

# THE CO<sub>2</sub> MOLECULE AND THE GREENHOUSE EFFECT

## INTRODUCTION

According to an Australia Institute Think Tank report titled “Climate of the Nation” dated 12 September 2018, 78% of Australians are concerned about climate change resulting in more droughts and floods affecting crop production and food supply, 77% believe in the destruction of the Great Barrier Reef, and 76% are worried about more bushfires.

Almost without exception, all of these worried Australians would accept that the science is proven and settled and that the CO<sub>2</sub> molecule or “carbon” as it is incorrectly called, produced as a result of burning fossil fuels, is a pollutant and the primary cause of an increase in terrestrial heat being responsible for a perceived climate change.

If you are one of these 78% the chances are that you will have trustingly accepted the “science” without critically investigating it for yourself. This is understandable since most of us do not have the background, knowledge, time or inclination to go into this detail. Most folks aren’t geeks and will have little understanding of the science. Our attitude is that the “experts must be correct” and the “science is settled”. But contrary to popular belief, there are thousands (but agreed a minority) of scientifically qualified, literate, educated individuals who don’t accept the status quo and have good objective reasons to believe that the science is not settled and that the CO<sub>2</sub> molecule is not the problem it is made out to be.

I have produced this paper to bring evidence for why some of us hold a dissenting point of view. We are not ignorant “deniers” that some change is occurring, and that it has been for eons past, but we question the cause and reject the dire warnings of catastrophic consequences. We are concerned that on such an important matter as this so little is known.

Trillions of public dollars world wide, are being authorised by politicians and leaders at the behest of a public who have a deep emotional, but uninformed, attachment to a belief in anthropogenic climate change but are blithely unaware of the economic and social consequences of their demands.

The issue isn’t whether the climate or weather is changing. It’s whether humans and fossil fuels are causing any observed changes ... whether any changes will be dangerous or catastrophic – and whether alarmist scientists have any actual, credible evidence that could survive scrutiny by an unbiased, objective panel of scientists.

Before I launch into the detail I acknowledge that, although I have done extensive research, there is more science yet for me to understand. It’s not what I don’t know that concerns me but what I don’t know that I don’t know. If you have scientific knowledge that can bring correction or further enlightenment then I am open to same. Consensus, opinions and models aren’t science.

If you can’t question “science” then it isn’t science.

## BACKGROUND

Some background may be instructive. Over the past few months I have sent out a series of emails entitled “Wake Up Australia” detailing some of this information.

This brought me to the attention of a gentleman doing a PHD on climate change and he has referred my material to a well known Professor of Chemistry who is a Climate Change Commissioner and world leading expert and researcher in the field of climate change and sustainability. Apart from disparagingly labelling me “an expert”, the Professor claimed my information relied on “doctored versions of 1950s rubbish found on the internet and cobbled together to prove a point and is not legitimate science”.

He further claims I’m “operating from a belief system and not the rules of science”.

He has directed me to a Link and PDF of an “authorised, easy to understand, peer reviewed” paper by the Professor of Physics, Raymond T Pierrehumbert titled “Infrared Radiation and Planetary Temperature”. I highly recommend you download it for yourself.

It was very helpful in correcting some of my misunderstandings, furthering my knowledge, but more particularly I found it of real value in substantially confirming the accuracy and appropriateness of the earlier data I was using.

First a quick quiz to test your perception.

1. What percentage of the atmosphere do you think is CO<sub>2</sub>?
2. What percentage of the CO<sub>2</sub> is man made (anthropogenic)?
3. What percentage of the man made CO<sub>2</sub> does Australia produce?
4. Is CO<sub>2</sub> a pollutant?
5. Have you ever seen any scientific evidence that CO<sub>2</sub> causes a greenhouse effect?

The answers to these questions can be found in the following text. This knowledge is fundamental to evaluating the global warming proposition and coming to an informed decision.

## THE SCIENCE

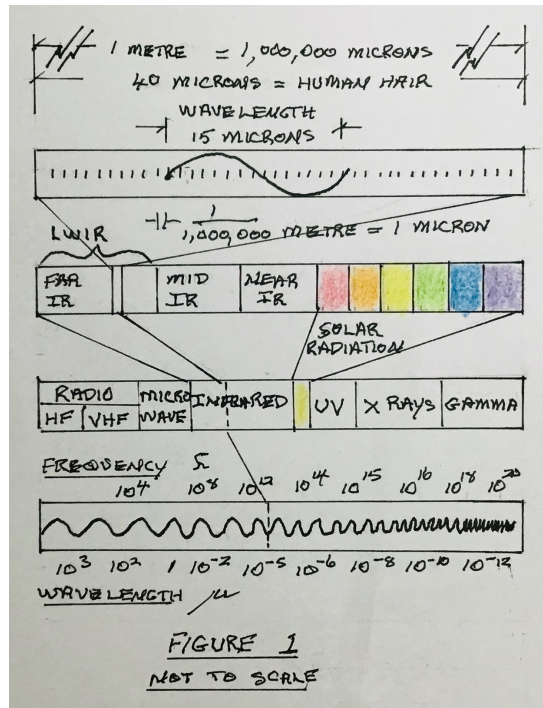


Figure 1

## INFRARED RADIATION

All heated bodies emit radiation in the Infrared range. You can't see Infrared Radiation but you can feel it as anyone who has warmed their hands near a hot stove can testify.

All matter with a temperature, from the sun's solar radiation at 5800 degrees C to freezing water in the Antarctic at -150C, and below, has a signature Infrared radiation frequency with a wave length measured in microns. A micron is one millionth of a meter. A human hair is 40 micron. See figure 1

For example:

- The human body at 37 degrees Celsius radiates at a frequency with a wavelength of 9.5 microns. (Hence for a search and rescue helicopter to locate a missing person they would have to tune their IR receiver to 9.5 micron).
- A bushfire front burning at say 1000 degrees would radiate at a frequency with a wavelength of 2 microns. (Hence for Firebird to locate a fire front through smoke, it would have its IR receiver tuned to 2 micron).
- Similarly, a heat seeking missile would have its guidance mechanism controlled by an IR receiver tuned to the frequency of the temperature of the exhaust of a jet engine.

## ATOMIC ABSORPTION SPECTROMETRY

This is the area of science concerned with the absorption, emission and scattering of electromagnetic radiation by atoms and molecules. It is the process we use to precisely measure what wavelengths of radiation a particular gas is capable of absorbing. CO<sub>2</sub>, as will be repeated below, when subjected to the spectrometry process, absorbs IR in only 3 very narrow spectral bands of frequencies with wavelengths of 2.7, 4.3 and 15 microns. This covers some 5% of the total IR spectrum with 95% of the Radiation being in large part effectively invisible to CO<sub>2</sub>.

Likewise all chemical molecules are structurally tuned, or sensitive to respond or react to one or more specific IR temperature related frequencies.

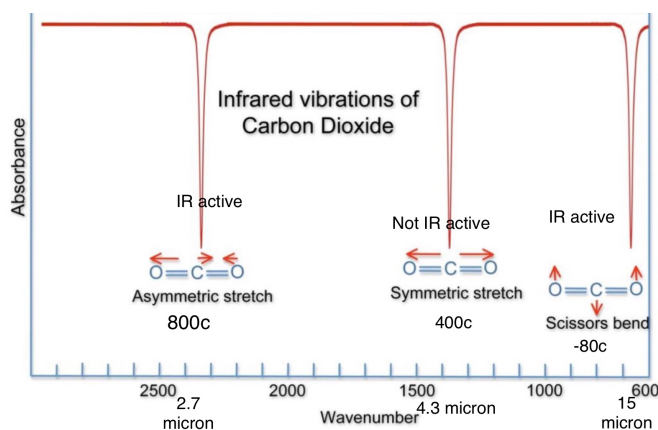


Figure 2

## CARBON DIOXIDE CO<sub>2</sub>

CO<sub>2</sub> is a colourless, odourless, tasteless non combustible trace gas at 400ppm (only 1 in every 2500 molecules of atmosphere) or .04% of the atmosphere with a mass of 44 (compared with H<sub>2</sub>O at 18, N<sub>2</sub> at 28 and O<sub>2</sub> at 32), hence the law of gravity means it readily sinks down to whatever is on the surface of the earth.

CO<sub>2</sub> is water soluble. Rising atmospheric CO<sub>2</sub> increases plant water use efficiency.

CO<sub>2</sub> is critical for photosynthesis upon which all multicellular life is based.

All life on the planet is ultimately based on CO<sub>2</sub>.

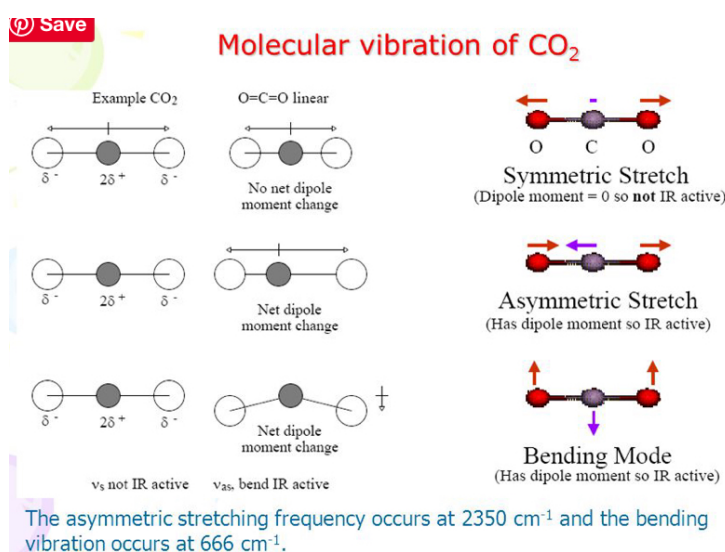


Figure 3

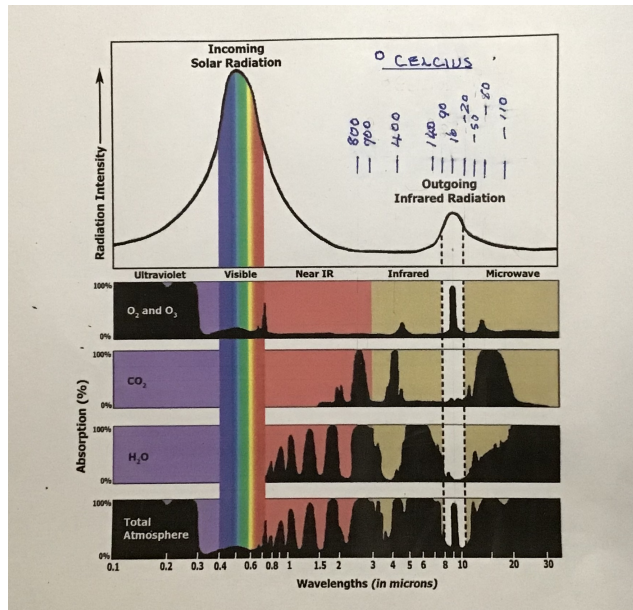


Figure 4

- Figure 2 shows that the CO<sub>2</sub> molecule is sensitive to only 3 narrow bands of frequencies corresponding to three temperatures. (800C, 400C and -80C). CO<sub>2</sub> only reacts to Long Wave Infrared Radiation (LWIR) at 2.7, 4.3 and 15 microns and to a minor extent in the 8 to 12 micron range (100C to -10C) Figure 4 and 5 give a different perspective on the same detail. This is less than 5% of the whole spectrum. To all other frequencies it is transparent and inert and 95% of the radiated heat passes unhindered right through without being absorbed or having ANY greenhouse effect. To get this into perspective, if the whole atmosphere consisted of only CO<sub>2</sub> it would still only be able to absorb less the 5% of all the heat radiating from the earth. Furthermore less than one third of the current 400 ppm of CO<sub>2</sub> can in any way be attributed to anthropogenic causes.
- Australia's CO<sub>2</sub> contribution would be ONLY 1.3 % of the worlds total anthropogenic production. China and India have NO constraints on their production of CO<sub>2</sub> and annually emit much more than Australia's total. Asia is increasing their CO<sub>2</sub> emissions by multiples, not fractions. Mankind in total can only be responsible for effecting approx .0012% of the planets atmosphere. NOTHING WE DO WILL HAVE ANY EFFECT. PERIOD. THE COST OF DOING NOTHING IS NOTHING

To explain what happens when a CO<sub>2</sub> molecule encounters a radiated frequency is complex but can be simplified. The LWIR is absorbed by the CO<sub>2</sub> molecule, agitating its electrons causing them to vibrate.

In the case of the 4.3 micron frequency, centred on 400 degrees C, the motion is symmetric and the forces cancel and prevent any motion and is therefore not Infrared active.

In the case of the 2.7 micron frequency the motion is asymmetric or a stretching motion but its temperature signature is centred on 800 degrees C and therefore inconsequential as a greenhouse gas.

This leaves the 15 micron band. Here a bending or flexing motion is set up in the molecule and it reacts to the LWIR. But because it is a linear or straight dipole it is not highly reactive.

Note carefully that the ONLY frequency bands where CO<sub>2</sub> could have any substantial effect on the greenhouse gas is the range 13 to 18 micron centred on 15 micron and to a much lesser extent between 13 and 9 micron. Figure 2, 3 and 5 illustrate.

To further explain what happens when a CO<sub>2</sub> molecule absorbs a photon of 9 to 18 micron LWIR?

The conventional wisdom is that CO<sub>2</sub> absorbs the photon and then reradiates it, some being directed back towards the earth or oceans. That turns out to be correct in 1/1,000,000,000 events.....or statistically 0.00. What happens in reality is that a CO<sub>2</sub> molecule absorbs a photon and becomes excited. The molecule bends and creates a "dipole". If enough time passes and nothing collides with the excited molecule, it will re-emit the photon. That however, takes about 0.2 of a second.

The more likely outcome, by a factor of 1 billion, is that the molecule will collide with another molecule, most likely nitrogen (N<sub>2</sub>, being 78.1% of the atmosphere ) and transfers that energy to the N<sub>2</sub> molecule without re-emitting the



photon. The energy is simply converted from electromagnetic energy to kinetic energy, measurable as a temperature. But, because CO<sub>2</sub> is a trace gas and has a linear dipole and is therefore not very potent as a thermaliser and represents only 1 out of every 2,500 molecules in the atmosphere, one excited CO<sub>2</sub> molecule, has a minimal effect in altering the entire energy balance.

Carbon Dioxide is a commonly used, and commercially manufactured in large quantities industrial gas. It is used in carbonated beverages, as a masking gas in welding, as a feedstock in the production of chemicals, in refrigeration, water treatment, fire extinguishers, as a propellant in aerosol cans and medical applications. It is injected into agricultural glasshouses at up to 1,000 PPM to stimulate plant growth. CO<sub>2</sub> levels in submarines and the International Space Station average about 4,000 PPM, or 10 times our current atmospheric levels and often 1,000 PPM in commercial buildings.

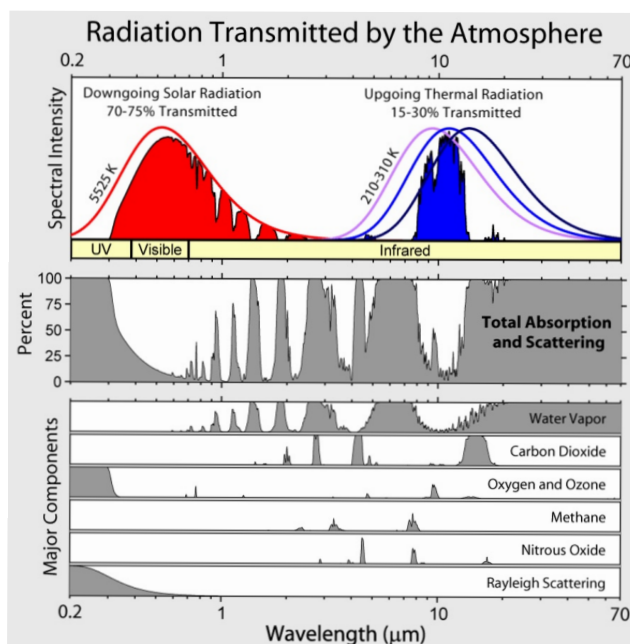


Figure 5,

Figure 6

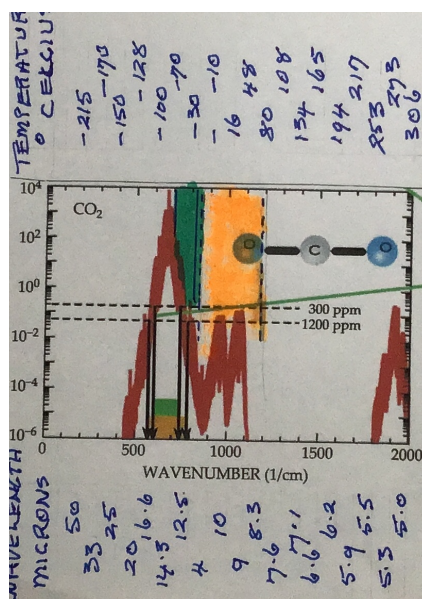
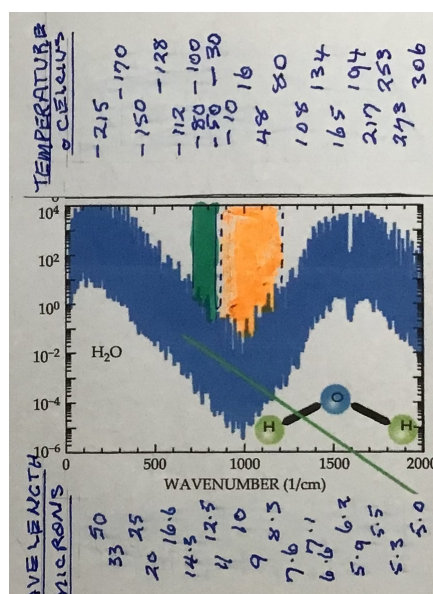


Figure 7



Figures 6 and 7 are taken from the earlier mentioned paper by Prof. Raymond Pierrehumbert.

I have added the frequency wavelengths and temperature details for ease of understanding the relationship to wave numbers and Figures 4 and 5.

Unfortunately, just to confuse, Figures 6 and 7 are drawn with long to short wavelengths going from left to right and 4 and 5 are reversed. The detail however remains consistent.

Note that the area shown in Orange colour in 6 and 7 is consistent with the Radiative Relief path in 4 and 5.

These figures confirm that the CO<sub>2</sub> and H<sub>2</sub>O absorption characteristics are minimal in the frequency wavelength range centred on 10 micron.

Of particular interest are the dotted horizontal lines in Figure 6. This indicates that an increase in CO<sub>2</sub> to 1200 ppm (3x current levels) would have minimal effect on absorption.

## GREENHOUSE GAS

What makes a greenhouse gas is its molecular structure. Molecules with a bent bipolar are strong GHGs (e.g. water, H<sub>2</sub>O), Molecules with a straight or linear bipolar are weak GHGs (CO<sub>2</sub>)

Bending of a molecule is easy and low energy. Compressing and stretching is hard and high energy.

The main earth radiation that concerns us is located between 8 and 12 microns. While the earth certainly does emit 15 micron wavelength, it is important to understand that this is way to the long wavelength lower frequency, (cold), end of the spectrum and here CO<sub>2</sub> doesn't warm anything, it prevents things from falling much below -80 deg C. This 13 to 18 micron frequency is the LWIR radiated by a "black body" with a temperature range of -50 to -110 degrees C (e.g. Antarctic in mid winter). What it does in thermalising in this cold range is to prevent "cold runaway" and places a "floor" on atmospheric cold.

At no time does the GHG effect warm the atmosphere above the temperature of the radiating body. Read that again. So how can CO<sub>2</sub> be responsible for heating anything?

***Do you ever recall any climate scientist, or one who claims faith in the "science" as the justification for their belief, telling you that the source of approx. 95% of of the Radiation absorbed by CO<sub>2</sub> emanates from the MINUS 50 degrees C to the MINUS 110 degrees C temperature range ?? The polar regions!***

The GHG effect does not ever add energy to the system; it only helps contain some of the existing energy

The accepted theory is that Greenhouse gasses do not heat the earth any more than insulation in your ceiling heats your house. It slows down how fast the heat can escape. Since the solar heat is arriving at the same rate but leaving at a slower rate this causes the surface to become warmer.

## WATER VAPOUR AS A GREENHOUSE GAS

Water vapour is a much stronger IR absorber than CO<sub>2</sub> for a number of reasons:-

- It has many more and much broader absorption bands than CO<sub>2</sub>. See Figures 4 and 5
- It constitutes up to 4% of the atmosphere or 40,000 ppm (compared to CO<sub>2</sub> at 400 ppm) so is 100X more effective than CO<sub>2</sub>. (We call it humidity!!)
- The bent dipole structure of the H<sub>2</sub>O molecule makes it a much more (10X) effective absorber of LWIR.

Thus the contribution of H<sub>2</sub>O as a greenhouse gas, compared to CO<sub>2</sub>, can be up to some 1,000X greater.

The US Geological Survey estimates that there is some 12,000 plus cubic kilometres of water in the atmosphere. This would be enough to cover the complete surface of the planet with 25 mm of rain.

The most important thing with water is its ability to moderate temperature here on earth.

The greenhouse effect as such is not a threat - it is an absolutely necessary condition for life on earth. It creates the moderated thermal equilibrium that allows us to live on a planet that does not change its temperature too much over day/ night/year.

## RADIATIVE RELIEF

Of critical importance in understanding the maintenance of the terrestrial temperature is understanding the concept of the radiative relief function of long wave Infrared Radiation

Of particular interest to us is the earth's ambient temperature range -10 to +100 degrees Celsius. Everything in this range (your frozen peas to the boiling water you are about to dunk them in), radiates at a signature frequency peculiar to its specific temperature.

In Figure 4 note the band in white centred on 10 micron, which corresponds to approx. 16 degrees C. The temperature range of this band is from approximately -10 to +100 degrees C. Figure 5 also details.

The earth's average temperature (remember 70% is water and a half at any time is in darkness and not subject to incoming solar radiation), is approximately 16 degrees Celsius and radiates at 10 microns. (Note that just happens to be the frequency of the IR radiation which is at the centre of the **outgoing** radiation path shown in white in figure 4)

This outgoing Radiation is the heat valve to bleed off the excess temperature from the sun's radiation (approximately 30%) in order to maintain an ambient temperature balance that allows life to exist here on earth.. This action could be likened to the relief valve on a pressure cooker. It contains the pressure to a defined limit and without it the end result would be catastrophic.

This process acts to remove excess heat from the earth i.e. it COOLS it. If it were not so we would all end up as "crisply critters".

This radiative relief never ceases and operates 24 hours a day, 365 days a year, rain, or shine.

Note well that the characteristics of the main gasses of the atmosphere either don't absorb radiation at all, or don't absorb in this relief clear way. (The exception is ozone and we can have no influence on it and as yet I don't know what part it plays in regulating the outgoing Radiation.)

Whether this is clever design or just good fortune I leave to the reader.

Figure 8 is an image of the earth's outgoing long wave radiation recorded by the CERES (Clouds and the Earth's Radiant Energy System) instrument on board the NASA Aqua satellite (Damadeo and Hanson 2017). This image was compiled from measurements made on Mar. 18 2011 near the time of the Vernal Equinox. The CERES image is a single snapshot of the earth's thermal radiated emission to space for the temperature range between -46C and 7.3C. This bandwidth is illustrated in Figures 6 and 7 coloured in GREEN

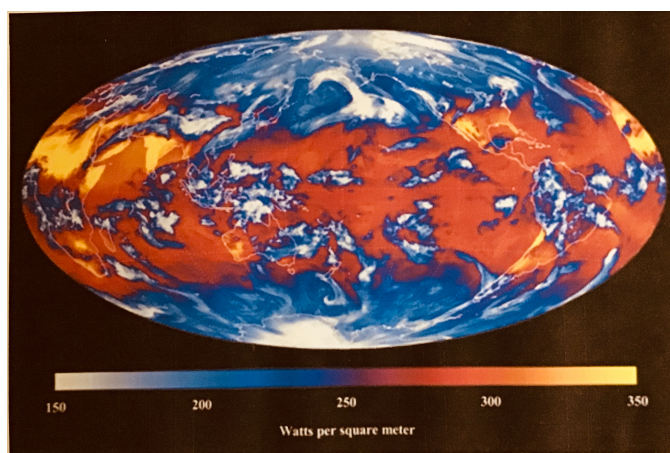


Figure 8

## THE METHANE SITUATION

The concern about methane (CH<sub>4</sub>) is particularly relevant to rural people, especially cattle graziers. It is a VERY scarce trace gas making a total of only 1.8 ppm. That is 1 in every 555,000 molecules of atmospheric gas, of which only 17% is produced by livestock and rubbish tips etc, with swamp gas and natural causes responsible for the balance. However, due to its molecular geometry and composition it is some 7 times as potent as CO<sub>2</sub> as a greenhouse gas and it has a 1/2 life in the atmosphere of approximately 5 years. It has a molecular weight of 16 and is lighter than air (it gathers at ceilings of mines).

Methane only absorbs LWIR in 2 very narrow radiative bands at 3.3 and 7.5 micron corresponding to 700 and 140 degrees Celsius and is therefore outside the outgoing radiative relief band of 8 to 12 micron band. See Figure 5. At all other temperatures Infrared Radiation has an unimpeded pathway to space and the methane content has no greenhouse effect. In any case water vapour has already absorbed the same Infrared Radiation that the methane might have absorbed.

As the atmosphere is 21% oxygen methane readily oxidises to H<sub>2</sub>O and CO<sub>2</sub> at a 2:1 ratio and is cycled out of the atmosphere.

The only possible conclusion we can make is that methane constitutes less than 3/5 ths of 5/8 ths of nothing as a problem greenhouse gas.

## LOGARITHMIC/LINEAR

One point almost always overlooked is the **relationship** between the addition of CO<sub>2</sub> and the increase of Infrared Radiation absorption and hence temperature.

This relationship is not linear but logarithmic. What this means is that each additional CO<sub>2</sub> molecule added to the atmosphere absorbs LESS LWIR. This accords with the law of diminishing marginal returns.

Simply put - doubling the CO<sub>2</sub> concentration has a very little change to the absorption because the effect of the CO<sub>2</sub> only increases as the log of concentration. Or temperature is proportional to the log of CO<sub>2</sub>. See Figure 9 below.

The absolute level of CO<sub>2</sub> is not what matters. CO<sub>2</sub> doesn't warm the atmosphere.

The amount of Long Wave Infrared electromagnetic Radiation that the CO<sub>2</sub> absorbs is what can warm the atmosphere.

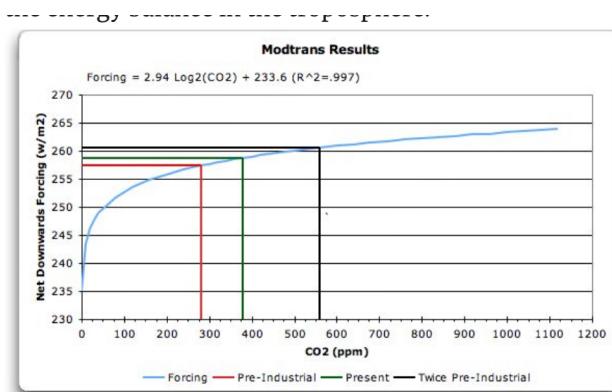


Figure 9°

## RECORD HIGH TEMPERATURES

Record daytime temperatures (eg “hottest day since.....”) are NOT a sign of anthropogenic global warming. Remember the greenhouse gas effect thermalises outgoing LWIR and can **never** be hotter than the radiating source. Therefore record temperatures require NEW additional energy being added to the system. This energy can only come from the sun’s radiative input and is a result of clearer skies (less clouds) and/or increased solar sunspot activity. Note Figures 10 and 11 for appreciation of variations in solar activity.

Short term weather events are based on atmospheric conditions whilst climate is based on long term trends.

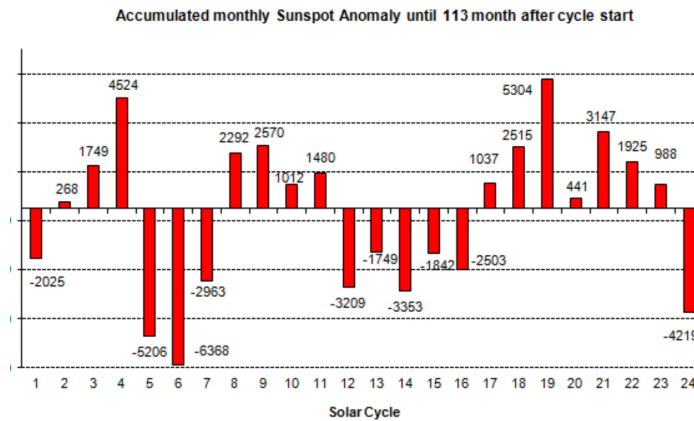


Figure 10

The recorded mean sunspot number (SSN) for April was 8.9, which is only 28% of what is usual 113 months into a solar cycle. In April, 16 days were spotless. The following chart shows sunspot activity:

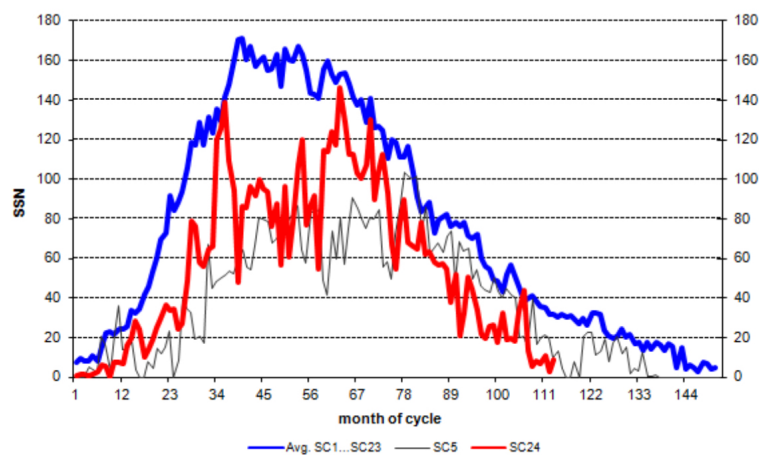


Figure 1: Plot of the monthly sunspot activity for the current cycle (red) compared to SC 5 (black) and the mean of the previous 23 recorded cycles (blue).

Figure 11

## BATTERY STORAGE

Simply put, battery storage, to solve the grid intermittency problem, is insignificant and doomed to remain so for decades if not forever, for so many technical reasons. Cost, ( estimated \$2,500 per kWh), resources required, losses (copper, heat, standby, chemical, charge/discharge cycle), physical size, limited life cycle and explosive danger of concentrated stored energy, to list a few.

Figure 14 is self explanatory to illustrate the start point for development . Currently 1/4,000,000 installed in USA.

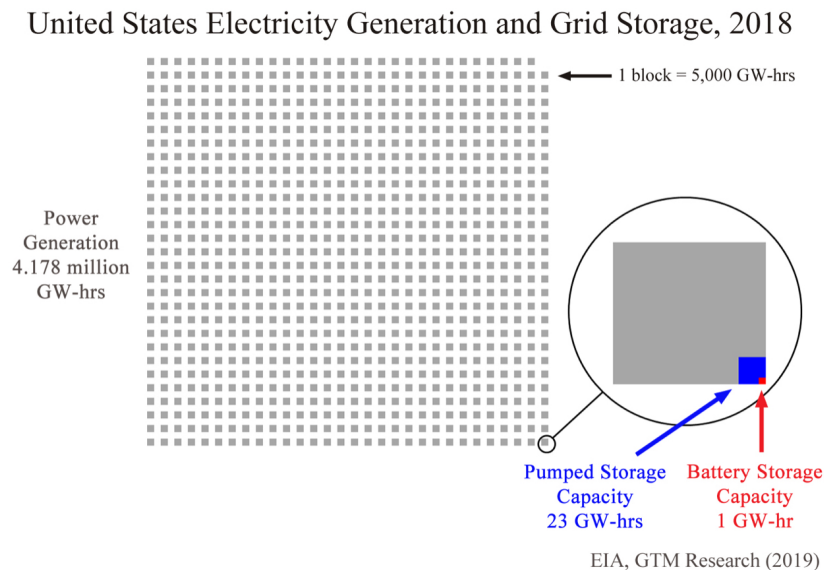


Figure 12

## ELECTRIC VEHICLES IN GERMANY EMIT MORE CO2 THAN DIESEL VEHICLES

A study by the [IFO think tank](#) in Munich found that electric vehicles in Germany emit **11 percent to 28 percent** more carbon dioxide than their diesel counterparts. The study considered the production of batteries as well as the German electricity mix in making this determination. Germany spent thousands of euros on electric car subsidies per vehicle to put a million electric vehicles on the road, but those subsidies have done nothing to reach the country's greenhouse gas emission targets. This is just the latest example of government programs expecting one outcome and getting quite another, instead. To some it is ironic; to others it is funny. At IER, we believe it to be sad, as it is a waste of time and money that could be better put to use solving real problems.



## OCEAN WARMING

There are claims that the oceans are warming. Ocean warming and atmospheric warming are often conflated and the claim is that atmospheric CO<sub>2</sub> is contributing to the warming of the oceans.

In reality high energy visible short wave solar radiation ( THE SUN) is warming the oceans and the oceans are warming the atmosphere above it. Or to put it another way, the net effect of the atmosphere over the oceans is a cooling of the ocean. Remember, heat energy can only flow from a higher temperature to a lower temperature. IR between 13 and 18 microns simply doesn't penetrate or warm water. Atmospheric CO<sub>2</sub> can't be the cause of oceanic warming.

## A REALITY CHECK

The proportion of CO<sub>2</sub> in the atmosphere is approximately .04% or 2500 parts per million.

The **annual** total **increase** in atmospheric CO<sub>2</sub> that is attributable to anthropogenic activity is 3%.

3% of 2500 is 75 ppm.

Of this annual increase Australia is responsible for 1.3%.

1.3% of 75 ppm is 1, ONE, UNO, annually!!!!

If we were to totally shut Australia down for a whole year then we could conceivably save 1 molecule of CO<sub>2</sub> per 1,000,000 from being added to the atmospheric total.

The answer to your question, Mr Shorten, is the cost of doing nothing is just that, nothing.

Can anyone actually believe that a change of 1/1,000,000 ppm of CO<sub>2</sub> can have any appreciable effect on fires, floods, droughts, cyclones, sea rise, coral bleaching and sea acidification across Australia? Even assuming CO<sub>2</sub> is the issue it is claimed to be, which it is not.

Anything we could do in Australia to reduce CO<sub>2</sub> is pure and simple virtue signalling and utterly inconsequential.

In 1973 the length of a day was approximately 86,400.0030 seconds

By 2005 the length of a day was approximately 86,400.0005 seconds

No doubt You had noticed the effect of the length of a day slowing over the 32 years by .0025 or 1/400 of a second and the effect it had on daylight saving? No!

And nor will an extra CO<sub>2</sub> molecule in one million make any difference to the weather in Australia. NONE.

This 13 minute YouTube clip "The Real Climate Crisis of 1936" , [https://m.youtube.com/watch?time\\_continue=818&v=MiDjf77PN3c](https://m.youtube.com/watch?time_continue=818&v=MiDjf77PN3c)

brings a perspective to the issue and is a must for understanding the present concerns about weather events.

## CONCLUSION

THE BENDING ACTION OF THE WEAK LINEAR CO<sub>2</sub> MOLECULE AT 15 MICRONS (RADIATING FROM A TEMPERATURE SOURCE OF -80 DEGREES CELSIUS) IS THE **ONLY** DEFINED CONTRIBUTION IT CAN HAVE TO THE GREENHOUSE GAS EFFECT.

Any claim of CO<sub>2</sub> caused Climate change must be explained through that mechanism.

Why did the last 1 degree C increase in temperature not result in mass extinction when the next 1 degree is forecast to ??

Wake up People, for your kids and grandkids sake.

## CAN WIND TURBINES SAVE THE DAY ?

A Vestas V90, 1.8 MW turbine has a 95 metre tower and a diameter of 90 metres. Each of the 3 blades is 44 metres and has a maximum width of 3.5 metres and a mass of 6700 Kg.

Together the hub and nacelle weigh in at 88 metric tonnes. The weight of the tower is 205 metric tonnes.

To stabilise the turbine the foundation requires 65 tonnes of concrete showing above ground PLUS 570 tonnes below ground and contain 41 tonnes of steel reinforcing bar.

It's power output rating is 1.8 MW but the actual continuous output is more likely to be only 1/4 of that due to unsuitability of wind speeds, and maintenance needs. This output could conceivably supply intermittent power to maybe 200 homes.

The average lifespan of a turbine is estimated to be less than 15 years.

To replace one conventional natural gas or coal plant with a wind farm capable of generating a similar capacity requires approximately 300 square miles of land plus long easements for transmission lines.

The density of energy available per hectare is less than 10% of nameplate capacity.

The environmental damage includes considerable bird and bat mortality, human health damage with infrasound noise (subsonic, less than 20 Hz per second), and visual intrusion on the landscape.



Figure 13

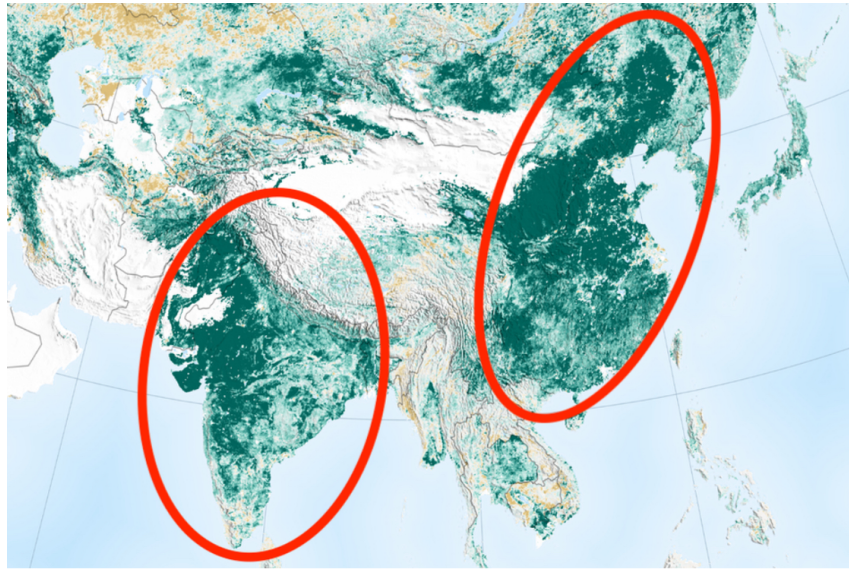
It is highly likely that the concept to disposal energy and CO2 saving equations ( mine, manufacture, transport, install, maintain, decommission and disposal) will be negative for the lifetime of most wind turbines and especially offshore turbines.

Wind farms don't exist to harvest wind energy.

Wind farms exist to harvest tax credits and subsidies.

## IS THERE A POSITIVE TO MORE CO<sub>2</sub>?

NASA satellite imagery proves that in the last 30 years a significant increase in vegetation has occurred across the planet. CO<sub>2</sub> is an essential ingredient for plant growth. Note India and China are predominant and incidentally contribute most of the anthropogenic CO<sub>2</sub> production.



Greening of China and India NASA

Figure 14



Click to enlarge. Green areas are the areas in which the vegetation has increased since 1982, massively in some areas. Infographic: Boston University

Figure 15

## I'M NOT ALONE

In case you think I'm alone on this island the following is a cut of a post to the "What's Up With That" blog, titled "Journalism's Contribution to the Rise of Climate Alarmism" by H Sterling Burnett, P.hD dated

"If a journalist were to visit [CO2Science.org](http://CO2Science.org), the website of the Centre for the Study of Carbon Dioxide and Global Change, or [NoTricksZone.com](http://NoTricksZone.com), for example, he or she would find summaries of literally thousands of peer-reviewed papers that undermine one or multiple fundamental tenets, assumptions, sources of data, or projections behind the theory that humans are causing catastrophic climate change.

For instance, CO2 Science summarises thousands of studies and experiments demonstrating increased carbon dioxide and modest warming tends to benefit plants, including staple crops critical to reducing hunger and malnutrition where it still exists around the world. And each year, the No Tricks Zone gathers on a single website hundreds of studies showing nature (including solar activity and large-scale oceanic patterns) is playing a bigger role in climate than human carbon dioxide emissions, and that assertions climate change is causing more or more-severe weather extremes are just not true.

Over the past decade, thousands of scientists have signed letters attesting to the fact claims made that humans are causing climate change are overstated at best and flatly mistaken at worst. Most recently, nearly 90 prominent Italian scientists wrote an open letter to their government, which states, in part, *Carbon dioxide is itself not a pollutant. On the contrary, it is indispensable for life on our planet.*

*... [T]he anthropogenic origin of global warming is an unproven hypothesis.... On the contrary, the scientific literature has increasingly highlighted the existence of a natural climatic variability that the models are not able to reproduce. This natural variability explains a substantial part of global warming observed since 1850. The anthropogenic responsibility for climate change observed in the last century is therefore unjustifiably exaggerated and catastrophic predictions are not realistic.*

This follows an [open letter](#) from members of the American Physical Society to its ruling council, objecting to its national policy statement on climate change, which the signatories argued wrongly concluded human greenhouse gas emission were changing the climate. And an open letter, signed by nearly 150 international scientists, to then-UN Secretary General Ban Ki Moon, stated, *Climate change science is in a period of "negative discovery"—the more we learn about this exceptionally complex and rapidly evolving field the more we realise how little we know. Truly, the science is NOT settled. Therefore, there is no sound reason to impose expensive and restrictive public policy decisions on the peoples of the Earth without first providing convincing evidence that human activities are causing dangerous climate change beyond that resulting from natural causes.*

The godfather of all letters objecting to climate change alarmism, the [Oregon Petition Project](#), circulated by the Oregon Institute for Science and Medicine and signed by more than 31,000 American scientists, including more than 9,000 with doctorates, states,

*There is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing or will, in the foreseeable future, cause catastrophic heating of the earth's atmosphere and disruption of the earth's climate. Moreover, there is substantial scientific evidence that increases in atmospheric carbon dioxide produce many beneficial effects upon the natural plant and animal environments of the earth.*

It doesn't take much effort to discover the truth about climate change. It is this: there exists a lively debate concerning the causes and consequences of ongoing climate change, and there is an even more active discussion and disagreement concerning whether policies like taxes on carbon dioxide, restrictions on fossil-fuel use, or geoengineering options proposed to mitigate or prevent further climate change would be effective or whether they would, in fact, cause more harm than good."

The fact is : the science IS NOT SETTLED!

## FINALLY

The nail in the coffin of increasing CO<sub>2</sub> causing an increase in global temperature is that the theory doesn't reflect the observed data or support the conclusions. The correlation between CO<sub>2</sub> and global temperature is non-existent. CO<sub>2</sub> increase is a smooth near-linear variable and temperatures are highly variable. (Note the 1997 and 2016 temperature peaks in Figure 16 were El Niño events and 1993 dip relates to the Pinatubo eruption).

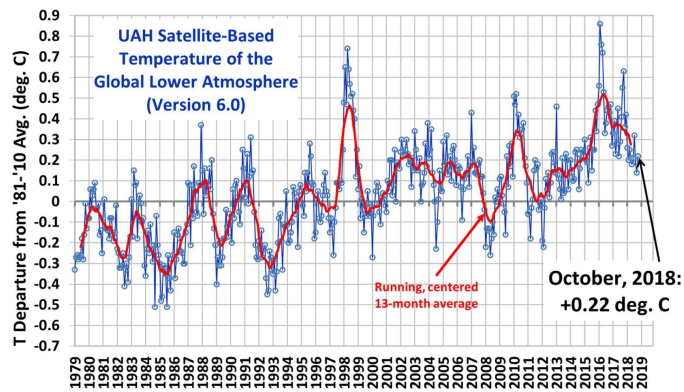


Figure 16

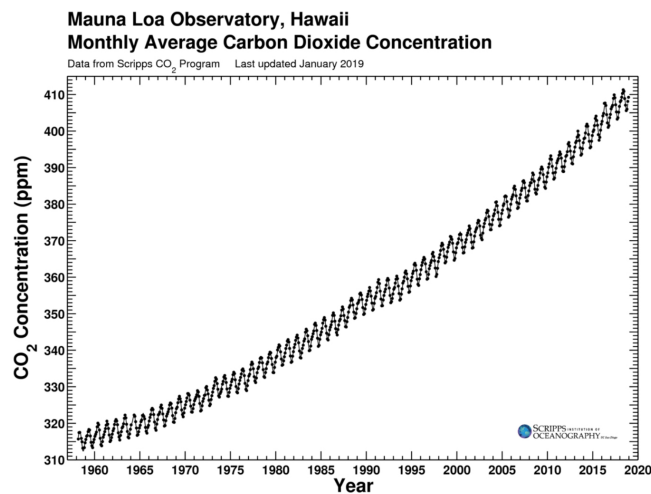


Figure 17

30 years of virtually unchanged temperature in the face of a 35% increase in atmospheric CO<sub>2</sub>!

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