

By email

8 January 2021

Climate Change Committee
151 Buckingham Palace Road
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w theccc.org.uk

Thank you for your recent correspondence received on 14 December, 21 December and 23 December 2020. A copy of your requests is pasted at the end of this letter for reference.

Our response

The Freedom of Information Act relates to recorded information held by a public authority on the day a request for information is made. The reports, research and analysis published on our website provide our assessment of many of the questions you have asked which largely relate to the scientific evidence underpinning our advice to Government.

In particular, we would draw your attention to Chapter 8 of our recent report on the recommended level of the [Sixth Carbon Budget](#). This chapter (starting on page 351) provides a synthesis of the latest scientific literature and draws on a range of published materials referenced in that chapter, particularly the work of the Intergovernmental Panel on Climate Change (IPCC).

With regards to your specific questions on the energy system and societal changes, we would draw your attention to the following published CCC resources:

The Sixth Carbon Budget – [Advice Report](#), [Methodology Report](#) and [Policy Report](#)
The Sixth Carbon Budget – [Databook and Assumptions Log](#)
Net Zero: The UK's contribution to stopping global warming – [Technical Report](#)
Net Zero: The UK's contribution to stopping global – [Integrating variable renewables into the UK electricity system](#)
Net Zero: The UK's contribution to stopping global – [Accelerated Electrification and the GB electricity system](#)

Your remaining questions draw upon a wide range of publicly available information and data sources and seek our opinion on a number of issues. As such, they do not fall within the scope of a request under the FOI Act.

If you do require further information please note that we are only able to respond to specific questions relating to data or records held by the Committee.



If you are dissatisfied with the handling of your request, you have the right to ask for an internal review. If you are not content with the outcome of the review, you may apply directly to the Information Commissioner for a decision.

In keeping with our transparency policy, the information released to you will be published on our website: www.theccc.org.uk. Please note that this publication will not include your personal data.

Kind regards,

Climate Change Committee

- Please provide me with any and all evidence, data and information that CCC holds that proves beyond reasonable doubt that the 1 part in 10,000 rise in atmospheric Co2 in the last 200 years has resulted in no warming of the lower troposphere for Australia, America, North and South Pole over the last 42 years since the advent of lower troposphere – bulk atmosphere – monitoring of temperature by AMSU's on board NASA, NOAA and EU Metop-A,B,C weather satellites?
- Please provide me with any and all evidence, data and information that CCC holds that proves beyond reasonable doubt that they global average temperature anomaly has increased since 1850?
- Please provide me with any and all evidence, data, and information that CCC holds that justifies the belief that the planet being Zero Co2 by 2050 will have any recognisable certifiable or material influence on the global weather and climate and what measures CCC has put in place to register such changes and how those supposed changes will be verifiable?
- Please provide me with any and all evidence, data, and information that CCC holds – accepting that the CCC has already carried out a thorough scientific and physics based due diligence exercise/assessment certified by qualified physics professors – that proves beyond reasonable doubt that if a one part in 10,000 rise in atmospheric Co2 in 200 years has caused all of the warming since the end of the Little Ice Age that mitigation of this miniscule rise in residual Co2 or part of it will not plunge the planet into the depths of the LIA if mitigated? (If CCC believes that Co2 has caused all of the warming since 1850 or 1880 (IPCC) then the CCC has to believe that mitigation of Co2 will cause cooling, if so by how much?)
- Please provide me with all of the evidence, data, and information that the CCC holds that proves beyond reasonable doubt that its risk assessment of the potential harm to humanity, wildlife and the environment of cooling caused by mitigation of Co2 has correctly addressed and recognises the obvious harm that would occur if mitigation of Co2 causes even a fraction of cooling this might induce the next ice age if it coincides with all of the other myriad influences on weather and climate?
- Please provide me with any and all evidence, data and information that CCC holds that it has carried out a full and certifiable risk assessment of what the risks are to 65 million people in the UK if the CCC's Zero Co2 exercise is carried out in full leaving the UK exposed to maybe the onset of repeated freezing temperatures as experienced during the LIA which according to CCC documentation was maybe 1C cooler than today with no physical means of keeping people warm in winter if the wind does not blow which will result in millions of deaths from accidental hypothermia as happened during the LIA? Example: ***“People across Europe awoke on 6 January 1709 to find the temperature had plummeted. A three-week freeze was followed by a brief thaw – and then the mercury plunged again and stayed there. From Scandinavia in the north to Italy in the south, and from Russia in the east to the west coast of France, everything turned to ice. The sea froze. Lakes and rivers froze, and the soil froze to a depth of a metre or more. Livestock died from cold in their barns, chicken's combs froze and fell off, trees exploded and travellers froze to death on the roads. It was the coldest winter in 500 years.” Co2 291ppm.***
- Please provide me with any and all evidence, data and information that CCC holds which evidence that ground source and air source heat pumps,

gas and oil fired boilers will continue to work if the wind stops blowing and the sun stops shining?

- Please provide me with any and all evidence of what with exactitude and specificity what societal changes the CCC has specifically promoted in order for Zero Co₂ to be verifiable and executable by 2050?
- Please provide me with any and all evidence, data, and information that the CCC holds that proves beyond reasonable doubt that the UK being Zero Co₂ by 2050 will have a materially, beneficial, recognisable, verifiable, and certifiable influence on the weather and climate as specifically related to the UK?
- Please provide me with any and all evidence, data, and information that if fossil fuels are banned for consumption by humanity to keep warm in winter, travel and provide medicines, catheters and PPE which allows the NHS to function and allowing farmers to farm. Why is it justifiable for fossil fuels to be used to manufacture bombs, missiles, nuclear weapons fly F35's, Typhoons, helicopters power aircraft carriers, destroyers, frigates, and nuclear submarines, which like wind turbines solar panels and batteries cannot be manufactured without the huge consumption of fossil fuels. This request is relevant because gross the UK emits 1.1% of global Co₂ like Australia but the UK's net emissions after deduction for 50%+ reabsorption by trees plants flowers and crops – which is why they grow, oxygenic photosynthesis – are 0.000187% which means gas boilers for example which are 20% of human emissions in the UK represent 0.0000374% of UK emissions. Why is everything about Zero Co₂ directed at humanity based upon emissions at point of emission not as a percentage of residual emissions because natural emissions exceed human emissions by 28 times and which are infinitely variable and therefore can easily overwhelm the supposedly environmentally threatening nature of human emissions? Why is it only human emissions at 3.4% or 1.7% after reabsorption which are threatening no the 96.6% which are natural? Ehrlich, Malthus, Plato, Boris Johnson, Attenborough - humans are a plague for the planet - presumably this is what CCC believes as well and presumably they include themselves? Peak population growth was in 1968 and since then it has halved with insufficient young people to support aging populations in Japan and Germany.
- Please provide me with any and all evidence, data, and information that the CCC holds that proves beyond reasonable doubt CCC is justified in using emissions as emitted and ignoring what happens after emissions are emitted as justification for being Zero Co₂?
 - Example: **Stop eating** meat that will make a difference. **Cut meat consumption by 40%**. Data tells the truth and **numbers do not lie**. Total methane emissions from all sources including wetlands and fossil fuels are about **614,000,000 tons/year**. Residual atmospheric methane is **0.00017%**. **1.4 billion cows emit 86 million tons** of methane annually which is **14% of total emissions**. **Therefore 14% of – residual CH₄ - 0.00017% is 0.0000238% that is 2.38 trillionths of atmospheric CH₄**. Atmospheric methane needs to be at least 100 times more prolific to have even the slightest influence on climate. Insofar as **UK cows** are concerned which are **0.69% of the global total at 0.0000000229908% of 0.00017%**. **Methane The Irrelevant GHG**. (CH₄) has narrow absorption bands at 3.3 microns and 7.5 microns (the red lines). CH₄ is 20 times more effective an absorber than CO₂ – *in those bands*. However, CH₄ is only 0.00017% (1.7 parts per million) of the atmosphere. Moreover, both of its bands occur at wavelengths where H₂O is already absorbing substantially. Hence, any radiation that CH₄ might absorb has already been absorbed by H₂O. The ratio of the

percentages of water to methane is such that the effects of CH₄ are **completely masked** by H₂O. The amount of CH₄ must increase 100-fold to make it comparable to H₂O. **Because of that, methane is irrelevant as a greenhouse gas. The high per-molecule absorption cross section of CH₄ makes no difference at all in our real atmosphere. It cannot contribute to atmospheric warming or climate change.**

Nutrition:

<http://digitaleditions.telegraph.co.uk/data/409/reader/reader.html?social#!preferred/0/package/409/pub/409/page/53/article/100006> Before anyone especially those who like to promote diets based upon a specific food in relation to that specific foods hypothetical relationship to climate related to its Co₂, CH₄ or N₂O emissions and not its nutritional value. Should read this epic work of research <https://oxford.universitypressscholarship.com/view/10.1093/oso/9780198820116.001.0001/oso-9780198820116> which identifies how deprivation and ignorance of nutrition can lead to absolute harm misery and death. Relating everything about food to its emission values and ignoring basic nutritional reality exposes the hatred at the core of rabid ignorant environmentalism.

- Please provide me with any and all evidence, data and information that proves beyond any reasonable doubt that the Paris Accord if fully implemented will stop, manipulate, moderate, or facilitate humanity exercising control over our climate and weather and by how much, be precise?
- Please provide me with any and all evidence, data and information that proves beyond any reasonable doubt why the 100,000 billion tons of Co₂ emitted in the 18 years and 9 month period from 1998 more than one third of all Co₂ emitted failed to cause an apocalypse but 34 billion tons a year from now until 2030 will according to Greta have a dramatically catastrophic and explosive effect than 100,000 billion tons did not?

Conclusion. Data collected by UAH from six pairs of NASA NOAA and EU Metop-A,B,C weather satellites equipped with the most advanced instrumentation available to mankind namely Advanced Microwave Sounding Units which measure the temperature of the bulk atmosphere – lower troposphere where climate happens registers a long term trend of 0.014C/decade - which identifies a slow down in warming of the bulk atmosphere from 0.15C/decade – or 1.12C by 2100. Co₂ at 0.04C is now saturated therefore if indeed a microscopic amount of the maybe 1C of warming since 1850 was caused by Co₂ that is no unlikely to be repeated because of saturation and the logarithmic effect of Co₂ with every new ppm having less effect than the previous ppm. It is also unlikely that Co₂ will double by 2100 therefore as Bjorn Lomborg calculates Paris if fully implemented was unlikely to trim the global average temperature anomaly by more than 0.048C at a cost of \$180 trillion versus \$700 trillion for Zero Co₂ to be implemented across the planet or the estimated cost of \$3.94 Quadrillion to trim 1C from the global average temperature anomaly by 2100 it pales into insignificance that the CCC and Boris Johnson should try to bully Australia to reduce its emissions when it like the UK only emits a net 0.000187% of global Co₂. It beggars belief that CCC and HMG should be considering the need for huge societal change to rectify a problem which according to the best instrumentation that exists is not happening.

There are 4,000 ARGO buoys in the oceans which register a long term trend of 0.02C/decade or 0.16C by 2100. SLR remains static at 6"/century with no acceleration.

It is patently obvious that CCC is deliberately ignoring and betraying science to use gross emissions as a justification for societal change. Using gross CH₄ emissions as justification for stopping people eating meat when residual CH₄ is

0.00017% of the atmosphere and would need to be 100 times more prevalent to have even the slightest influence on the greenhouse effect.

This is and always has been a crusade to misrepresent reality to impose the aberrant belief that humans simply because they exist are influencing the climate to the detriment of the environment which is not an acceptable argument to impose wholesale destruction of the environment and the continuing raping and pillaging of the environment in order to protect it from the supposed ravages of emissions when without CO₂ the environment would not even exist. The intended consequences of CCC's aberration is that in order to euphemistically save the planet we need to destroy the environment by digging huge holes in it using fossil fuels and then ship all of the stuff dug out of the developing world to carpet the developed world with all of the stuff dug out of the developing world. White colonialism bad Green colonialism is good.

“One has to free oneself from the illusion that international climate policy is environmental policy. This has almost nothing to do with the environmental policy anymore, with problems such as deforestation or the ozone hole,” “We redistribute de facto the world’s wealth by climate policy,” Ottmar Edenhofer, IPCC working group on Mitigation of Climate Change 2008 to 2015.

“This is the first time in the history of mankind that we are setting ourselves the task of intentionally, within a defined period of time, to change the economic development model that has been reigning for at least 150 years, since the Industrial Revolution,” Christina Figueres, Executive Secretary, UN’s Framework Convention on Climate Change. Marxist.

“As early as 1864 George Perkins Marsh, sometimes said to be the father of American ecology, warned that the earth was ‘fast becoming an unfit home for its “noblest inhabitant,” and that unless men changed their ways it would be reduced ‘to such a condition of impoverished productiveness, of shattered surface, of climatic excess, as to threaten the deprivation, barbarism, and perhaps even extinction of the species.” —MIT professor Leo Marx. The IPCC mouths the same nonsensical rhetoric today and it remains scientifically illiterate codswallop.

Short history of environmental madness: Desrochers, Pierre. (Population Bombed!): Exploding the Link Between Overpopulation and Climate Change . as a response to overpopulation.’⁷⁵ Confucius (551–479 BC) and some of his followers argued that excessive population growth may reduce output per worker, lower standards of living and create strife.⁷⁶ Some ancient Indian writings similarly showed ‘profound appreciation of the problems of food and populations’⁷⁷ while **Plato (427–347 BC)** warned that ‘exceed[ing] **the limit of necessity**’ and the ‘unlimited accumulation of wealth’ would trigger expansionary wars, **especially in light of the populace’s fondness for meat**, which would result in struggles over pastureland. Interestingly, his solution was a **vegetarian diet**.⁷⁸ Writing half a millennium later, the Carthaginian Christian theologian Tertullian observed that: [What] most frequently meets our view (and occasions complaint), is our teeming population: our numbers are burdensome to the world, which can hardly supply us from its natural elements; our wants grow more and more keen, and our complaints more bitter in all mouths, while Nature fails in affording us her usual sustenance. In very deed, pestilence, and famine, and wars, and earthquakes have to be regarded as a remedy for nations, as the means of pruning the luxuriance of the human race...⁷⁹ Over a century and a half later, another important figure in the early Church, Saint Jerome, commented that ‘the world is...full, and the population is too large for the soil,’⁸⁰ a problem he believed best addressed through the creation of monasteries. **The first true population catastrophist theorist is generally acknowledged to be the Italian Giovanni Botero (1540–1617) who, two centuries before another lapsed Catholic cleric, Giammaria Ortes (1713–1790) and the better-known Malthus, argued that human population**

would increase to the maximum extent permitted by human fertility, that the means of subsistence **wouldn't keep up, and that the unavoidable result would be poverty**, starvation, war, diseases and population crashes.⁸¹ For his part, Malthus is best remembered for arguing in the first edition of his essay that, in a world where food production grows arithmetically and population – when unrestrained – grows geometrically, mass want and population crashes are unavoidable.⁸² **“As early as 1864 George Perkins Marsh, sometimes said to be the father of American ecology, warned that the earth was ‘fast becoming an unfit home for its “noblest inhabitant,” and that unless men changed their ways it would be reduced ‘to such a condition of impoverished productiveness, of shattered surface, of climatic excess, as to threaten the deprivation, barbarism, and perhaps even extinction of the species.’”** –MIT professor Leo Marx..

Dr Noel Brown of UNEP said in **1989** that we had ten years. Al Gore in **2007** said we **had ten years**. Greta and Attenborough said at Katowice in 2018 that **we had until 2030**. AOC said in 2019 that the **world was going to end in 2030**.

A fact to which the IPCC concurs: **IPCC AR5 (2014): “It is very likely that the mean rate of global averaged sea level rise was 1.7 (1.5 to 1.9) mm/year between 1901 and 2010...and 3.2 (2.8 to 3.6) mm/year between 1993 and 2010. It is likely that similarly high rates occurred between 1920 and 1950.”** (Curry Sea-level paper,

<https://curryja.files.wordpress.com/2018/11/special-report-sea-level-rise3.pdf>)

IPCC AR5 (2014): There is not enough evidence to support medium or high confidence of attribution of increasing trends to anthropogenic forcings as a result of observational uncertainties and variable results from region to region...we conclude consistent with SREX that there is low confidence in detection and attribution of changes in drought over global land areas since the mid-20th century.

(Pielke Jr. testimony,

<https://republicansscience.house.gov/sites/republicans.science.house.gov/files/documents/HHRG115-SY-WState-RPielke-20170329.pdf>)

IPCC AR5 (2014): In summary there continues to be a lack of evidence and thus low confidence regarding the surveysign of trend in the magnitude and/or frequency of floods on a global scale.” Ibid.

IPCC AR5 (2014): Current datasets indicate no significant observed trends in global cyclone frequency over the past century... No robust trends in annual numbers of tropical storms, hurricanes, and major hurricanes have been identified in the past 100 years in the North Atlantic basin.” Ibid

So much for an extra **40GW's** how about **the 3300GW's** we need right now? [G. B. National Grid status \(templar.co.uk\)](http://G.B.NationalGridstatus(templar.co.uk)) Demand **40.50GW's** Wind **0.27GW's**. Therefore today – Sunday - the UK would need **1.32 million 2.5MW** wind turbines to meet demand **or 3300GW's of supply** just to generate **40.50GW's** of electricity. You can get **1GW** of reliable supply for **£1 billion** with coal or methane like **50GW's for £50 billion**. Each turbine costs **£3 million** therefore that is **£3.9 trillion** just for the turbines. Every MW generated by a wind turbine consumes 200 times more raw finite materials than a MW generated by coal or methane. You need 50 acres of land mass for 1MW of wind electricity so you would need 165 million acres of land but the UK has only 66 million acres. [G. B. National Grid status \(templar.co.uk\)](http://G.B.NationalGridstatus(templar.co.uk)) Demand **43.64GW**, CCGT **22.07GW's** Nuclear **6.30GW's**, Biomass **2.93GW's**, Wind **5.61GW's**, Coal **1.53GW's**, Solar **30GW's**. Therefore today to meet the demand of **43.64GW's** the UK would need **68,464 2.5MW** wind turbines or **171GW's** covering **8.6 million acres**. In 2017 the UK experienced 7 consecutive months of windless days. There is no battery that can store electricity for seven months but if it did exist the cost would be beyond **£32 trillion**. **And it isn't even winter yet? 27th November 2020** [G. B. National Grid status \(templar.co.uk\)](http://G.B.NationalGridstatus(templar.co.uk)) Demand **40.20GW's** CCGT **23.16GW's** (57.62%) Nuclear **5.73GW's** Biomass (Wood Pellets from USA) **3.01GW's** Wind **0.44GW's** Coal **2.52GW's** Solar **1.2GW's**. UK would need

803,968 2.5MW wind turbines to meet demand or **2009.92GW**'s of capacity. If solar **40GW**'s of solar. At **1MW /50 acres** Vattenfall would need **100 million acres** of land – UK has **66 million** acres - on or off shore to meet demand at a cost of **£2.4 trillion**. Whereas the UK could **buy 50GW**'s of coal or methane generation at **£1 billion/GW**. **Lord Deben** has not denied an all electric UK would have a peak winter load of **150GW**'s **3.33** times our current peak load. Zero Co2 for the UK between **£6 and £7 trillion** to mitigate **0.000187%** of global Co2 emissions. Every road street and path would need to be dug up at a cost of **£466 billion** but if like **HS2** that cost could double and triple. We remain thankfully within an **interglacial** which is relatively benign in **climate terms** but the **next ice age** is overdue and **by 2100** the mile high ice which existed where your farm is during the **last glaciation** might have returned. The natural cycle despite what you are obliged to believe within the climate catastrophist narrative has not been broken. [Coal Outperforms Wind Power During UK Wind Week! | Watts Up With That?](#) A month ago we would have needed **1.6 million 2.5MW** wind turbines, then **176,000**. The cost of rewiring the UK for an all electric UK is estimated at **£466 billion**.

In America it was hotter in the 1930's, in the UK according to the CET record maintained by the Met Office the UK has just returned to 1538 and Australia 1896. **“Because timber harvesting and thinning have been banned for decades**, thousands of **scrawny trees grow on acreage** that should have just **a few hundred full-sized mature trees**. As of 2017, **tens of billions of scrawny trees mix with 6.3 billion dead trees** in **11 Western states**; state and federal forests in California alone **had over 129 million dead trees**. Those numbers have most assuredly **skyrocketed since 2017**, while steadily increasing dry brush and debris now provide even more tinder for super-heated conflagrations. Flames in average fires along the ground in managed forests might reach **several feet in height and temperatures of 1,472° F (800° C)**, [says Wildfire Today](#). But under conditions now found in western tinderboxes, flame heights can reach 165 feet (50 meters) or more, and crown fires can generate critter-roasting, soil-baking temperatures that exceed 2192 degrees F (1200 C). Wood bursts into flame at 572 F. Aluminum melts at 1220, silver at 1762, and gold at 1943 degrees F (1064 C)! 2192 degrees is hellish.” <https://wattsupwiththat.com/2020/09/20/climate-arson-and-other-wildfire-nonsense/>

Australia experiences high temperatures how about Libya and France? <https://www.theland.com.au/story/6485661/stop-the-eucalypts-they-burn-too-easily/> **43.2C (109.8 °F)** Broût-Vernet (Allier) July 13, 1983, **43.4C (110.1 °F)** Sartène (Corse-du-Sud) July 23, 2009, **43.7C (110.7 °F)** Le Blanc (Indre) August 1, 1947, **43.7C (110.7 °F)** Saint-Andiol (Bouches-du-Rhône) August 4, 2003, **43.9C (111.0 °F)** Entrecasteaux (Var) July 7, 1982, **44C (111 °F)** Toulouse (Haute-Garonne) August 8, 1923, **44.1C (111.4 °F)** Saint-Christol-lès-Alès and Conqueyrac, Gard August 12, 2003, The capital of France's Yonne department was also the hottest city in France that year with the mercury rising to **41.1C**. Mexico, Somalia, India routinely reach **50C**, **Sudan 52C**, **Oman 53C**, **Iran 45C**, **Algeria 53C**, **Iraq 54C**, **Saudi Arabia 54C** and **Libya 57.8C** **Dubai 53C**. After a [recent Sky News Television interview](#) that I did with Chris Smith several people have contacted me about the hottest day ever recorded in Australia. They have suggested it is **16th January 1889** being **53.1 degrees Celsius** at Cloncurry in Queensland.

<https://wattsupwiththat.com/2020/01/04/it-has-been-hotter-fires-have-burnt-larger-areas/>. <http://joannenova.com.au/2015/01/forgotten-extreme-heat-el-nino-of-1878-when-miners-yearned-for-the-years-when-theyd-knock-off-at-44-4c/> <https://wattsupwiththat.com/2020/01/04/it-has-been-hotter-fires-have-burnt-larger-areas/> <https://www.thetimes.co.uk/article/australias-eco-fundamentalism-turns-to-ashes-zwwqmx79d>

Its an alarm bell its never happened before it's a canary in the cage we are all going to die!! No lower tropospheric warming since 1978 and only two tenths of warming before then OMG. Imagine anyone believing that 414ppm now is more potent than 8,000ppm during the Cambrian, **imbecilic**. **Marble Bar 1924 160 straight days above 38C. 53C Charles Sturt 1824**. You need to get your heads examined. <http://joannenova.com.au/2019/01/forgotten-history-50->

[degrees-everywhere-right-across-australia-in-the-1800s/](#) Contrast that with last week when towns in the outback reached 48 and 49C and the [Bureau of Meteorology senior forecaster Michael Efron](#) said — “*They are pretty incredible temperatures.*” Seriously. It’s hard to believe that after a quadrillion megatons of emissions we are nearly as hot as we were in 1896? It’s as if hundreds of measurements of similar temperatures across four states of Australia and on many occasions from 1828 to 1939 don’t even exist. **The worst heatwave was probably January 1896 when the nation was “like a furnace”.** From a post in 2012: All these measurements are wrong too? [Extreme heat in 1896: Panic stricken people fled the outback on special trains as hundreds die. It is as if history is being erased. For all that we hear about recent record-breaking climate extremes, records that are equally extreme, and sometimes even more so, are ignored.](#)

In January 1896 a savage blast “like a furnace” stretched across Australia from east to west and lasted for weeks. The death toll reached 437 people in the eastern states. Newspaper reports showed that in Bourke the heat approached 120°F (48.9°C) on three days [\(1\)\(2\)\(3\)](#). The maximum at or above 102 degrees F (38.9°C) for 24 days straight. By Tuesday Jan 14, people were reported [falling dead](#) in the streets. Unable to sleep, people in Brewarrina walked the streets at night for hours, the thermometer recording [109°F at midnight](#). Overnight, the temperature did not fall below 103°F. On Jan 18 in Wilcannia, five deaths were recorded in one day, the [hospitals were overcrowded](#) and reports said that “*more deaths are hourly expected*”. By January 24, in Bourke, many [businesses had shut down](#) (almost everything bar the hotels). [Panic stricken](#) Australians were [fleeing to the hills](#) in climate refugee trains.

It got hotter and hotter and [the crowded trains](#) ran on [more days of the week](#)...To get a feel for how widespread and devastating it was, read through just one report in one paper (there are scores more). [The Warwick Examiner, Jan 29, 1896](#). Click to enlarge

Computer modelling. Every prediction made upon the results of a climate modelling exercise has been proven wrong. This is why the IPCC switched from making predictions to making projections but increased its level of confidence in its projections beyond that made for its predictions to impose the belief that its projections were more reliable than its predictions but not one of its projections has been proven correct. Dame Julia Slingo having left office said that technology would need to be 1,000 times faster to have a cat in hell’s chance of predicting our climate futures. Her first super computer was justified on its ability to predict our climate 100 years hence and that project failed, dismally. The second Met Office super computer was justified because it was powerful enough to digest a smaller grid size enabling it to predict just UK weather 12 months in advance and that project has also failed. Dr Lizzie Kendon said recently that the UK because of emissions would not have snow by 2100. The same idiotic prediction was made by David Viner in 2000 and he was proven wrong by successive snowy winters and no barbecue summers.

“.....a forecast of what’s going to happen over **a 10-year period** it’s sort of the minimum that people talk about for climate and suppose you’re going to have you’re going to do **fluid dynamical calculation** so you would have **three velocity components** you’d have **three derivatives** and then you’d have some **thermodynamic variables** easily **ten variables** and if you imagine just **one floating point** computer operation per variable and that’s probably a minimum this is going to be the number of values you’d have to compute if you had ten variables for a **10-year period** and if we **assume one time** step the computational time step every second for the outside you know this is what happened one second and then this would happen the next and so on and then we used we counted how **many floating-point operations** we have available over **ten years** and we assumed a **tenth a billion floating-point** operations per second you can probably do better than that but let’s not worry about that it won’t make much difference you can calculate the number of years to compute the **ten year** on the ten year forecast that comes **to ten to the twenty eight years so that’s one with 2000 n to the ten** years so this is a lot **longer than the age of the universe** just to do a ten year forecast done properly now what does that mean I mean that’s that’s a very significant observation well what it means is you

cannot do a proper calculations not possible so if I were to do a model and I was going to forecast the future I would not be able to do a full proper calculation either so I mean this is a very difficult thing and I think people understand that but the consequence then is that that you can't do all of the physics you can't put all of the details in and you have to kind of **fake the small part the small bits** and you do that with so-called parameterizations now engineers use parameterizations when they do things like measuring the new air foil for a plane or something like that but they tune the parameterizations based on Wind tunnel experiments you can't really put the planet Earth in a wind tunnel someplace so you can't really do the experiments or at least in so it really isn't empirical in the same sense as an engineering empiricism so.....”

“In climate research and modelling, we should recognise that we are dealing with a coupled nonlinear chaotic system and therefore that long term prediction of our future climate states is not possible”. The intergovernmental panel on climate change (IPCC) Third Assessment Report (2001) Section 14.2.2.2 Page 774.

We know Climate Change is an exercise to identify ways in which governments can use threats about climate and the environment to find more ways of exercising control of the lives of ordinary people because there remains the belief as vocalised by a celebrity scientist that all of the troubles of the world are caused by ordinary folk trying to mimic the lives of celebrity. Its not celebrity and UN and elites flitting across the planet that is wrong but ordinary folk needing to escape from the daily grind working to finance the elites and their hugely inflated life styles that is causing a problem. But the problem is a created problem based on lurid extrapolations of reality predicated on flawed and false anti science and the inversion of the laws of physics not reality. Weather normality is immaculately curated and graphically illustrated as evidence of abnormality which is easily contradicted by data which is ignored deliberately by those who wish to consigned freedom of behaviour and free speech to the dustbin of history because of fear about the future and the belief that humans because they exist must be having some effect. But when fear cannot be found those who need to rape the public purse see the inversion of reality as an opportunity to gain influence power and money and they don't give a damn about the consequences intended or otherwise to the environment they say is at risk from Co2. When the real risk to the environment is the rape of it and the carpeting over of it to support and justify the belief that the environment needs to be decimated in order to save the planet.

David Wells 14th December 2020.

References:

[Boris Johnson: Global overpopulation is the real issue \(churchandstate.org.uk\)](https://churchandstate.org.uk/boris-johnson-global-overpopulation-is-the-real-issue/)
[Boris Johnson Bans \(Barely\) Affordable Gas Home Heating | Watts Up With That?](https://watts-up-with-that.com/boris-johnson-bans-barely-affordable-gas-home-heating/)
[Global Mean Temp Anomalies 11.12.20.indd \(co2coalition.org\)](https://co2coalition.org/global-mean-temp-anomalies11.12.20.indd/)
[Roger Pielke Jr.'s 2020 Hurricane Season Recap | Watts Up With That?](https://watts-up-with-that.com/roger-pielke-jr-2020-hurricane-season-recap/)
[Net-Zero Carbon Dioxide Emissions By 2050 Requires A New Nuclear Power Plant Every Day \(forbes.com\)](https://forbes.com/net-zero-carbon-dioxide-emissions-by-2050-requires-a-new-nuclear-power-plant-every-day/)
[2006.03098.pdf \(arxiv.org\)](https://arxiv.org/abs/2006.03098) Dependence on earth's thermal radiation on five most abundant greenhouse gas

FOI Request 20th December 2020, Reference Zero Co2. Revision 1A. CCC needs to explain exactly how and why UK is different to Germany & California?

[Lord Christopher Monckton – The Economics Behind Windmills - YouTube](#)
[Battery Basics for Climate Warriors – Watts Up With That? Grid Stability Basics – Watts Up With That?](#)
[Claim: China's Covid-19 Recovery is Not Green Enough – Watts Up With That?](#)
[China Suffering Mass Blackouts Following Aussie Coal Embargo – Watts Up With That?](#)
[Biden's Energy Plans Are Expensive—and Dangerous – Watts Up With That? Study: Wind Power Increases Dependence on Fossil Fuels in EU; Germany Must Soon Begin to Scrap Its Wind Units—A New, Costly Environmental Issue - IER \(\[instituteeforenergyresearch.org\]\(http://instituteeforenergyresearch.org\)\)](#)

- Please provide me with any and all evidence, data and information that CCC holds that proves beyond reasonable doubt that the 1 part in 10,000 rise in atmospheric Co2 in the last 200 years has resulted in no warming of the lower troposphere for Australia, America, North and South Pole over the last 42 years since the advent of lower troposphere – bulk atmosphere – monitoring of temperature by AMSU's on board NASA, NOAA and EU Metop-A,B,C weather satellites?
- Please provide me with any and all evidence, data and information that CCC holds that proves beyond reasonable doubt that the global average temperature anomaly has increased since 1850? When according to Met Office meticulously recorded CET temperature record shows that the UK has only just returned to the temperatures experienced in 1538. And Australia was warmer in 1824 **Marble Bar 1924 160 straight days above 38C. 53C Charles Sturt 1824**. But according to CCC its never happened before?
- Please provide me with any and all evidence, data and information held by CCC that justifies its omission of the fact that mitigation of Co2 denies the environment the basic building block of all life on earth which is oxygenic photosynthesis fuelled by Co2 water and sunlight? 541 million years ago during the Cambrian atmospheric Co2 was at least 8,000ppm whereas today it is 414ppm. During the Cambrian the Sahara bloomed. Co2 is not a pollutant, if it was every one on earth would be dead because there is 40,000 times more Co2 in human lungs than in the atmosphere. On our nuclear submarines the limit is 5,000ppm, on the space station the upper limit is 8,000ppm and in the average university lecture hall it is 1700ppm. Co2 deliberately misrepresented by CCC as carbon which is determined to victimise Co2 but everything on earth is carbon humans are carbon but carbon is a solid Co2 is the essential trace gas.
<https://youtu.be/M8iEE02UIbA> <https://youtu.be/pHCCE-sw> <https://youtu.be/JYQ6eZDXXRE>
- Please provide me with any and all evidence, data and information held by CCC which justifies Co2 being recognised as being harmful to all life on earth when without Co2 there is no life on earth?
- Please provide me with any and all evidence, data and information held by CCC which justifies killing all of the bees if Co2 is mitigated – no Co2 no flowers or crops - to the levels experienced during the LIA which according to Met Office data we are just 0.98C beyond?
- Please provide me with any and all evidence, data and information held by CCC which justifies the belief that insofar as diet is concerned there is one specific diet based upon a specific foods source related to Co2 and

CH₄ is suitable for all of humanity when there is adequate evidence to prove that this is complete and utter nonsense?

<https://youtu.be/Oz03xkwFbw4>. Residual atmospheric CH₄ 0.00017%.



- Please provide me with any and all evidence, data and information held by CCC which justifies the belief that Co₂ drives climate weather and change when historically there is no evidence to justify this belief? 8,000PPM Cambrian, now 414ppm.
- Please provide me with any and all evidence, data and information held by CCC which proves beyond reasonable doubt that CCC has a fully illustrated and verifiable comprehension and understanding of the greenhouse effect?
- Please provide me with any and all evidence, data, and information that CCC holds that justifies the belief that the planet being Zero Co₂ by 2050 will have any recognisable certifiable or material measurable influence on the global weather and climate and what measures CCC has put in place to register such changes and how those supposed changes will be measurable and verifiable? (If it cannot be measured then it is not justifiable)
- Please provide me with any and all evidence, data, and information that CCC holds – accepting that CCC has already carried out a thorough scientific and physics based due diligence exercise/assessment certified by qualified physics professors with an in depth understanding and comprehension of physics as physics relates to climate not the hypothesis related to Co₂ – that proves beyond reasonable doubt that if a one part in 10,000 rise in atmospheric Co₂ in 200 years has caused all of the warming since the end of the Little Ice Age that mitigation of this miniscule rise in residual Co₂ or part of it will not plunge the planet into the depths of **the LIA** if mitigated? (If CCC believes that Co₂ has caused all of the warming since 1850 or 1880 (IPCC) then CCC has to believe that mitigation of **Co₂ will cause cooling**, if so by how much?)
- Please provide me with all of the evidence, data, and information that CCC holds that proves beyond reasonable doubt that its risk assessment of the potential harm to humanity, wildlife and the environment of cooling caused by mitigation of Co₂ has been correctly addressed and recognises the obvious harm that would occur if mitigation of Co₂ causes even a fraction of cooling this might induce the next ice age if it coincides with all of the other myriad influences on weather and climate?
- Please provide me with any and all evidence, data and information that CCC holds that it has carried out a full and certifiable risk assessment of what the risks are to 65 million people in the UK if the CCC Zero Co₂ exercise is carried out in full leaving the UK exposed to the onset of repeated freezing temperatures as experienced during the LIA which according to Met Office documentation was maybe 1C cooler than today with no physical means of keeping people warm in winter if the wind does not blow which will result in millions of deaths from accidental hypothermia as happened **during the LIA?** Example: ***“People across Europe awoke on 6 January 1709 to find the temperature had plummeted. A three-week freeze was followed by a brief thaw – and then the mercury plunged again and stayed there. From Scandinavia in the north to Italy in the south, and from Russia in the east to the west coast of France, everything turned to ice. The sea froze. Lakes and rivers froze, and the soil froze to a depth of a metre or more. Livestock died from cold in their barns, chicken’s combs froze and fell off, trees exploded and travellers froze to death on the roads. It was the coldest winter in 500 years.”*** Co₂ 291ppm. What if any contingency measures will Ofcom put in place to ensure **that 65 million people** will not die as a result of CCC’s Zero Co₂ policy?

- Please provide me with any and all evidence, data and information that CCC holds which evidence that ground source and air source heat pumps, gas and oil fired boilers and hydrogen production will continue to work if the wind stops blowing and the sun stops shining?
- Please provide me with any and all evidence of what with exactitude and specificity what societal changes the CCC has specifically promoted in order for Zero Co2 to be verifiable and executable by 2050? They must be listed in full with each policy directive identifying how much Co2 will be mitigated and how much climate change will be averted or modified with those modifications detailed and how they will be measured. And what benefits will accrue to humanity, the climate, the weather and wildlife recognising that millions of bats, rare species and raptors are being slaughtered by the day by wind turbines and that the imposition of solar panels demands that all prevailing wildlife has to be extinguished or moved to enable wind solar and battery farms.
- Please provide me with any and all evidence, data, and information that CCC holds that proves beyond reasonable doubt that the UK being Zero Co2 by 2050 will have a materially, beneficial, recognisable, verifiable, and certifiable influence on the weather and climate as specifically related to the UK?
- Please provide me with any and all evidence, data, and information that the CCC holds that if fossil fuels are banned for consumption by humanity to keep warm in winter, travel and provide medicines, catheters and PPE which allows the NHS to function and allowing farmers to farm. Why is it justifiable for fossil fuels to be used to manufacture bombs, missiles, nuclear weapons fly F35's – whose technology cannot accommodate using recycled chip fat, which still emits Co2 when it burns - Typhoons, helicopters power aircraft carriers, destroyers, frigates, and nuclear submarines, which like wind turbines solar panels and batteries cannot be manufactured without the huge consumption of fossil fuels. This request is relevant because gross the UK emits 1.1% of global Co2 like Australia but the UK's net emissions after deduction for 50%+ reabsorption by trees plants flowers and crops – which is why they grow, oxygenic photosynthesis – are 0.000187% which means gas boilers for example which are 20% of human UK emissions in the UK represent 0.0000374% of UK emissions. Why is everything about Zero Co2 directed at humanity based upon emissions at point of emission not as a percentage of residual emissions because natural emissions exceed human emissions by 28 times and which are infinitely variable – 38,000 billion tons of Co2 in the oceans - and therefore can easily overwhelm the supposedly environmentally threatening nature of human emissions? Why is it only human emissions at 3.4% or 1.7% after reabsorption which are threatening not the 96.6% which are natural? Ehrlich, Malthus, Plato, Boris Johnson, Attenborough – **“humans are a plague for the planet”**- presumably this is what CCC believes as well and presumably they include themselves? Peak population growth was in 1968 and since then it has halved with insufficient young people to support aging populations in Japan and Germany.
- Please provide me with any and all evidence, data, and information held by CCC that proves beyond reasonable doubt that allowing our energy and environmental policy to be narrowly defined predicated upon Co2 mitigation by rabid environmentalists – Michael Bloomberg, Carrie Symonds, George Monbiot, John Sauven, Craig Bennett, Caroline Lucas, Al Gore, John Kerry, Attenborough, Greenpeace, FOE – 50% funded by the EU – WWF versus Dr(s) John Christy, Roy Spencer, Will Happer, Richard Lindzen and Lord Monckton, who continue to publish studies, data and evidence proving that there is no climate crisis, no apocalypse on the horizon and that all methods of mitigation which are affordable are ineffective and all methods of mitigation which might be effective are unaffordable?

- **Example:** Germany has spent Euros 150 billion on solar panels which if the UN is correct might avert the supposed apocalypse by 1 hour. Please provide me with all data evidence and information that CCC holds which it would use to justify the UK or the planet spending Euros 25 trillion to delay the **UN's supposed apocalypse by one week?** Or as Bjorn Lomborg calculates 37 hours by 2100.
- Please provide me with all data evidence and information held by Ofcom which objectively identifies how much climate change will be averted by grounding all air travel today resulting in a possible 0.03C reduction in the global average temperature anomaly by 2100? And if all air travel only relates to a possible mitigation of 0.03C by 2100 identify why reducing UK air travel would make any difference and if so how will this miniscule change be reflected in the way in which climate will change for the UK first and then for the planet as a whole?
- Please provide me with any and all evidence, data, and information that the CCC holds that proves beyond reasonable doubt CCC is justified in using emissions as emitted and ignoring what happens after emissions are emitted as justification for being Zero Co₂/CH₄?
 - Example: **Stop eating meat? Cut meat consumption by 40%.** Data tells the truth and **numbers do not lie.** Total methane emissions from all sources including wetlands and fossil fuels are about **614,000,000 tons/year.** Residual atmospheric methane is **0.00017%.** 1.4 billion cows emit **86 million tons** of methane annually which is **14% of total** emissions. **Therefore 14% of – residual CH₄ - 0.00017% is 0.0000238% that is 2.38 trillionths of atmospheric CH₄.** Atmospheric methane needs to be at least 100 times more prolific to have even the slightest influence on climate. Insofar as **UK cows** are concerned which are **0.69% of the global total at 0.0000000229908% of 0.00017%.** **Methane The Irrelevant GHG.** (CH₄) has narrow absorption bands at 3.3 microns and 7.5 microns (the red lines). CH₄ is 20 times more effective an absorber than CO₂ – *in those bands.* However, CH₄ is only 0.00017% (1.7 parts per million) of the atmosphere. Moreover, both of its bands occur at wavelengths where H₂O is already absorbing substantially. Hence, any radiation that CH₄ might absorb has already been absorbed by H₂O. The ratio of the percentages of water to methane is such that the effects of CH₄ are **completely masked** by H₂O. The amount of CH₄ must increase 100-fold to make it comparable to H₂O. **Because of that, methane is irrelevant as a greenhouse gas. The high per-molecule absorption cross section of CH₄ makes no difference at all in our real atmosphere. It cannot contribute to atmospheric warming or climate change.**
Nutrition:
<http://digitaleditions.telegraph.co.uk/data/409/reader/reader.html?social#!preferred/0/package/409/pub/409/page/53/article/100006> Before anyone especially those who like to promote diets based upon a specific food in relation to that specific foods hypothetical relationship to climate related to its Co₂, CH₄ or N₂O emissions and not its nutritional value. Should read this epic work of research
<https://oxford.universitypressscholarship.com/view/10.1093/oso/9780198820116.001.0001/oso-9780198820116> which identifies how deprivation and ignorance of nutrition can lead to absolute harm misery and death. Relating everything about food to its emission values and ignoring basic nutritional reality exposes the hatred at the core of rabid ignorant environmentalism.

- Please provide me with any and all evidence, data, and information held by CCC that justifies the huge multi trillion investment needed to become Zero Co2? Lord Deben has not denied that the total cost of UK being Zero Co2 would be between £6 and £7 trillion with a maximum possible winter peak load for an all electric UK at 150GW's
- Please provide me with any and all evidence, data and information that the CCC holds that proves beyond any reasonable doubt that the Paris Accord if fully implemented will stop, manipulate, moderate, or facilitate humanity exercising control over our climate and weather and by how much, be precise?
- Please provide me with any and all evidence, data and information that the CCC holds that proves beyond any reasonable doubt why the 100,000 billion tons of Co2 emitted in the 18 years and 9 month period from 1998 more than one third of all Co2 emitted failed to cause an apocalypse but 34 billion tons a year from now until 2030 will according to Greta/CCC have a dramatically catastrophic and explosive effect than 100,000 billion tons did not?
- Please provide me with any and all evidence, data and information held by the CCC that the UK's replication of Germany/California's failed attempts at huge cost to be green – Germany have spent thus far Euros 697 billion – will achieve the success that Germany and California have not when the physical dynamics of wind solar and batteries have not changed, hydrogen and CCS remain hugely costly and energy dependent with massive losses related to parasitic load and conversion factors and recognising the fact that California and Germany have more brownouts and blackouts than South Africa? What exactly are the benefits to UK consumers? If CCC wants, needs and expects societal change and consumers to pay huge amounts in energy costs and suffer the indignity of societal change and energy poverty experienced massively in Germany and California, kindly explain with accuracy and precision exactly what benefits will accrue? Example: How much less rain, how many fewer storms, how much less snow and ice, how much less food, does societal change mean we have to eat what the CCC says we have to eat in order to save the planet despite the reality that the planet is not at risk having survived massive volcanic explosions 225 million years ago which wiped out 95% of all life on earth? Please explain how a 1 part in 10,000 rise in Co2 and microscopic warming of maybe 0.8c to 1C since 1850 have been entirely beneficial but now CCC expects us to believe that another 1.5C by 2100 – 80 years away – when it has already warmed by 2C since 1750 will cause a disaster that 2C has not? Bearing in mind that every prediction/projection made by the IPCC has proven to be false which is why they switched from making predictions to projections. What projection is the CCC relying upon now when all others thus far have failed to materialise?

“In climate research and modelling, we should recognise that we are dealing with a coupled nonlinear chaotic system and therefore that long term prediction of our future climate states is not possible”. The intergovernmental panel on climate change (IPCC) Third Assessment Report (2001) Section 14.2.2.2 Page 774.

- Please provide me with any and all evidence, data and information held by CCC that the UK's Zero Co2 energy system will be able to cope with situations like the 7 consecutive months of windless days in the UK in 2017. The 2 months of windless days in 2020, in Germany in winter 2012/13 Germany experienced 3 months when their 93GW's of wind and solar failed to generate 1GW and had Germany been unable to import coal fired electricity from Poland and Czechoslovakia millions of Germans would have died from hypothermia. California – rabid – green needs to find 13,000MW's of electricity at sunset because California is heavily reliant on

solar. Boris Johnson has said another 40GW's of wind is enough to supply every home in the UK recent history denies that belief on days the UK would have needed 3300GW's of extra wind capacity. So much for an extra **40GW's** how about **the 3300GW's** we need right now? [G. B. National Grid status \(templar.co.uk\)](https://www.templar.co.uk/gb-national-grid-status) Demand **40.50GW's** Wind **0.27GW's**. Therefore today – Sunday - the UK would need **1.32 million 2.5MW** wind turbines to meet demand **or 3300GW's of supply** just to generate **40.50GW's** of electricity. You can get **1GW** of reliable supply for **£1 billion** with coal or methane like **50GW's for £50 billion**. Each turbine costs **£3 million** therefore that is **£3.9 trillion** just for the turbines. Every MW generated by a wind turbine consumes 200 times more raw finite materials than a MW generated by coal or methane. You need 50 acres of land mass for 1MW of wind electricity so you would need 165 million acres of land but the UK has only 66 million acres. [G. B. National Grid status \(templar.co.uk\)](https://www.templar.co.uk/gb-national-grid-status) Demand 43.64GW, CCGT 22.07GW's Nuclear 6.30GW's, Biomass 2.93GW's, Wind 5.61GW's, Coal 1.53GW's, Solar 30GW's. Therefore today to meet the demand of 43.64GW's the UK would need 68,464 2.5MW wind turbines or 171GW's covering 8.6 million acres. In 2017 the UK experienced 7 consecutive months of windless days. There is no battery that can store electricity for seven months but if it did exist the cost would be beyond £32 trillion. **And it isn't even winter yet?** **27th November 2020** [G. B. National Grid status \(templar.co.uk\)](https://www.templar.co.uk/gb-national-grid-status) Demand **40.20GW's** CCGT **23.16GW's (57.62%)** Nuclear **5.73GW's** Biomass (Wood Pellets from USA) **3.01GW's** Wind **0.44GW's** Coal **2.52GW's** Solar **1.2GW's**. UK would need **803,968 2.5MW** wind turbines to meet demand or **2009.92GW's** of capacity. If solar **40GW's** of solar. **At 1MW /50 acres** Vattenfall would need **100 million acres** of land – UK has **66 million** acres - on or off shore to meet demand at a cost of **£2.4 trillion**. Whereas the UK could **buy 50GW's** of coal or methane generation at **£1 billion/GW**. **Lord Deben** has not denied an all electric UK would have a peak winter load of **150GW's 3.33** times our current peak load. Zero Co2 for the UK between **£6 and £7 trillion** to mitigate **0.000187% of** global Co2 emissions. Every road street and path would need to be dug up at a cost of **£466 billion but if like HS2** that cost could double and triple. We remain thankfully within **an interglacial** which is relatively benign in **climate terms** but the **next ice age** is overdue and **by 2100** the mile high ice which existed where your farm is during the **last glaciation** might have returned. The natural cycle despite what you are obliged to believe within the climate catastrophist narrative has not been broken. [Coal Outperforms Wind Power During UK Wind Week! | Watts Up With That?](#) **A month ago we would have needed 1.6 million 2.5MW wind turbines, then 176,000. The cost of rewiring the UK for an all electric UK is estimated at £466 billion.**

- Presumably societal change means the risk of **starvation, famine, accidental hypothermia and death?** Just another perverse political exercise **in greenwash virtual signalling** which demands the total destruction of the environment in the belief that mitigation of Co2 – the environments life blood and ours – is necessary to save the planet. But if the environment and everything that lives on it is destroyed and decimated which exactly is the point of saving a rotting hulk? Please tell me?? [Lord Christopher Monckton – The Economics Behind Windmills - YouTube](#) [Battery Basics for Climate Warriors – Watts Up With That?](#) [Grid Stability Basics – Watts Up With That?](#)

% of global CO₂ emissions abated

24% of 1.1 GW = 264 MW as fraction of mean 46.5 GW UK electricity demand	1 / 176
Electricity is 1/3 of UK emissions, which are 1.5% of global emissions	1 / 200
= % of global CO ₂ emissions Navitus abates by 2023 1 / 176 of 1 / 200	<0.003%

CO₂ forcing abated

CO ₂ concentration by 2035 WITHOUT Navitus IPCC (2007, Fig. 10.26)	460 $\mu\text{mol mol}^{-1}$
CO ₂ concentration by 2035 WITH Navitus 460 - 0.00284% of (460 - 401)	459.998 $\mu\text{mol mol}^{-1}$
CO ₂ forcing abated after 20 years of Navitus 5.35 ln (460 / 459.99832)	0.00002 W m^{-2}

Global 20yr abatement cost

Unit abatement cost of Navitus \$12.5 bn / 0.00000655 K	\$2 qdrn K⁻¹
Projected global warming, 2016-2035 IPCC (2013, fig. 11.33)	x 0.5 K
Cost of abating 20 years' warming by global Navitus arrays	\$1 qdrn

Global warming abated

CO ₂ forcing abated after 20 years of Navitus 5.35 ln (460 / 459.99832)	0.00000195 W m ⁻²
20-year climate sensitivity parameter IPCC 2001, Ch. 6.1	0.336 K W⁻¹ m²
Global warming abated by Navitus, 2016-2035 0.00000195 x 0.336	0.000007 Kelvin

Conclusion. Data collected by UAH from six pairs of NASA NOAA and EU Metop-A,B,C weather satellites equipped with the most advanced instrumentation available to mankind namely Advanced Microwave Sounding Units which measure the temperature of the bulk atmosphere – lower troposphere where climate happens registers a long term trend of 0.014C/decade - which identifies a slow down in warming of the bulk atmosphere from 0.15C/decade – or 1.12C by 2100. Co2 at 0.04C is now saturated therefore if indeed a microscopic amount of the maybe 1C of warming since 1850 was caused by Co2 that is no unlikely to be repeated because of saturation and the logarithmic effect of Co2 with every new ppm having less effect than the previous ppm. It is also unlikely that Co2 will double by 2100 therefore as Bjorn Lomborg calculates Paris if fully implemented was unlikely to trim the global average temperature anomaly by more than 0.048C at a cost of \$180 trillion versus \$700 trillion for Zero Co2 to be implemented across the planet or the estimated cost of \$3.94 Quadrillion to trim 1C from the global average temperature anomaly by 2100 it pales into insignificance that the CCC and Boris Johnson should try to bully Australia to reduce its emissions when it like the UK only emits a net 0.000187% of global Co2. It beggars belief that CCC and HMG should be considering the need for huge societal change to rectify a problem which according to the best instrumentation that exists is not happening.

There are 4,000 ARGO buoys in the oceans which register a long term trend of 0.02C/decade or 0.16C by 2100. SLR remains static at 6"/century with no acceleration.

It is patently obvious that the Met Office is deliberately ignoring and betraying science and 65 million people to use gross emissions as a justification for societal change. Using gross CH4 emissions as justification for stopping people eating

meat when residual CH₄ is 0.00017% of the atmosphere and would need to be 100 times more prevalent to have even the slightest influence on the greenhouse effect.

This is and always has been a crusade to misrepresent reality to impose the aberrant belief that humans simply because they exist are influencing the climate to the detriment of the environment which is not an acceptable argument to impose wholesale destruction of the environment and the continuing raping and pillaging of the environment in order to protect it from the supposed ravages of emissions when without CO₂ the environment would not even exist. The intended consequences of the Met Office aberration is that in order to euphemistically save the planet we need to destroy the environment by digging huge holes in it using fossil fuels and then ship all of the stuff dug out of the developing world to carpet the developed world with all of the stuff dug out of the developing world. White colonialism bad Green colonialism is good.

“One has to free oneself from the illusion that international climate policy is environmental policy. This has almost nothing to do with the environmental policy anymore, with problems such as deforestation or the ozone hole,” “We redistribute de facto the world’s wealth by climate policy,” Ottmar Edenhofer, IPCC working group on Mitigation of Climate Change 2008 to 2015.

“This is the first time in the history of mankind that we are setting ourselves the task of intentionally, within a defined period of time, to change the economic development model that has been reigning for at least 150 years, since the Industrial Revolution,” Christina Figueres, Executive Secretary, UN’s Framework Convention on Climate Change. Marxist.

“As early as 1864 George Perkins Marsh, sometimes said to be the father of American ecology, warned that the earth was ‘fast becoming an unfit home for its “noblest inhabitant,” and that unless men changed their ways it would be reduced ‘to such a condition of impoverished productiveness, of shattered surface, of climatic excess, as to threaten the deprivation, barbarism, and perhaps even extinction of the species.” —MIT professor Leo Marx. The IPCC mouths the same nonsensical rhetoric today and it remains scientifically illiterate codswallop.

Short history of environmental madness: Desrochers, Pierre. (Population Bombed!): Exploding the Link Between Overpopulation and Climate Change . as a response to overpopulation.’⁷⁵ Confucius (551–479 BC) and some of his followers argued that excessive population growth may reduce output per worker, lower standards of living and create strife.⁷⁶ Some ancient Indian writings similarly showed ‘profound appreciation of the problems of food and populations’⁷⁷ while **Plato (427–347 BC)** warned that ‘exceed[ing] **the limit of necessity**’ and the ‘unlimited accumulation of wealth’ would trigger expansionary wars, **especially in light of the populace’s fondness for meat**, which would result in struggles over pastureland. Interestingly, his solution was a **vegetarian diet**.⁷⁸ Writing half a millennium later, the Carthaginian Christian theologian Tertullian observed that: [What] most frequently meets our view (and occasions complaint), is our teeming population: our numbers are burdensome to the world, which can hardly supply us from its natural elements; our wants grow more and more keen, and our complaints more bitter in all mouths, while Nature fails in affording us her usual sustenance. In very deed, pestilence, and famine, and wars, and earthquakes have to be regarded as a remedy for nations, as the means of pruning the luxuriance of the human race...⁷⁹ Over a century and a half later, another important figure in the early Church, Saint Jerome, commented that ‘the world is...full, and the population is too large for the soil,’⁸⁰ a problem he believed best addressed through the creation of monasteries. **The first true population catastrophist theorist is generally acknowledged to be the Italian Giovanni Botero (1540–1617) who, two centuries before another lapsed Catholic cleric, Giammaria Ortes (1713–1790) and the better-known Malthus, argued that human population**

would increase to the maximum extent permitted by human fertility, that the means of subsistence **wouldn't keep up, and that the unavoidable result would be poverty**, starvation, war, diseases and population crashes.⁸¹ For his part, Malthus is best remembered for arguing in the first edition of his essay that, in a world where food production grows arithmetically and population – when unrestrained – grows geometrically, mass want and population crashes are unavoidable.⁸² **“As early as 1864 George Perkins Marsh, sometimes said to be the father of American ecology, warned that the earth was ‘fast becoming an unfit home for its “noblest inhabitant,” and that unless men changed their ways it would be reduced ‘to such a condition of impoverished productiveness, of shattered surface, of climatic excess, as to threaten the deprivation, barbarism, and perhaps even extinction of the species.’” –MIT professor Leo Marx..**

Dr Noel Brown of UNEP said in **1989** that we had ten years. Al Gore in **2007** said we **had ten years**. Greta and Attenborough said at Katowice in 2018 that **we had until 2030**. AOC said in 2019 that the **world was going to end in 2030**.

A fact to which the IPCC concurs: **IPCC AR5 (2014): “It is very likely that the mean rate of global averaged sea level rise was 1.7 (1.5 to 1.9) mm/year between 1901 and 2010...and 3.2 (2.8 to 3.6) mm/year between 1993 and 2010. It is likely that similarly high rates occurred between 1920 and 1950.”** (Curry Sea-level paper,

<https://curryja.files.wordpress.com/2018/11/special-report-sea-level-rise3.pdf>)

IPCC AR5 (2014): There is not enough evidence to support medium or high confidence of attribution of increasing trends to anthropogenic forcings as a result of observational uncertainties and variable results from region to region...we conclude consistent with SREX that there is low confidence in detection and attribution of changes in drought over global land areas since the mid-20th century.

(Pielke Jr. testimony,

<https://republicansscience.house.gov/sites/republicans.science.house.gov/files/documents/HHRG115-SY-WState-RPielke-20170329.pdf>)

IPCC AR5 (2014): In summary there continues to be a lack of evidence and thus low confidence regarding the surveysign of trend in the magnitude and/or frequency of floods on a global scale.” Ibid.

IPCC AR5 (2014): Current datasets indicate no significant observed trends in global cyclone frequency over the past century... No robust trends in annual numbers of tropical storms, hurricanes, and major hurricanes have been identified in the past 100 years in the North Atlantic basin.” Ibid

In America it was hotter in the 1930's, in the UK according to the CET record maintained by the Met Office the UK has just returned to 1538 and Australia 1896. **“Because timber harvesting and thinning have been banned for decades, thousands of scrawny trees grow on acreage that should have just a few hundred full-sized mature trees. As of 2017, tens of billions of scrawny trees mix with 6.3 billion dead trees in 11 Western states; state and federal forests in California alone had over 129 million dead trees. Those numbers have most assuredly skyrocketed since 2017, while steadily increasing dry brush and debris now provide even more tinder for super-heated conflagrations. Flames in average fires along the ground in managed forests might reach several feet in height and temperatures of 1,472° F (800° C), says Wildfire Today.** But under conditions now found in western tinderboxes, flame heights can reach 165 feet (50 meters) or more, and crown fires can generate critter-roasting, soil-baking temperatures that exceed 2192 degrees F (1200 C). Wood bursts into flame at 572 F. Aluminum melts at 1220, silver at 1762, and gold at 1943 degrees F (1064 C)! 2192 degrees is hellish.”

<https://wattsupwiththat.com/2020/09/20/climate-arson-and-other-wildfire-nonsense/>
If you think Australia experiences high temperatures how about Libya and France? <https://www.theland.com.au/story/6485661/stop-the->

[eucalypts-they-burn-too-easily/](#) **43.2C (109.8 °F)** Broût-Vernet (Allier) July 13, 1983, **43.4C (110.1 °F)** Sartène (Corse-du-Sud) July 23, 2009, **43.7C (110.7 °F)** Le Blanc (Indre) August 1, 1947, **43.7C (110.7 °F)** Saint-Andiol (Bouches-du-Rhône) August 4, 2003, **43.9C (111.0 °F)** Entrecasteaux (Var) July 7, 1982, **44C (111 °F)** Toulouse (Haute-Garonne) August 8, 1923, **44.1C (111.4 °F)** Saint-Christol-lès-Alès and Conqueyrac, Gard August 12, 2003, The capital of France's Yonne department was also the hottest city in France that year with the mercury rising to **41.1C**. Mexico, Somalia, India routinely reach **50C**, **Sudan 52C**, **Oman 53C**, **Iran 45C**, **Algeria 53C**, **Iraq 54C**, **Saudi Arabia 54C** and **Libya 57.8C** **Dubai 53C**. After a [recent Sky News Television interview](#) that I did with Chris Smith several people have contacted me about the hottest day ever recorded in Australia. They have suggested it is **16th January 1889 being 53.1 degrees Celsius** at Cloncurry in Queensland.

<https://wattsupwiththat.com/2020/01/04/it-has-been-hotter-fires-have-burnt-larger-areas/>. <http://joannenova.com.au/2015/01/forgotten-extreme-heat-el-nino-of-1878-when-miners-yearned-for-the-years-when-theyd-knock-off-at-44-4c/> <https://wattsupwiththat.com/2020/01/04/it-has-been-hotter-fires-have-burnt-larger-areas/> <https://www.thetimes.co.uk/article/australias-eco-fundamentalism-turns-to-ashes-zwwqmx79d>

Its an alarm bell its never happened before it's a canary in the cage we are all going to die!! No lower tropospheric warming since 1978 and only two tenths of warming before then OMG. Imagine anyone believing that 414ppm now is more potent than 8,000ppm during the Cambrian, **imbecilic**. **Marble Bar 1924 160 straight days above 38C. 53C Charles Sturt 1824**. You need to get your heads examined. <http://joannenova.com.au/2019/01/forgotten-history-50-degrees-everywhere-right-across-australia-in-the-1800s/> Contrast that with last week when towns in the outback reached 48 and 49C and the [Bureau of Meteorology senior forecaster Michael Efron](#) said — “*They are pretty incredible temperatures.*” Seriously. It's hard to believe that after a quadrillion megatons of emissions we are nearly as hot as we were in 1896? It's as if hundreds of measurements of similar temperatures across four states of Australia and on many occasions from 1828 to 1939 don't even exist. **The worst heatwave was probably January 1896 when the nation was “like a furnace”**. From a post in 2012: All these measurements are wrong too? [Extreme heat in 1896: Panic stricken people fled the outback on special trains as hundreds die. It is as if history is being erased. For all that we hear about recent record-breaking climate extremes, records that are equally extreme, and sometimes even more so, are ignored.](#)

In January 1896 a savage blast “like a furnace” stretched across Australia from east to west and lasted for weeks. The death toll reached 437 people in the eastern states. Newspaper reports showed that in Bourke the heat approached 120°F (48.9°C) on three days [\(1\)\(2\)\(3\)](#). The maximum at or above 102 degrees F (38.9°C) for 24 days straight. By Tuesday Jan 14, people were reported [falling dead](#) in the streets. Unable to sleep, people in Brewarrina walked the streets at night for hours, the thermometer recording [109F at midnight](#). Overnight, the temperature did not fall below 103°F. On Jan 18 in Wilcannia, five deaths were recorded in one day, the [hospitals were overcrowded](#) and reports said that “*more deaths are hourly expected*”. By January 24, in Bourke, many [businesses had shut down](#) (almost everything bar the hotels). [Panic stricken](#) Australians were [fleeing to the hills](#) in climate refugee trains.

It got hotter and hotter and [the crowded trains](#) ran on [more days of the week](#)...To get a feel for how widespread and devastating it was, read through just one report in one paper (there are scores more). [The Warwick Examiner, Jan 29, 1896](#). Click to enlarge

Computer modelling. Every prediction made upon the results of a climate modelling exercise has been proven wrong. This is why the IPCC switched from making predictions to making projections but increased its level of confidence in its projections beyond that made for its predictions to impose the belief that its projections were more reliable than its predictions but not one of its projections has been proven correct. Dame Julia Slingo having left office said that technology would need to be 1,000 times faster to have a cat in hell's chance of predicting our climate futures. Her first super computer was justified on its ability to predict our

climate 100 years hence and that project failed, dismally. The second Met Office super computer was justified because it was powerful enough to digest a smaller grid size enabling it to predict just UK weather 12 months in advance and that project has also failed. Dr Lizzie Kendon said recently that the UK because of emissions would not have snow by 2100. The same idiotic prediction was made by David Viner in 2000 and he was proven wrong by successive snowy winters and no barbecue summers.

“.....a forecast of what's going to happen over a **10-year period** it's sort of the minimum that people talk about for climate and suppose you're going to have you're going to do **fluid dynamical calculation** so you would have **three velocity components** you'd have **three derivatives** and then you'd have some **thermodynamic variables** easily **ten variables** and if you imagine just **one floating point** computer operation per variable and that's probably a minimum this is going to be the number of values you'd have to compute if you had ten variables for a **10-year period** and if we **assume one time** step the computational time step every second for the outside you know this is what happened one second and then this would happen the next and so on and then we used we counted how **many floating-point operations** we have available over **ten years** and we assumed a **tenth a billion floating-point** operations per second you can probably do better than that but let's not worry about that it won't make much difference you can calculate the number of years to compute the **ten year** on the ten year forecast that comes **to ten to the twenty eight years so that's one with 2000 n to the ten years** so this is a lot **longer than the age of the universe** just to do a ten year forecast done properly now what does that mean I mean that's that's a very significant observation well what it means is you cannot do a proper calculations not possible so if I were to do a model and I was going to forecast the future I would not be able to do a full proper calculation either so I mean this is a very difficult thing and I think people understand that but the consequence then is that that you can't do all of the physics you can't put all of the details in and you have to kind of **fake the small part the small bits** and you do that with so-called parameterizations now engineers use parameterizations when they do things like measuring the new air foil for a plane or something like that but they tune the parameterizations based on Wind tunnel experiments you can't really put the planet Earth in a wind tunnel someplace so you can't really do the experiments or at least in so it really isn't empirical in the same sense as an engineering empiricism so.....”

“In climate research and modelling, we should recognise that we are dealing with a coupled nonlinear chaotic system and therefore that long term prediction of our future climate states is not possible”. The intergovernmental panel on climate change (IPCC) Third Assessment Report (2001) Section 14.2.2.2 Page 774.

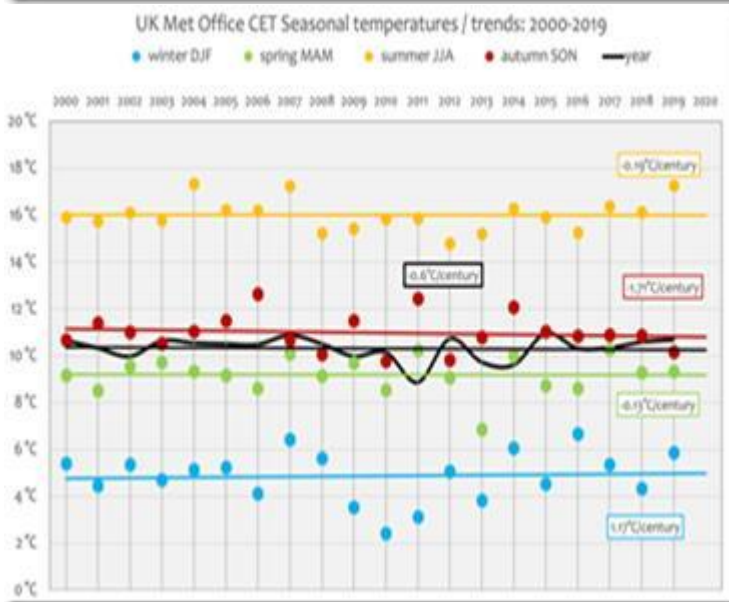
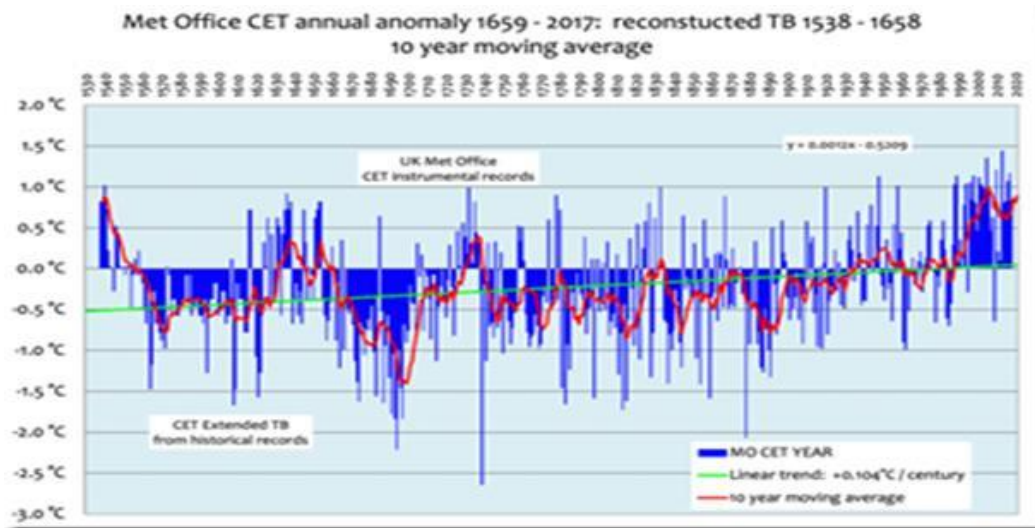
We know Climate Change is an exercise to identify ways in which governments can use threats about climate and the environment to find more ways of exercising control of the lives of ordinary people because there remains the belief as vocalised by a celebrity scientist that all of the troubles of the world are caused by ordinary folk trying to mimic the lives of celebrity. Its not celebrity and UN and elites flitting across the planet that is wrong but ordinary folk needing to escape from the daily grind working to finance the elites and their hugely inflated life styles that is causing a problem. But the problem is a created problem based on lurid extrapolations of reality predicated on flawed and false anti science and the inversion of the laws of physics not reality. Weather normality is immaculately curated and graphically illustrated as evidence of abnormality which is easily contradicted by data which is ignored deliberately by those who wish to consign freedom of behaviour and free speech to the dustbin of history because of fear about the future and the belief that humans because they exist must be having some effect. But when fear cannot be found those who need to rape the public purse see the inversion of reality as an opportunity to gain influence power and money and they don't give a damn about the consequences intended or otherwise to the environment they say is at risk from Co2. When the real risk to the

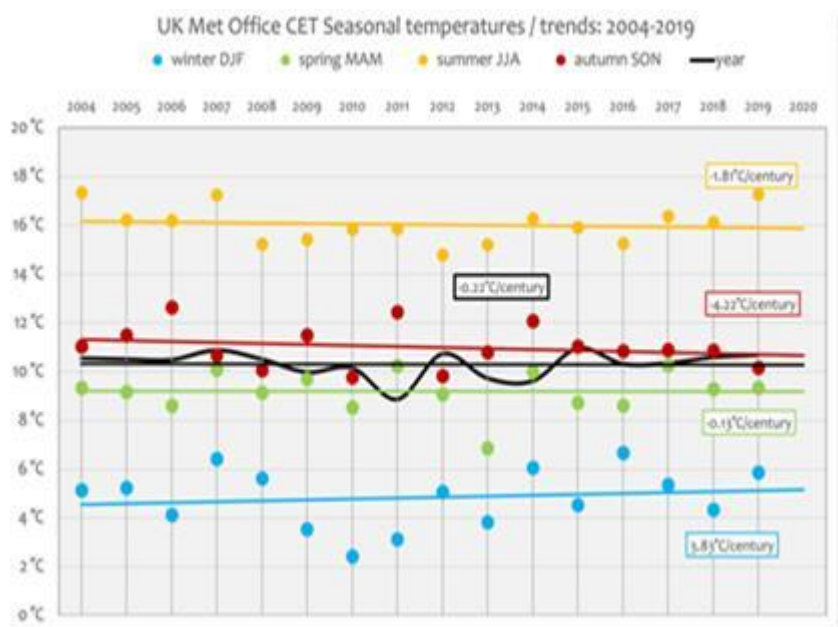
environment is the rape of it and the carpeting over of it to support and justify the belief that the environment needs to be decimated in order to save the planet.

David Wells 14th December 2020.

References:

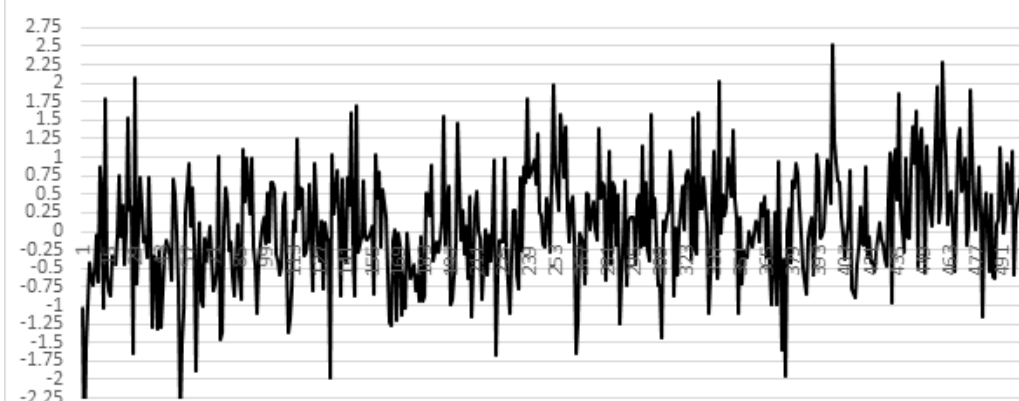
[Former environment senator Fritz Vahrenholt: “We are threatened by a dramatic loss of prosperity” | Watts Up With That?](#)
[NIMBY's are making more noise than wind turbines | Watts Up With That?](#)
[Boris Johnson: Global overpopulation is the real issue \(churchandstate.org.uk\)](#)
[Boris Johnson Bans \(Barely\) Affordable Gas Home Heating | Watts Up With That?](#)
[Global Mean Temp Anomalies 11.12.20.indd \(co2coalition.org\)](#)
[Roger Pielke Jr.'s 2020 Hurricane Season Recap | Watts Up With That?](#)
[Net-Zero Carbon Dioxide Emissions By 2050 Requires A New Nuclear Power Plant Every Day \(forbes.com\)](#)
[2006.03098.pdf\(arxiv.org\)](#) Dependence on earth's thermal radiation on five most abundant greenhouse gases.





UAH Lower Tropospheric - Bulk Atmosphere - Temp data from 6 pairs of NOAA NASA Metop-A,B,C Weather Satellites, 1978 through November 2020.

USA 48 No Warming for 42+ Years



Further supplementary question to the request above, received on 23 December 2020

FOI Request: [G. B. National Grid status \(templar.co.uk\)](http://templar.co.uk) Demand 40.81GW's
Wind 1.22GW's Coal 2.49GW's Solar 0.00GW's CCGT 22.94GW's Biomass
2.41GW's Nuclear 6.25GW's. Boris / CCC says extra 40GW's of wind sufficient to
power every home in the UK, GW's of wind needed now to meet demand
748GW's or 300,000 2.5MW wind turbines or 150,000 5MW turbines or in
loose change £900 billion to mitigate a fraction of 0.000187% of global Co2 or in
the case of gas boilers 0.0000374% of global Co2 emissions, **how much
climate change will this stop or eradicate and over what period of
time?** How does CCC justify the aberrant cost? **19:58 22nd December 2020.**

FOI Request 22nd December 2020, Reference Zero Co2. Revision A1 Updated. CCC needs to explain exactly how and why UK is different to Germany & California? And why numbers, science, physics, history and data from the most advanced instrumentation that we possess, placed into orbit at huge taxpayer expense is ruthlessly and belligerently ignored to entice the people who pay for it to believe they need to be pressured by horrendously misleading propagandist debauchery into societal change for no provable or measurable benefit. Why

is resource depletion for consumerism and capitalism bad but horrendous resource depletion and epic environmental decimation – green colonialism – to mitigate a one part in ten thousand rise in residual atmospheric Co2 over 200 years which can never be quantified good for the planet which will eventually burn in hell when the sun our star implodes self destructs and eats its planets?

Request received 23 December 2020

Supplementary FOI Request Reference Co2/CH4, Zero Co2 and One fits all policy paradigm fixated on beliefs Co2 & CH4 represent danger to the climate.

1. Please provide me with any and all evidence, data and information held by CCC which proves beyond reasonable doubt that the CCC is not contriving to inflict a one fits all paradigm on 66 million people in the UK predicated upon the mistaken beliefs that CO2 and CH4 emissions constitute a threat to the climate which is detrimental to the environment?
2. Please provide me with any and all evidence, data and information held by the CCC which proves beyond reasonable doubt that the CCC is not ruthlessly ignoring all evidence and data which contradicts its beliefs that Co2 and CH4 constitute a threat to the climate which is detrimental to the environment?
3. Please provide me with any and all evidence, data and information held by the CCC which proves beyond reasonable doubt that the CCC is not twisting, perverting, misrepresenting, creating, manufacturing, making false claims, to generate misleading propaganda in support its beliefs that Co2 and CH4 constitute a threat to the climate which is detrimental to the environment. To inflict a one fits all paradigm on 66 million people for no reason other than firmly held beliefs which cannot be substantiated by science, physics, chemistry, history, and common sense?
4. Please provide me with any and all evidence, data and information held by the CCC which proves beyond reasonable doubt that the CCC is not conspiring to ignore the simple truth that a one fits all policy related to home heating, food, diet, nutrition, disease, disability is not beneficial to the environment humanity or wildlife? Example Linda has parkinsons, heart condition, osteoporosis and a severe lumbar scoliosis but is warm whilst myself living at the same temperature in the house suffers from regular hypothermia which my morning temperature dipping to 34.9C. How does CCC home heating policy contends to resolve this epidemiological conflict or as the CCC continues to deploy Attenborough to distort opinion has already signed up to the myths and legends touted by Attenborough's favourite cause celebre Population Matters and the intention of CCC is to drive elderly people to their deaths way before their time in order to save a mythical planet which cannot be at risk from Co2?

Every day of every week evidence arises that debunks all of the "links" that have been made by rabid environmentalist to subvert reality and twist peoples minds into conforming with beliefs which cannot be supported by evidence. One day its red meat linked to cancer, the next day its fruit and vegetables being able to combat cancer. The five a day slogan has diddly squat relationship to health it was a marketing slogan for the California Food Growers Association there is no scientific basis for the claims in this respect made by CCC. Linda McCartney was vegan and died from breast cancer. Another myth – sinking Atolls - exposed which

the CCC has deliberately misrepresented to engage in a huge experiment in social engineering made painfully obvious by its collaboration with and conspiring with the BBC to use its wide but narrowing spectrum of media coverage along with Guardian, Independent, Observer, Times Group and the Telegraph to fill the daily headlines with scare stories about climate to indoctrinate and brainwash humanity into believing stuff which is patently not true and not remotely unusual when you live on hostile planet which contrary to popular belief was not specifically designed for occupation by anyone or anything. Maldives are building four new airports to accommodate 1.7 million expected tourists.



Alarmism Dies In The Maldives: 97% Of 186 Island Coasts Have Grown (59%) Or Not Changed (38%) Since 2005

[Reposted from NoTricksZone](#)

By [Kenneth Richard](#) on 21. December 2020

Despite sea level rise, a 2019 global analysis ([Duvat, 2019](#)) found 89% of 709 island coasts have been either stable or growing in size in recent decades. A new Maldives-only study ([Duvat, 2020](#)) finds rapid (>3 to >50%) coastal growth in 110 of 186 Maldives islands from 2005 to 2016. Just 5 islands – 2.7% – actually contracted in size during this period.

Last year [Dr. Virginie Duvat](#) published a [global assessment](#) of how the Earth's islands and atolls are faring against the ongoing challenge of sea level rise since satellite monitoring began in the 1980s.

Fortunately she found “no widespread sign of physical destabilization in the face of sea-level rise.” In fact, a) none of the 30 atolls analyzed lost land area, b) 88.6% of the 709 islands studied were either stable or increased in area, c) no island larger than 10 hectare (ha) decreased in size, and d) only 4 of 334 islands (1.2%) larger than 5 ha had decreased in size.

FOCUS ARTICLE

A global assessment of atoll island planform changes over the past decades

Virginie K. E. Duvat 

Over the past decades, atoll islands exhibited no widespread sign of physical destabilization in the face of sea-level rise. A reanalysis of available data, which cover 30 Pacific and Indian Ocean atolls including 709 islands, reveals that no atoll lost land area and that 88.6% of islands were either stable or increased in area, while only 11.4% contracted. Atoll islands affected by rapid sea-level rise did not show a distinct behavior compared to islands on other atolls. Island behavior correlated with island size, and no island larger than 10 ha decreased in size.

This review first confirms that over the past decades to century, atoll islands exhibited no widespread sign of physical destabilization by sea-level rise. The global sample considered in this paper, which includes 30 atolls and 709 islands, reveals that atolls did not lose land area, and that 73.1% of islands were stable in land area, including most settled islands, while 15.5% of islands increased and 11.4% decreased in size. Atoll and island areal stability can therefore be considered as a global trend. Importantly, islands located in ocean regions affected by rapid sea-level rise showed neither contraction nor marked shoreline retreat, which indicates that they may not be affected yet by the presumably negative, that is, erosive, impact of sea-level rise.

Importantly, the reanalysis of available data on atoll island planform change indicates that over the past decades to century, no island larger than 10 ha and only 4 out of the 334 islands larger than 5 ha (i.e., 1.2%) underwent a reduction in size. Additionally, these islands experienced limited changes in land area (from +3% to +10%).

Image Source: [Duvat, 2019](#)

This year Dr. Duvat has focused on the Maldives islands, a region characterized as one of the most vulnerable to sea level rise perturbation. About 80% of the islands are less than 1 meter (m) above sea level.

Considering the Maldives population (>400,000) has been doubling every 25 years since the 1960s and nearly 1.3 million tourists visit many of the 188 inhabited islands every year, the Maldives islands are critical to ongoing assessment of the effects of modern sea level change.

And, fortunately, like it has for the rest of the globe, the Maldives are faring quite well.

Due significantly to human ingenuity – engineering feats such as island raising, artificially expanding island areas, and “armoring” shorelines – most of the Maldives have actually *expanded* in size in recent decades.

Since 2005, 110 (59.1%) of the 186 islands studied grew by $\geq 3\%$. Of those 110 expanding islands, 57 grew by $\geq 10\%$ and 19 grew by $\geq 50\%$ ([Duvat, 2020](#)). Again, that's just in the last *decade*.

Of the islands that didn't expand in size, 38.2% (71 islands) were classified as stable (defined as neither growing or contracting by more than 3%). This leaves only 5 islands out of 186 (2.7%) that decreased in size since the 1980s.

Put another way, **97.3% of Maldives islands have been either stable or growing in size since 2005.**

Human-driven atoll island expansion in the Maldives
Virginia K.E. Duvat

Since the pioneer study by Webb and Kench (2010), however, increasing assessments of atoll island change over the recent decades proved the prevailing persistence of the land area of individual islands and atolls. This occurred despite higher (i.e. up to 5.1 ± 0.7 mm/y in Tuvalu over the 1950–2009 period; Becker et al., 2012) than average (~ 1.8 mm/y for the twentieth century; Church et al., 2013) rates of sea-level rise in some atoll regions. Collectively, these assessments showed that, over the past three to five decades, only 11.4 % of the 709 documented Indo-Pacific islands decreased in size, whereas 15.5 % increased and 73.1 % remained stable in area (Duvat, 2019).

These studies investigating short-term island changes thus emphasized two key points: first, the high variability of island behavior (erosion, stability, accretion) depending on the local context; and second, the prominent contribution of natural drivers to observed changes.

Over the past decade, 59.1 % of islands (110 islands, including 62 inhabited and 48 resort islands) increased in size ($x \geq 3$ %), whereas 38.2 % (71 islands, including 42 inhabited and 29 resort islands) were stable and only 2.7 % (5 resort islands) decreased in size (Fig. 2; Supplementary Tables 2 and 3). These data mean that 97.3 % of islands either expanded or were stable in area between 2004–2006 and 2014–2016. The proportions of expanding and stable islands were almost similar for inhabited and resort islands—that is, respectively of 59.6 % and 58.5 % for expansion, and of 40.4 % and 35.3 % for stability. The five resort islands that decreased in size exhibited rates of change comprised between -3.6 % (Kanifushi, Baa Atoll) and -17.7 % (Kandoomafushi, South Kaafu Atoll). These islands had areas between 2.4 (islands Nos. 11 and 33 in Supplementary Table 3) and 15.8 ha (island No. 53) in 2004–06. The results highlight the physical instability of the smallest islands, especially those of less than 10 ha (Duvat, 2019), which predominantly underwent rapid expansion (Fig. 2). A correlation between island size and the amplitude of change also showed the smallest islands undergoing the largest changes. Importantly, 51.8 % of the islands that increased in size (57 islands out of 110, including 33 inhabited and 24 resort islands) experienced growth rates ≥ 10 %, with 13 inhabited and 6 resort islands exhibiting rates ≥ 50 %.

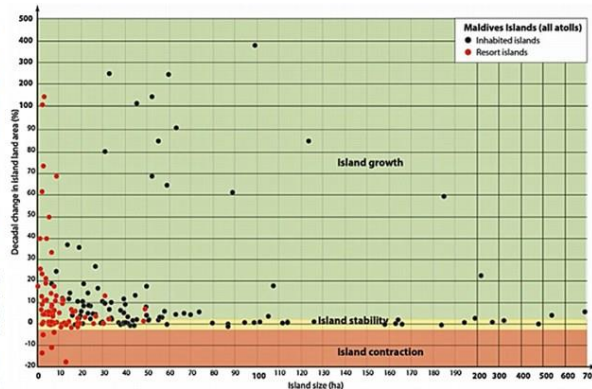


Fig. 2. Decadal change in island land area on 186 inhabited and resort islands in the Maldives. The yellow area corresponds to areal stability ($-3\% < x < 3\%$), while the green and red areas respectively indicate island expansion ($x < -3\%$) and contraction ($x > 3\%$). The sample islands, including islands > 100 ha, predominantly exhibited growth (110 islands; 59.1 %) and secondarily experienced stability (71 islands; 38.2 %). Only 5 small resort islands showed contraction.



Image Source: [Duvat, 2020](#)

Another new study ([Kench et al., 2020](#)) helpfully presents the long-term context of Holocene sea level for the Maldives. We find that islands that are above sea level today were submerged beneath seawater as recently as 3,000 years ago.

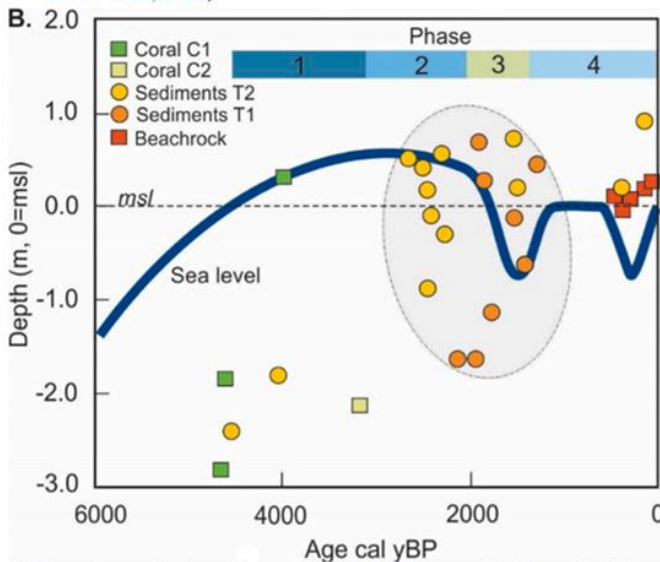
From about 4,000 to 2,000 years ago, Maldives sea levels were about 0.5 m above where they are today. Natural oscillations of ~ 0.8 m in a few centuries have occurred in the last few thousand years, including dips during the Late Antique Little Ice Age (~ 1600 years ago) and Little Ice Age (~ 400 years ago).

Modern sea level changes do not appear to fall outside the range of natural variability.

Evident is the temporal disjuncture between the age and depth of dated corals, and island sediments, that provide insights into the staged development of Vaadhoo. In particular, island ages cluster in a 1000 year period (~2500–1500 yrs) synchronous with a marked transition in sea level from the mid-Holocene highstand 0.5 m above present to a lowstand coincident with the Late Antique Little Ice Age (1600 yBP).

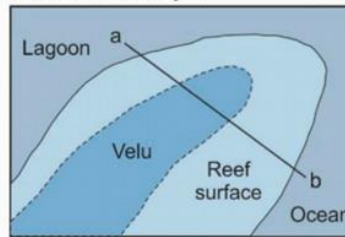
During this time sea level was rising to its mid-Holocene highstand, approximately 0.5 m above present ~3000–2100 years ago (Kench et al., 2009, and Fig. 7) with peripheral reef flats in vertical growth mode allowing wave-driven currents to deliver detrital sediment to the velu.

Sediment ages from auger holes along the western transect (1859 and 1250 cal yBP) a period in which sea level increased by ~0.8 m to its approximate present level, and a later fluctuation in sea level commensurate with the Little Ice Age (Fig. 7; Kench et al., 2020).

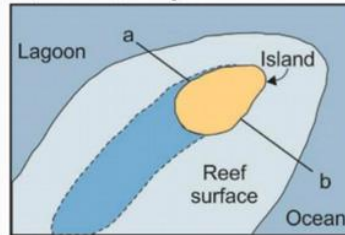


B) Radiometric ages of Vaadhoo sediments and mid- to late Holocene sea level history of the Maldives. Sea level curve for the Maldives Kench et al. (2005) and Kench et al. (2020).

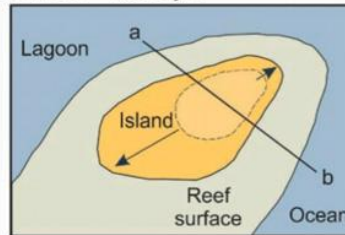
A. 4,500 - 3,000 yBP



B. 3,000 - 2,100 yBP



C. 2,100 - 1,500 yBP



D. 1,500 yBP - Present

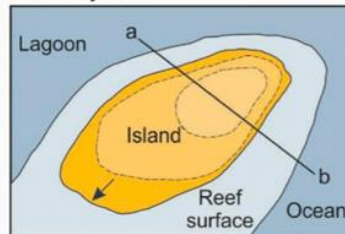


Image Source: [Kench et al., 2020](#)

David Wells 23rd December 2020.