ages.

(iii) CO₂ variations across time.

Pre-industrial concentration was 280 ppmv, today is 400 and it is claimed 500Ma ago it was ~6,000 (!).

Fossil fuel consumption is simply returning the CO₂ to whence it come from.

(iv) Efficacy of warming caused by CO₂.

CO₂ intercepts Earth radiation between 14.8 and 9 nano metres and this effect is negative logarithmic (this contradicts chapter 3).

Within the context there is some common ground between each organisation:

*The climate has and always will change.

*CO₂ is a greenhouse gas and increased concentration causes lower atmosphere warming.

*Industrial activity is a source of CO₂ emission.

*0.7°C warming may have occurred in the 19thC.

*Warming has ceased over the past seventeen years.

Disagreement exists over:

*Amount of net warming due to AGW.

*Whether IPCCs GCMs can accurately forecast out to 100 years.

The IPCC is a biased political organisation. From chairman Dr Rajendra Pachauri:

“we do what the governments of the world want us to do.”

The IPCC charter also only mentions AGW, nothing else is of interest.

From the data, main IPCC conclusions are:

*Warming of the climate system is unequivocal. Sea levels have risen more than at any time in the last 2,000 years, and ice sheets have melted.

*Warmer oceans have trapped most of the AGW warming (30%) causing ocean acidification.

*Most effects of AGW will persist for centuries even if emissions cease.

Main NIPCC conclusions are:

*Neither rate nor magnitude of reported late 20thC temperature increases lie outside historical variability.

*Solar forcings are likely to be more significant in temperature changes.

*Even a proposed 2^oC increase would not be harmful.

*The cryosphere is not melting, sea levels have not risen, and extreme weather events have not increased.

*GCMs are a failure.

*CO₂ is not a pollutant and rising concentrations are causing a great greening.

Forecasting rain (pp. 83-91)

AGW is the contemporary zeitgeist and has little practical utility. The previous theory of climate modelling (until the early 1950s) was solar terrestrial physics, focusing on planetary, solar and lunar cycles. E.g. the moon's gravitational force, along with earth's day and night cycles create atmospheric tides which impact high altitude winds.

Today GCMs; Australia paid 30M for a supercomputer in March 2009 for this purpose ('**Predictive Ocean Atmosphere Model for Australia**').

POAMA failed to reproduce historical average rainfalls across SE Australia. There is no peer-reviewed literature validating it either.

The new method is to average forecasts from multiple GCMs (up to 50), called an *ensemble* (a multiple Monte Carlo simulation approach).

Purported cycles exist (Earth's tilt, orbital eccentricity, and precession) which GCMs largely ignore. ENSO is considered, but its inherent relation to the moon is not meaning ENSO prediction remains poor despite thousands of publications.

The new technology is **Artificial Neural Networks** which apply AI in a black-box fashion to find a pattern in historical data.

ANN is often attacked by saying the past is not a reliable predictor of the future (as with financial variable predictions).

Cool it: an essay on climate change (pp. 94-112)

The politics are career threatening for anti-warmists, so it is not surprising the boldest speakers are older (Lord Nigel Lawson speaks from his own experience).

CO₂ has the benefit of making the planet warm enough to be inhabitable. Too low a level results in severe cooling as in the Baroque era when the Thames froze over each winter (which can be seen in art prints). It also causes the 'fertilisation effect'.

Some alternative energy sources, such as biomass are actually quite harmful. In poor countries dung is burnt for heating and is estimated at causing a million deaths per annum.

The warming 'hiatus' is sometimes attributed to 'natural variability' which involves heat being trapped in the cold ocean depths. Measurements of global sub-ocean temperature are not available.

Even if AGW is true, effects are forecasted to impact polar regions more than the tropics, at night rather than day and in winter more than summer. These effects seem beneficial given proven migration patterns of people from cold to warmer climates.

On extreme weather events, insurance companies rightly point out to higher frequency and claim costs but a significant driver is simply the number of people and property has increased. With the advent of global communications people are much more cognizant of such events.

The heavy cost of decarbonisation is often modelled as low in comparison to costs of catastrophic AGW. Such cost-benefit

modelling like Nicolas Stern's has now been discredited since the data suggests probability of AGW is close to zero.

The replacement idea has been Professor Martin Weitzman's 'dismal theorem'. This advocates action no matter the cost and is simply abuse of the precautionary principle.

On global action, China is still building one coal-fired power station per week, and their 2020 commitment to reduce 'carbon intensity' is really around production efficiencies. Their solar and wind industries are largely for export to Western markets.

The UK, which contributes 2% of human emissions is still committed to near total decarbonisation.

The force of climate change orthodoxy seems due to it having become a substitute religion, arising between the demise of Christianity and growth of Atheism. Given every man's 'natural' feeling of guilt and sin, these can be collectivised and projected onto the planet for a kind of 'global salvation'.

This religion overrides reason and where the costs are falling which is on the poor. Wind power for example offers subsidies for wealthy landowners, who sell the most expensive power into the grid for poor people to purchase.

Costing climate change (pp. 113-133)

The IPCC issued a mammoth report in 2013, the Fifth Assessment Working Group, said to be the product of 803 authors. The end estimate is a CO₂ sensitivity of between 1.5 to 4.5°C (in contrast to the 1°C estimates above).

An alarmist hypocrite Bono went on a world concert tour in 2010 which is estimated to have generated equivalent annual emissions of 6,500 Britons.

The two key economic questions are (i) what costs are caused by atmospheric doubling, and (ii) how much will mitigation cost.

On (i), the IPCC believes:

- *Each degree of warming will decrease renewable water energy by 20% for 7% of the world's population.

- *Drought frequency will increase.

- *Heavy rainfalls will increase.

- *Ocean-wide ecosystems will change with implications for food security.

- *Major crop yields will fall with global price increases by 2050.

- *Increased mortality and morbidity in low-lying coastal and inland regions due to sea level rises and flooding.

- *Infrastructure interruption due to extreme weather events.

- *Mortality from extreme heat.

- *Increased food insecurity.

- *Loss of rural livelihoods.

Quantification of the above risks was carried out in the UK by Nicholas Stern, and in Australia by Ross Garnaut, also the Treasury's 'Strong Growth Low Pollution Modelling' report. Eighty-four Treasury workers were involved in their report.

Stern gave a per capita consumption cost of 20%, with mitigation costs only 1% of GDP. Garnaut said costs would be

up to 12% of GDP with benefits only accruing in the 22nd and 23rd centuries.

Garnaut predicted an increase of Defence spending by 0.2% p.a. to counter the 50M 'Climate Refugees' expected by 2010 (now 2020).

Neither Stern nor Garnaut's reports were peer reviewed.

With only four studies, the IPCC actually forecasts a lower cost than either Stern or Garnaut-between 0.2 and 2% of GDP p.a. for two degrees warming. Few estimates exist for three degrees.

The IPCC also believes:

*Limiting climate change is necessary to achieve 'sustainable development'.

*Mitigation will be unachievable if individuals are left to their own devices.

Carbon Capture and Storage is becoming a mirage technology, with the Australian government reducing funding.

For a 550 ppm level, baseline mitigation costs are only 1.7% of world consumption losses. The conjecture from 2009-29 is 550B p.a. will be invested in renewables including CCS, offset 540B by a drop in non-CCS fossil fuels.

Stern and Garnaut's mitigation costs seem as underestimated as their AGW costs are overstated. By 2050 it is assumed a 1% GDP cost will yield an 80% CO₂ reduction. Key to their modelling is near zero discount rates giving high present value benefits of future cost reductions.

Reduction technologies are termed 'standard', 'backstop', and 'enhanced'. At \$250/T enhanced (non-existent) technologies are

assumed to kick in so this is a ceiling value. The time frame for this event is 2050.

2020 goals require c\$110/T costs. For Australia's 18T p.c. p.a. emissions and a \$75/T tax the cost would be \$1,350. A Galaxy poll revealed only 4% would be willing to pay >\$1000, and 42% \$300 p.a. By 2050, a rate of \$250/T combined with reasonable energy increase and population growth assumptions would give a total annual bill of \$57.5B. Such costs are extreme supply side ones like the 1970s OPEC oil shock which quadrupled oil prices.

In terms of political negotiations, Sino-Indian bloc and developing nations are aware of the low AGW cost/high mitigation reality and are unwilling to be persuaded by the EU.

Experts as Ideologues (pp. 134-145)

Surprisingly, many alarmists have English Literature degrees:

*BBC Environmental Analyst Roger Harrabin.

*British Green MP Caroline Lucas.

*Baroness Worthington, author of the UK's 2008 *Climate Change Act*.

*Tim Flannery, who also earned a doctorate in kangaroo palaeontology.

In the last thirty years, corruption of climate change 'science' has dented public trust in expert predictions. This has fuelled the 'denier' and 'anti-science' rhetoric. After a BBC interview, Bob Carter was a victim of:

*Top climate-change official John Ashton who labelled it a betrayal of editorial professionalism.

*Geneticist Steve Jones who said Carter's views gave a 'false balance'.

*Bob Ward and Greg Barker.

The apocalyptic claims of climate disaster costs is labelled 'climate porn'.

In the online wars, a small number of dedicated warmists can punch above their weight by 'astroturfing' across many sites. Organised opposition include George Soros' *Think Progress*.

Even IPCC alarmists admit, "...we have to offer up scary scenarios, make simplified, over dramatic statements and make little mention of any doubts we might have."

Uncertainty, scepticism and the climate issue (pp. 146-154)

In 1970, the UN World Meteorological Organisation of the United Nations took steps to establish the World Climate Program. The first step was to define the scientific problems. Two main ones stood out-cloud impact on solar heating and infra-red cooling, and ocean behaviour.

GCMs work by creating an even grid of data points in the atmosphere and in the ocean. The problem is grid points can be degrees apart (latitude or longitude) which translates to tens of kilometres. These distances are larger than the clouds, also weather events can quickly arise in these 'gaps' which invalidates model forecasts. This blows a hole in the 95% certainty claim; cloud behaviour is not yet understood.

The IPCC have been silent over the 'warming hiatus' as it knows natural variability (thought to be due to deep ocean heat) is not understood, and that this same variability (not AGW) may have been the cause of the historical 0.7°C increase.

It seems the scientific establishment has decided to overstate (underestimate) the climate problem (uncertainties) for short term gain. The long term cost is public respect. Part of the gain was a new, rewarding lifestyle of giving advice, broadcasting opinion and attending international conferences.

The Royal Society, National Academy of Sciences, and Australian Academy of Sciences all claimed independence in arriving at the same conclusions as the IPCC. These groups chose (or were forced into) the same path.

It is said individual skepticism in the system can be career limiting.

Canadian Sue McGregor uses the term post-science as climate science has the mix of uncertain facts, disputed values, high stakes and urgent decisions. This post-modern science is a new kind where theory can be consciously moulded to suit contemporary politics.

The 2009 *Climategate* scandal of thousands of leaked emails is a prime example of the above, where senior members of CRUT deliberately selected data to exaggerate warming. They also had plans to sack any dissenting editors.

The trillion dollar guess and the zombie theory (pp. 155-169)

Since the 1950s, 'carbon disaster' has involved 28 million weather balloons (radiosondes), thirty year's worth of satellite recordings and 3,000 robotic buoys-a trillion dollar investment based on a theory of relative humidity in the upper troposphere (~10-12km) from 1896.

CO₂ was thought to amplify (~double) 'positive feedback' of the more ubiquitous (40,000ppm) and powerful greenhouse gas water vapour.

Before exploding, weather balloons reported air temperature was actually decreasing with altitude, the opposite of expectations.

On GCMs, 98% could not predict circumstances yielding a 'hiatus'. Volcanic aerosol particulates have been invoked as well as 'natural variability'.

Deep ocean heat storage is another popular theory. The claim is since 1955 ocean temperatures have risen $\sim 0.1^{\circ}\text{C}$ which is unreliable due to measurement difficulties. The 2003 ARGO program involved an array of 3,000 drifting profiling temperature floats measuring the top 2km of the ocean. This is one float per $2 \times 10^5 \text{km}^3$ of ocean.

The '95% certainty' dogma is still maintained, despite quotes such as:

*Radiosonde and satellite data do not show expected warming trends.

*The troposphere has cooled over the last 20-30 years.

*Models overestimate troposphere warming trend.

Cloud behaviour is difficult to model as low thick clouds cool, whereas high thin icy clouds heat.

Given the size of the carbon market (\$2T p.a.), bandwagon is enlarged by rent-seeking financial institutions. Deutsche bank for example issued an anti-alarmist report while it had \$4B in climate change related investments.

Word games involve the following words:

*'Denier'.

*'The science is settled'.

*'It's simple physics'.

*'Hot-spot 'fingerprint'.

*'Uncertainty'.

The only remotely settled science is 1°C warming, the excess is assumed feedback which so far has been falsified.

The troposphere hot-spot due solely to greenhouse gases does not exist. Notwithstanding, a Professor Sherwood changed the colour scale in his 2008 paper so that a zero-degree warming trend would appear red!

Given model failure, result uncertainty has been invoked to cover actual observations-error bands were simply widened!

In an attempt to estimate intra-grid point temperatures it was thought wind shear would be better than thermometers.

Forecasting global climate change (pp. 170-186)

Warmist models out to 2070 (CSIRO) predict 2.2 to 5.0°C increases and out to 2100 (EPA) 4 to 11°F. Nicolas Stern has as a consequence hundreds of millions of climate refugees causing war.

Forecasts come from the UN-IPCC.

In the past (1970), Professor Kenneth Watt was forecasting a new Ice Age. By 1990 temperatures would have fallen four degrees, and by 2000 eleven.

Attempt has been made to assess forecasting accuracy of IPCC models by comparing methodology to basic forecasting

principles. These principles have been arrived at by conclusions of 40 leading researchers and 123 expert reviewers from 545 studies. The work is called the *Principles of Forecasting* handbook.

Audit found only 17 of 89 principles are followed in IPCC models. This included violating 19 of 28 related to the 'Golden Rule of Forecasting'-that forecasts must be conservative.

The Golden Rule proscribes: bias must be avoided by specifying multiple hypotheses and methods; valid evidence-based methods be selected; conservation is paramount when the series is unstable, and when short and long term trend directions are inconsistent.

The IPCC hiatus response has been typical-they have an even stronger belief they will be vindicated. Some scientists tend to reject evidence which contradicts their beliefs.

A scientific consensus of AGW is often claimed, however 31,487 U.S. scientists have signed a public statement which disagrees.

Scott Armstrong proposed a no-trend model would be more accurate than the 1990 onwards 0.03°C per annum assumption. Armstrong's model errors were 27% *less* than IPCC-model forecasts.

Methodology was:

*1851-1975 [i.e. when the warming trend began] HadCRUT3 data was used to form a sequential rolling forecast: 125 one-year forecasts, 124 two-year forecasts,...,26 100-year forecasts.

*A 1°C *cooling* model was used as an alternative hypothesis. Some believe earth is still cooling from at least 4,000 years ago.

For the cooling and warming models it was found forecast error increase with horizon. The no-trend model had lower average errors than either for all horizons. For one to ten years, the warming model had a 45% error, the cooling one 10%. The no-trend model had a 0.2°C error for all horizons out to 75 years.

Given the state of climate 'science' it was concluded a causal model involving CO₂ was inappropriate.

Very long predictive variability was assessed by using Loehle's series of proxy temperatures from biological and physical temperature-varying processes. It extends from 116AD-1935AD which includes the Medieval Warming Period and Little Ice Age. Some suggest the earth has been warmed from human activity for 5,000 years.

The 115AD average was used as a baseline, then a 0.003°C warming and 0.001°C cooling p.a. trend models forecasted (rates were reduced by a factor of ten to be conservative).

For the 1,820 year forecast period, warming prediction average errors were nine times the no-trend model. Cooling forecasts were less erroneous than warming ones (though still greater than no-trend).

The claim 'things are different now' is shown unsupported.

A quantity called **Relative Absolute Error** is used to compare models to the no-trend null:

$$\text{RAE} = \text{Error (I)} / \text{Error (No Trend)}$$

Along with HadCRUT3 (1851-1975) and Loehle (116-1935) there is the University of Alabama, Huntsville (UAH) (2008-2014) satellite-based measure. Of the three, the UAH series has the best 'persistence' (i.e. RAE=1).

It is suggested the no-trend model may be enhanced by using a weighted average of past periods rather than the latest year.

A qualitative historical investigation of environmental alarms was also done using the 'structured analogies' approach. Twenty-six were documented and in none was scientific forecasting carried out. In 23 cases action was taken which had a net cost with harmful policies still in force. All faded into memory. C. Mackay's 1841 book *Extraordinary Popular Delusions And The Madness Of Crowds* is pertinent to this topic.

The search for a global climate treaty (pp. 188-200)

Underlying agreement conditions are the 'firewall' between developed (hard target) and developing (soft target) nations. It is argued (by Ban Ki-Moon) that cost should be weighted towards developed nations given they caused the increase in emissions.

The plan is to get 200 countries to voluntarily commit to agreement—simply a pipe dream.

The last conference was in 2009 at Copenhagen, Denmark which was 'an incredible disaster' as India and China were unwilling to commit to legally binding obligations. Also, Japan, Russia, Canada and New Zealand withdrew from a second Kyoto commitment period. Australia and Kazakhstan remained.

The US and China combine to account for 44% of emissions, and due to local politics Obama has resorted to using the EPA rather than cap and trade legislation. Without agreement between these two global agreement is impossible.

Intervening annual meetings are called **Conferences of Parties**, and have been held at:

*Cancun (2010):

While developing countries paid lip service to 'green growth' but in their hearts were unsure. There was an 'air of harmony' at the closing plenary.

The G-77 (developing countries block) called for a 'legally binding instrument'. India moved toward's the EU (27 country bloc) position but was quashed by Indian Premier Manmohan Singh, who replaced the negotiator for Durban. India's fossil fuel demand will *increase* 40%.

*Durban (2011):

Canada stated Kyoto was 'in the past'. The EU would withhold commitment to Kyoto II without large nation agreement. India would 'never be intimidated by threats'.

A **BrazilAmericasSouth AfricaIndiaChina** block is mentioned of which the EU managed to excise Brazil and South Africa to their side.

*Doha (2012):

China insisted on developed countries bearing the cost, challenged by the U.S.

*Warsaw (2013):

The 'nadir' of negotiations: Japan changed from a 25% decrease on 1990 levels to a 3.8% p.a. *increase* by 2020; the firewall principle was again raised

Poland was actually holding a coal summit close by!

The next summit is scheduled for Paris, 2015 which is hoped by the EU will be an all-or-nothing gamble like Copenhagen-they have invested the most political (in warming) and physical capital (in decarbonisation) of any party.

The hockey stick: a retrospective (pp. 201-211)

The fact in times past the globe has warmer is said to be highly inconvenient for AGM proponents. To overcome the barrier of a 'red-noise' oscillating climate (e.g. Medieval Warm period (1100-1300AD) and Little Ice Age (1400-1900AD)), Professor Michael Mann simulated a 'hockey-stick' trend from 1950 due to AGW.

Mann used bristle cone pine cores ring widths from high arid SW U.S. mountains to reconstruct temperatures. These trees are extremely long-lived and can grow into contorted shapes. Because of their climate sensitivity, they are not suitable for use as a temperature proxy (especially for *global* climate change) and are more representative of regional history.

Mann's data was used to back the claim '1998 was the hottest year of the last millennium'.

With the bristle cone data removed, the graph becomes noise.

Statistical methodology employed to create the hockey stick is in two parts:

***Principal Component:** This groups the data set into a number of small composite series.

***Least Squares fitting:** The PC composite series are then lined up to a baseline upward sloping temperature graph. Least squares correlation between composite series and the baseline are then computed and weights assigned accordingly. If there is even one 'hockey-stick' composite it will receive the greatest weight (this is the fatal flaw).

The result is a final composite 'segment' (i.e. the forecast).

To audit this process, Monte Carlo analysis of thousands of autocorrelated random numbers were put through the PC and LS machine. An 'index of accuracy' called the **Reduction of Error** was computed for these trends as well as for Mann's (pine-cone free) data. Mann's RE was expected to be higher than the artificial data which hit wasn't.

Mann also did not calculate the r^2 statistic for his series-it was favourable for post-1750 data because he set his baseline warming trend graph too low. For pre-1750 data it was close to zero!

This error was investigated by the Energy and Commerce Committee of the US Congress and the NAS without much success.

Through obfuscating language on RE, r^2 and COE (coefficient of efficiency) it can be gleaned the results were junk.

The IPCC and the Peace Prize (pp. 212-220)

In 2007 the IPCC as an organisation in conjunction with Al Gore were awarded the Nobel Peace Prize-they believe AGW would cause more conflict around the world. Director Rajendra Pachauri told his staff 'this makes each of you Nobel Laureates'.

In 2012 the Canada's *The Walrus* issued a portrait of Nobel laureate Mark Jaccard. Mark was one of 9,000 had written reports over 25 years for the IPCC.

IPCC workers, the media (e.g. NY Times, Japan Times, The Times of India), governments (ABC, BBC) all took this literally and ran with it for five years. This was despite the fact in October 2012 the IPCC issued a statement clarifying 'it is incorrect to refer to any IPCC official, or scientist...as a Nobel laureate...'

Often the type of award ('peace') was omitted when claimed by scientists so as to give the impression a science prize had been won. This was the case with University of Melbourne meteorologist David Karoly. A church perhaps affiliated with Karoly in Victoria called Church of All Nations also made the claim.

Global warming's glorious ship of fools (pp. 221-224)

Professor Chris Turney headed an Australia Antarctica Expedition in X seeking to sail a clear path to the South Pole. Turney took his family on the trip.

Unfortunately the ship was stuck in expanding ice and had to be rescued!

Cavemen, climate, and computers (pp. 225-234)

The Navier Stokes equations which describe how water and air move are said to be critical mathematical tools to understanding the climate.

There are a number of libellous websites set up to destroy anti-warmist persons which could probably be closed down if they had the financial resources.

The religious propagated by shamen like Al Gore is:

“climate change is real; the science is clear; the scientists all agree”

The 'precautionary approach' is paraphrased in the thinking:

“if we don't act things may be good or bad, but if we do act things will be good” (the Wonderful World Method)

Which ignores the high cost/no benefit scenario.

The Bible for this religion has become the IPCC's AR5 and most haven't read it.

On simulation the problem is 'finite representation' of computers-they are trying to simulate physics of nature without the gigantic computer power required.

The scientists and the apocalypse (pp. 235-251)

The August 1990 IPCC meeting in Sundsvall, Sweden witnessed a Third World revolt: prior to Sundsvall the relevant UN bodies had been the **UN Environmental Program** and the **World Meteorological Organisation** (UNEP was responsible for the ozone layer treaty). These were replaced by the IPCC where poor countries had an overwhelming majority. The IPCC chair was atmospheric scientist Bert Bolin.

The 1992 Rio 'Earth Summit'/'Rio Goals'/'Agenda 21' created the **Framework Convention on Climate Change**. Also at this summit poor countries sought to use mitigation measures a lever to increase the flow of aid.

The IPCC goal was to get the science for policy mechanism right. Two criteria were crucial: the science assessment, then the science-to-policy interface. Three working groups were created to do the work:

***I:** Assess the scientific basis of warming concerns.

***II:** Asses warming impacts.

***III:** Consider response strategies.

Group I used the **International Council of Scientific Unions (ICSU)** model for their report. ICSU already had their own group **Scientific Committee on Problems of the Environment**.

SCOPE29 which completed a significant greenhouse gas study in 1985-it predicted the usual sensitivity range of 1.5-5.5°C.

An ICSU conference in 1985, Villach, Austria is said to be the birth of the climate treaty movement.

Coincidentally, in 1989 after the end of the Cold War there came an intense interest in climate action. The Bush (Senior) administration chose for their first public engagement to open a session of Working Group III.

Over time, in response to the G-77 negotiating power, a doctrine of 'sustainable development' (1987 Brundtland report) was developed. This required accelerated 'technological transfer' to poor countries as a condition for action.

The problem IPCC had was with Working Group I so a body called the Subsidiary **B**ody of **S**cientific and **T**echnical **A**dvice was set up to get a resolution. Another body, the International **N**egotiating **C**ommittee was set up to develop climate treaty protocols.

The FCCC statement said emissions 'will result in' global warming, which was then changed to 'climate change'. Their objective was to stabilise emissions at a level that would prevent dangerous climate system change however they could not calculate a meaningful answer.

Before COP1, an Argentinian diplomat Raul Estrada-Ouyela was elected to chair the INC. At COPI, Group III was having issues with a 'price of life' controversy, where a rich life was taken as ten times greater in value than a poor one reducing overall calculated damages.

By 1995 there was still no answer from SBSTA for Working Group I due to natural variability. Despite this it was agreed 'the balance of evidence suggests a discernible influence on global

climate'. This only enabled the 1997 Kyoto Protocol to have sufficient scientific basis for action. This scientific epiphany from the IPCC made SBSTA largely irrelevant from then on.

Before 1995 there was a 'Carbon Club' which helped air various scandals behind the 'detection' but that group has now moved onto the green band wagon.

The scientific method (and other heresies) (pp. 252-263)

The Murray Basin drought of 2002-3 was caused by El Nino, but the World Wildlife Fund-Australia stated higher temperatures from greenhouse gases caused increased evaporation which dried out the soil.

The above is scientifically incorrect according to evapotranspiration and boundary meteorology: when soil moisture content is high energy does goes to evaporation rather than heating the surface, however during drought air temperatures rise because the heat cannot be absorbed by the soil-it is reduced evaporation that causes higher temperatures (the reverse of common sense perception).

There is a drought series called **Palmer Drought Severity Index** which approximates evapotranspiration by only using temperature as a proxy for atmospheric moisture demand. The PDSI therefore also confuses cause and effect.

Despite rainfall reduction predictions, in late 2010 La Nina returned with flooding across Eastern Australia.

Because science cannot give a link between AGW and extreme weather, the IPCC wrote a paper on how to relate climate extremes to climate change. It boils down to simply claiming everything is due in some extent. This approach was used by the Australian Climate Commission with their 2013 'Angry Summer' Report which attributed everything to AGW.

In 2010-11, *Nature* published a report linking AGW to rainfall flooding which failed to compare one-day rainfall probability with temperature. Such a graph shows:

*rainfall intensities are highly variable.

*temperature appear to not significantly increase flooding risk.

Testing AGW scientifically boils down to physics of downward long wave radiation:

*CO₂ is a greenhouse gas.

*Greenhouse gases absorb and bounce-back long wave radiation.

The alternative hypothesis validating AGW would then be a one-tailed increase of long wave radiation. This would be the climate change 'signal'.

During the last 24 years when CO₂ increased 25% there has been no increase in long wave variability (significant short term drops occurred after volcano eruptions). Shortwave (solar) radiation which is more volatile also has no increase (there is a post-2000 declining trend).

To explain the 1945-75 warming 'hiatus' (which led to cooling alarmism) aerosol cooling was invoked *from Industrial Revolution CO₂!* The current hiatus is from Chinese produced CO₂.

Another explanation is natural variation which has the heat in the ocean, ready to re-emerge someday.

Extreme weather and global warming (pp. 264-273)

Increased global temperature effects from 0.8°C were recently limited to sea level rise (via thermal expansion of water and melting glacial ice) and longer heat waves.

From satellite data sea levels have only risen between 1.7mm (tidal gauges) and 3.33 (satellite imaging) p.a.

To extract mileage from the small temperature increase, minimum y-axis scale values are selected, and temperature change baselines of the *coolest* period (1951-1980) are selected. Despite this the hiatus is still discernible in post-2000 data.

Picking up on the alarmist's equivocation, a Yale study has shown the change from 'global warming' to 'climate change' has hurt relations with the public. In 2010 the U.S. moved another step coining 'climate disruption'. An analogy of rolling 'climate-loaded' dice is also being used (which assumes catastrophic AGW).

On extreme weather, Bouziotas et al. In 2011 found on a 30-year trend there is actually a negative trend, not positive. This is in spite of common perception, which is driven by a combination of politicised media hype and instant international electronic communication and media saturation.

Even AR5 doesn't mention extreme weather events any more leaving it in the domain of climate activists and zealots.

False prophets unveiled (pp. 274-285)

The faith of Parliament, universities and the State fortress broadcaster is beginning to waver a little with the reality of all the false predictions. Unfortunately the dead weight loss on \$8B p.a. of carbon taxes has already been incurred.

False prophecies include:

*Professor Tim Flannery, 2005: Sydney's Warragamba has about two year's water supply left (dam has overflown).

*Flannery, 2009: AGW caused warmer soils meaning rainwater wouldn't be available to fill dams (dams are full).

*Flannery, 2007: Adelaide, Sydney and Brisbane urgently need desalinated water (Sydney and Brisbane desal. plants have been mothballed).

*Climatologist Bertrand Timbal, 2009: 1950-70s type rainfall is over (2010-11 years were the wettest on record.)

*Professor Ove Hoegh-Guldberg, 1999: The Great Barrier Reef would bleach very two years from 2010 (the last bleaching was in 2006).

*Hoegh-Gulberg, 2000: Bleaching damage is irreversible (in 2009 it was admitted the reef had recovered).

*Hoegh-Gulberg, 2006: Between 30-40% of Reef coral could die within a month.

*Hoegh-Gulberg, 2011: WA large scale reef mortality predicted from Shark Bay to Exmouth.

*Professor Mike Archer, 2007: Sea levels would rise 100m and there would be sharks in the middle of Sydney (pasty 20-year sea level rise averaged 3.2mm p.a.

*Al Gore, 2006: Pacific nation citizens have been evacuating to New Zealand.

*Ex Foreign Minister Bob Carr, 2013: Kiribati would be uninhabitable by 2030 (1993-2011 sea level data shows no rise in sea level. 86% of 27 Pacific nations have have grown or remained the same in the last 60 years).

*'Nobel Laureate' David Karoly, 2003: Murray-Darling drought severity is increasing with AGW.

*Flannery, 2005: In five years there will be no more Arctic ice.

*Gore, 2009: Antarctic ice would disappear (from NASA Antarctic sea ice has grown 1.5% p.a. for 30 years). This inspired Chris Turney's ill-fated expedition.

*Dr David Viner, 2000: Winter snowfall in Britain in a few years would be a rare event (since then 5 of the 6 snowiest winters in the last 46 years have occurred).

*UK Meteorological Office, 2007: By 2014 global temperatures will be 0.3°C higher than 2004 (there has been no warming).

*Professor Matthew England, 2012: There is no 'hiatus' in global warming.

*IPCC, 2001: Indian rice productivity would fall due to AGW (since 1960 global wheat and rice production has tripled).

*Gore, 2006: Hurricane Katrina was caused by AGW.

*Bob Brown, 2011: Cyclone Yasi was caused by AGW.

*Professor Ross Garnaut, 2007: Steel roof ordered for his home and council told AGW would cause more severe hailstorms.