

Why the Climate Change Act should be Repealed, by D S Brodie

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1. Introduction

Politicians, UN bureaucrats, environmentalists, academics, the establishment media and greedy big business have worked together for years to spin an alarmist narrative on the allegedly dangerous effects of alleged man-made global warming and how we must take drastic action to tackle this threat and thereby "save the planet". They have repeated the politically correct mantras of this narrative for so long that they have apparently come to believe that their own made-up propaganda is actually true, e.g. "the science is settled"; "man-made climate change is one of the most serious threats the world faces"; "97% of scientists believe in man-made global warming"; "man-made climate change is causing more frequent extreme weather events" - all debunked within this paper.

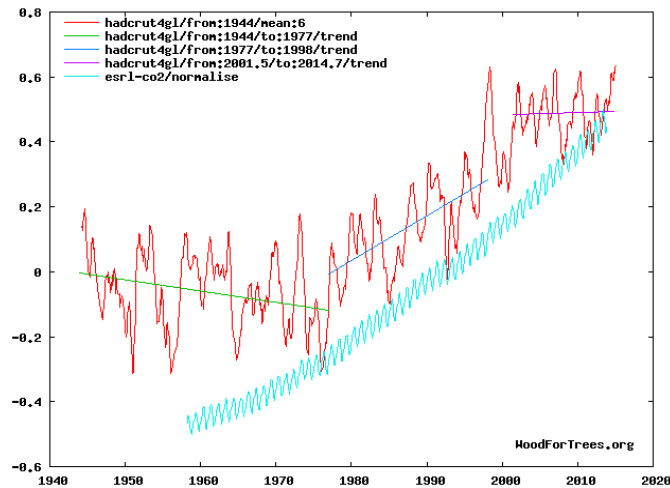
Our politicians are squandering hundreds of billions of pounds trying to tackle a non-problem, hoist on their own petard of having brainwashed the electorate and themselves about "climate change" for so long. Without proper scientific or engineering due diligence they have rushed to adopt technically ineffectual and economically destructive energy policies which can only achieve [marginal, irrelevant decarbonisation](#). Their target of 80% decarbonisation by 2050 is impossible given current technology without shutting down whole swathes of the economy and reverting to a very restrictive sort of society. All they are actually achieving is to drag our country down into a [low efficiency, high cost, fuel poverty rife, blackout-prone, anti-science, anti-growth, de-industrialised, jobs sparse](#) future, all for minimal climate or sustainability benefit.

2. Surface temperatures show no sign of man-made global warming

The steadily worsening problems listed above are due to our fanatical climate and energy policy focus on fighting global warming* allegedly caused by man-made greenhouse gas emissions (henceforth abbreviated to CO₂). This is perverse because **man-made** global warming is simply not happening. The elephant in the room which most politicians and climate alarmists don't see (or don't want to admit) is that there have been just 20 years of sustained global warming in the past 70 years - a brief, unexceptional warming which ended nearly 19 years ago and, crucially, was caused by natural solar and oceanic warming effects, not man-made CO₂, proved by the simple empirical evidence given in Section 3.

* also known as "climate change", the vague, conveniently unfalsifiable term favoured by climate alarmists/propagandists since global warming stopped almost 19 years ago.

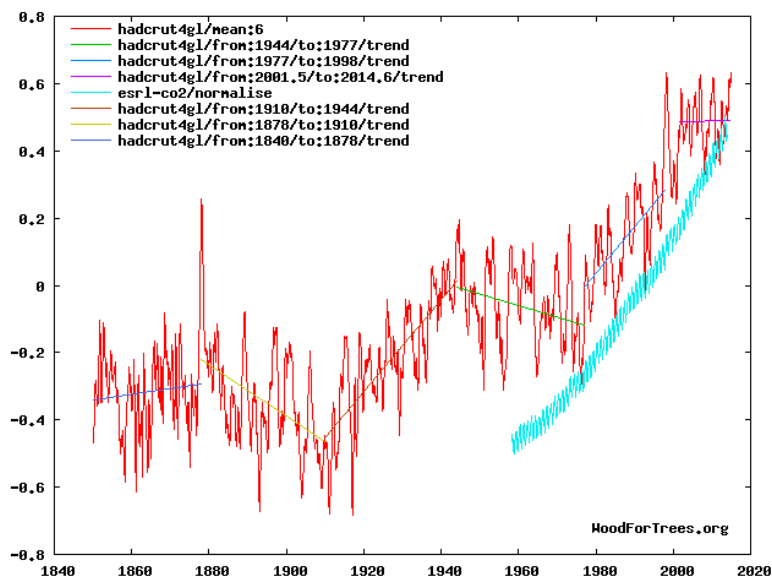
The [graph below](#) shows Met Office global surface temperature from 1945, just before global warming caused by man-made CO₂ allegedly "took off" [according to the UN IPCC](#). It shows steady cooling from around 1945 to 1977, steady warming from around 1977 to 1998 then a [standstill](#) (so-called "pause") leading to the sudden minor warming of the past year which is [acknowledged](#) to be due to natural El Niño [weather](#) and therefore not to man-made CO₂, and steadily rising atmospheric CO₂ as recorded since 1958 (in cyan).



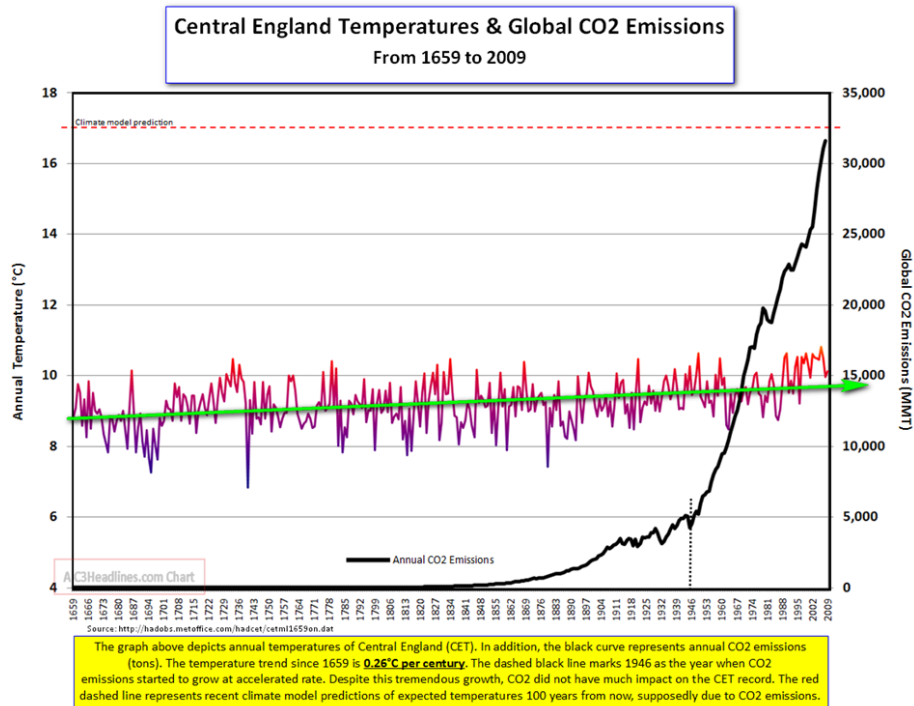
This graph refutes the UN IPCC's underwhelming man-made CO₂ global warming theory, underwhelming because all that its latest AR5 report [weakly](#) claims (rebutted by the evidence) is that man-made CO₂ caused something more than half of the global warming since 1950, i.e. as little as 0.26°C. This concedes that up to two-thirds of the 0.8°C rise in global surface temperature since about 1850 was entirely natural.

The graph shows that rising CO₂ has correlated with rising global temperatures for just 20 of the 70 years since 1945. This temperature record and [the hopeless failure](#) of the UN IPCC's post-1988 climate models to predict the current standstill despite ever-rising atmospheric CO₂ shows that natural climate variability is much more important than has been acknowledged and that man-made CO₂ is [not](#) the main driver of climate change which the UN IPCC shamelessly [claims it to be](#), if indeed it has any net effect at all.

On a longer timescale starting around 1850, [the graph below](#) shows that the previous global warming period from about 1910 to 1944 was of comparable scale to the warming period of the 80s and 90s. The UN IPCC concedes that this earlier warming was due to natural climate variability rather than human influence because CO₂ levels at that time [were too low](#). This invites the question, why shouldn't the warming of the 80s and 90s also have been due to the same natural climate variability, rather than man-made CO₂? Sure enough, the evidence given in Section 3 shows that the global warming of the 80s and 90s was indeed entirely natural, as explained [here](#), just like the earlier 1910-1944 global warming when CO₂ levels were low and like the 1944-1977 [global cooling](#) which, perversely for alarmists, started just when CO₂ levels began to rise exponentially.

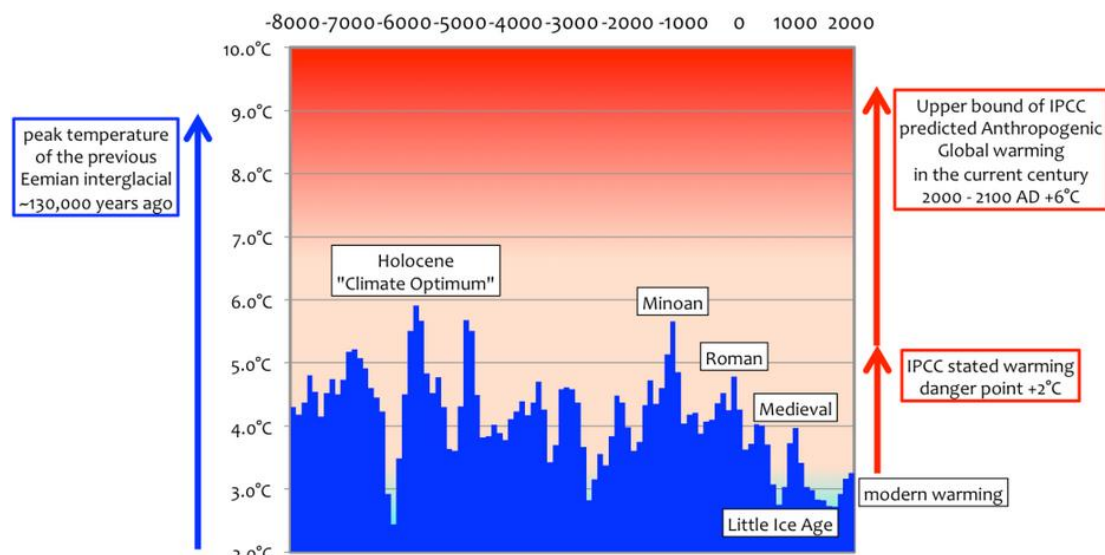


The same argument applies to the warming period of the late 19th century, which means that **man-made** global warming has been non-existent, or at best imperceptible, since the start of industrialisation. In fact our recent warming seems to have been nothing more than a continuation of the natural warming that has been going on since 1659, long before any man-made CO2 emissions, as shown by the trend line in the [graph below](#).



The ups and downs of this Central England Temperature graph show how unremarkable our recent temperature trends have been, e.g. compared with the 2°C warming between about 1695 and 1735, a full 2½ times the allegedly scary rise of the last 150 years.

To put these recent centennial changes into perspective, the [chart below](#) shows how the Earth's temperature has been falling at an accelerating rate for the past 8,000 years, interrupted at millennial intervals by periods of natural global warming. The unbelievable UN IPCC temperature predictions show that the politically conjured +2°C would bring back congenial Roman Warm Period conditions and that an extreme +6°C this century is "off the scale" unbelievable. The biggest sudden increase in our precarious inter-glacial, into the Holocene Optimum, was only +3°C and it took centuries. The trends of the past indicate that our "*most serious (climate) threat*" is global cooling, not global warming.

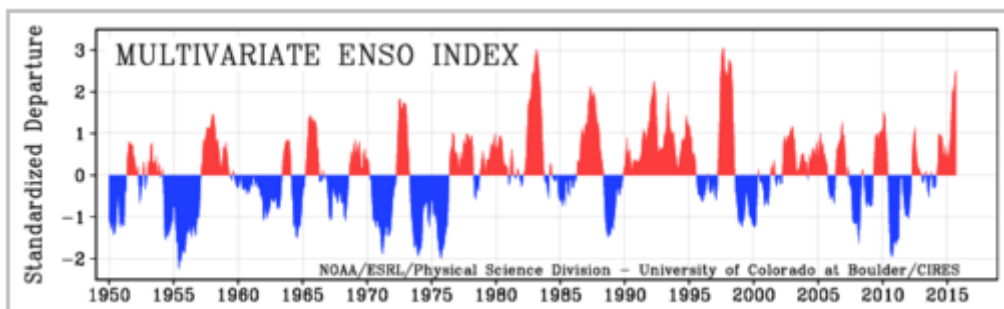


3. Sea surface temperatures show that previous global warming was natural

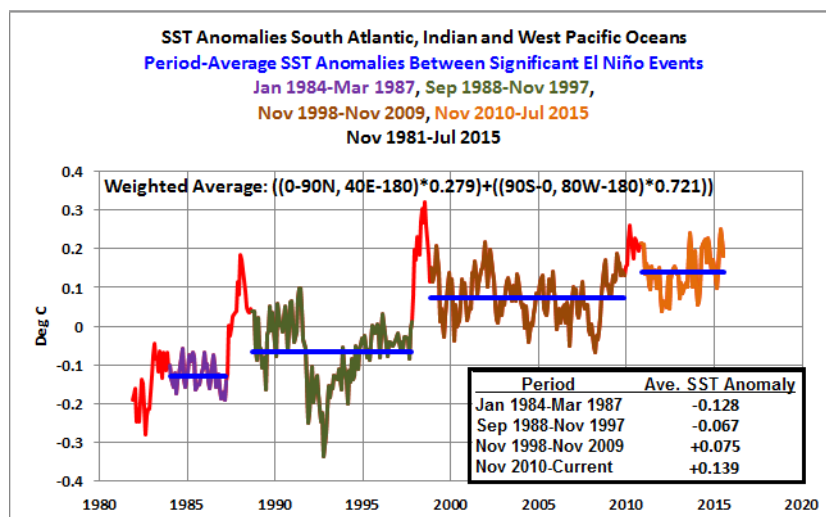
The above analysis of surface temperatures casts a major question mark against the UN IPCC's man-made CO2 global warming theory. However detailed analysis of the global warming that has taken place since about 1980, the only period of steady warming in the last 70 years and a brief one at that, proves that the IPCC's theory is hopelessly flawed.

First some relevant terminology and facts: El Niño Southern Oscillation ([ENSO](#)) is a partly-cyclical, naturally occurring oceanic/solar/atmospheric process which affects equatorial Pacific sea surface temperatures operating over timescales of a few years. Its El Niño and La Niña phases are known to have operated [for centuries](#), well before the rise in man-made atmospheric CO2. Oceanic surface processes of decadal timescale variability include the Pacific Decadal Oscillation ([PDO](#)) and the Atlantic Multidecadal Oscillation ([AMO](#)). Some [ocean circulation](#) changes occur over multi-century timescales. The Earth's oceans have [over 1,000 times](#) the heat capacity of the Earth's atmosphere and, together with the sun, are a major long-term driver of the Earth's climate.

The spikes and troughs in the Section 2 temperature graphs are due to El Niño and La Niña events. They show on the so-called [Multivariate ENSO Index](#) (below) as red and blue respectively. Global temperatures since 1950 correlate very well with this index but poorly with atmospheric CO2. The index shows that naturally warming, sunlight-fuelled El Niños predominated during the warming trend of the 80s and 90s whereas La Niña cooling by deep water upwelling predominated during the cooling trend from the mid 40s to the mid 70s. It also shows that El Niños and La Niñas have been roughly in balance since around 1998, which is consistent with the observed standstill in global surface temperatures. The red spike at the end shows the presently ongoing 2014/15 El Niño.



The details of the global warming that has actually happened from the 1980s can be better seen by looking at the sea surface temperatures where these oceanic events originate, [graphed below](#), as they show the clear-cut El Niño/La Niña characteristics better than the more diffused, amplified global surface (land and ocean) temperatures:



This graph shows that most if not all of the global warming since 1980 has progressed by a series of sudden, natural El Niño warming steps, each step a sharp temperature rise within less than a year, usually followed by an equally sudden natural La Niña cooling. The horizontal blue lines show period averages. The fact that warming El Niños outweighed cooling La Niñas over this period was simply the result of natural climate variability, perhaps because solar activity was very high and global cloud cover was reduced.

This is a knockout debunking of the UN IPCC's **man-made** global warming theory as it is physically impossible for atmospheric CO₂ to cause such sudden step changes in sea surface temperatures. This is because the downwards longwave infrared radiation from greenhouse gases can only penetrate the top few micrometres of the ocean surface, causing evaporative heat release, unlike the shortwave irradiation from sunlight, the fuel of El Niños, which can penetrate and heat the ocean to depths of up to 100 metres.

In any case such sudden surface warming could not be due to man-made CO₂ as it acts (allegedly) at a relative snail's pace. For example, the 1997/98 El Niño caused a global surface temperature rise of 0.4°C in less than a year whereas the UN IPCC's prediction for man-made CO₂ global warming is only about 0.02°C per year, twenty times slower.

Climate alarmists and the IPCC are unable to refute this El Niño analysis. Instead they attempt to mislead by claiming that man-made climate change is getting worse because 2014 global temperatures reached a (disputed) record high, oblivious to (or ignoring) the fact that by making this point they are unwittingly endorsing the above analysis that global warming only happens when natural El Niño warming dominates, as at present.

Some alarmists claim that although surface temperatures have "paused", the Earth is still warming because the oceans are allegedly warming. Some even claim that the deep heat could re-emerge from the ocean depths to cause extra warming. Both claims have been debunked. A recent study found that the heat content of the top 2000 metres did increase between 1955 and 2010, correlated to the natural global cooling and warming cycles shown in the Section 2 graphs. However this equated to an ocean temperature rise of just 0.09°C over 55 years. Because of the second law of thermodynamics this heat is locked away: as the IPCC's Stefan Rahmstorf has said: "*the deep ocean will not release any heat in the next thousand years.*" Furthermore, according to a recent NASA study "*the cold waters of Earth's deep ocean have not warmed measurably since 2005*". There is absolutely nothing scary or unusual about recent trends in ocean heat content.

Away from the UN IPCC's virtual reality world where man-made CO₂ is the main driver of climate change, in the real world of natural climate variability the PDO is just emerging from its cold phase but the AMO is now about to enter its 30-year cold phase, which will act against global warming. On top of these oceanic effects, solar activity has recently waned to its lowest for 100 years and is now eerily similar to the conditions before the Maunder Minimum mini ice age. Temperatures in the Arctic, North Atlantic and UK have fallen quite sharply in recent years. Few people seem to know that most of the UK's warming since 1945 has been reversed by natural cooling over the past decade, only checked as a small uptick by the natural warming of the 2014/15 El Niño.

The massive thermal inertia of the oceans renders the IPCC's more extreme predictions of global warming physically impossible in less than millennial timescales, even if they were to be believed, by which time we could be in the next ice age. Forces of natural climate variability are preventing today's higher CO₂ levels from forcing global temperatures higher. The UN IPCC's climate models should not be taken seriously because they do not take proper account of oceanic and solar effects and other multidecadal and longer drivers of natural climate variability. **Man-made** global warming is a non-problem which only exists inside these flawed computer climate models.

4. The Establishment's blatant climate change propaganda

The two previous sections give a credible layman-level scientific rebuttal of the UN IPCC's man-made CO₂ global warming theory. However there is a non-technical clincher to the argument, namely the high level of blatantly obvious spin, exaggeration, obfuscation and downright deception put out in support of the "climate change" cause. What kind of supposedly noble cause requires such high levels of dishonesty to sustain itself? This section gives a brief outline of the extent of this climate change chicanery.

Firstly, the UN IPCC itself. It brazenly insists that "[the science is settled](#)" when this is [obviously not true](#). Despite the PR image that it tries to portray, the UN IPCC is a blatantly [political, not scientific](#) organisation which does not even study global warming in the round. It was deliberately set up to assess only [man-made risks](#) of climate change which allows it to sneakily downplay natural causes of climate change. Its claim of 95% certainty on man-made global warming in the face of [the hopeless failure](#) of its model predictions is [unfounded](#), insulting [make-believe](#). Politicians have funded/encouraged the UN IPCC scientists and bureaucrats to find (invent) a problem of **man-made** global warming, which they have duly done, in the form of a "[mumbo jumbo](#)" fabrication.

The [Climategate emails](#) leaked in 2009 from the UEA's Climate Research Unit, a key hub of UN IPCC climate science, showed how its [biassed scientists](#) behave like alarmist political activists rather than objective professionals, e.g. when one of them [wrote](#):

"We have got to get rid of the Medieval Warm Period"

This led to the creation of infamous [hockey stick graph](#) which showed no temperature increase for 1,000 years (the handle) with a sudden rise in the 20th century (the blade). This was gleefully promoted by the IPCC as it implied that the late 20th century global warming had been unprecedented. It took years of dogged investigation by layman truth-seekers, hindered all the way by the IPCC climate scientists who refused to make public their data to prove that the hockey stick graph was bogus, created by flawed data and statistical chicanery. The book [The Hockey Stick Illusion](#) details the deception.

A detailed account of the IPCC's spin, misinformation, exaggerations and deceptions is given in the book [The Deliberate Corruption of Climate Science](#) by Dr Tim Ball, who has studied climate scientifically and academically for over forty years ([preface here](#)).

Many [climate alarmists](#) try to defend their misguided stance by claiming that "97% of scientists believe in made-made global warming". This mantra is simply untrue, a climate alarmist propaganda story created using statistical chicanery, exposed in a Nigel Lawson climate think tank [report](#) (and [various others](#)). The unprincipled, [unbalanced](#) Guardian newspaper has even embedded this false 97% consensus mantra [into its masthead](#).

The bogus 97% consensus is easily refuted by the support given to the independent [NIPCC](#) (Nongovernmental International Panel on Climate Change) which has summarised thousands of scientific papers published in refereed journals which disagree with the IPCC's man-made CO₂ global warming theory. Most sceptical scientists are certain that the sun is [overwhelmingly the cause](#) of Earth's climate changes, not man-made CO₂.

The supposedly impartial, taxpayer-funded BBC pumps out an endless stream of blatant climate change [propaganda stories](#). In a recent unguarded moment the BBC's senior environmental reporter revealed not only how partisan he is on climate change, but that he believes the climate change movement is actually all about trying to "[change the entire global economy](#)". The full extent of the BBC's biassed advocacy for climate change is exposed in a Nigel Lawson climate think tank report [here](#). See also [here](#).

The motto of the Royal Society is "*Nullius in verba*" - on the word of no one. In other words, be sceptical, in the broadest scientific sense. However the Royal Society has of

late disregarded its principles with its [unquestioning advocacy](#) and [propaganda](#) for the climate change scare. The extent of its descent is described in two Nigel Lawson climate think tank reports, [here](#) and [here](#). The American Physical Society took the same "follow the money" stance, which led Emeritus Professor of Physics Hal Lewis to resign from the society using [strong words](#) which the biased establishment media never dared report:

"The global warming scam ... is the greatest and most successful pseudoscientific fraud I have seen in my long life as a physicist."

The UK Met Office takes a [politicised](#), [biased](#) stance on climate change. Their record on climate predictions has been [appalling](#) because their [climate models](#) are based on the flawed IPCC theory of man-made CO₂ global warming. Despite all the temperature data record fiddling to exaggerate global warming, the Met Office was reluctantly forced to acknowledge the "pause", [shown below](#). This is a hugely inconvenient truth for alarmists. Not only does it contradict, [even invalidate](#), all of the UN IPCC's doom-mongering climate models, none of which predicted the "pause", it even means that not one of the current generation of school children being fed a steady diet of [climate propaganda](#) by their on-message teachers has ever personally lived during a time of global warming! It also makes a mockery of [unfounded claims](#) that "extreme weather events" are getting worse.



The "pause" has led climate alarmists to advance a myriad of different excuses to try and explain it, thereby confirming that "the science is **not** settled", and even to try and erase it from the scientific record just as they tried with the Medieval Warm Period using the bogus hockey stick graph. At the last count there were [66 different excuses](#), e.g. the "missing heat" is hiding in the deep oceans (debunked), the warming has been suppressed by aerosols (debunked), faster Pacific trade winds (debunked), slower trade winds (debunked) and the recent [Karl et al](#) claim that the pause was just an illusion, caused by inaccurate global temperature data ([debunked](#)). These endless excuses only show [how desperate they are](#). It is high time they admitted that their un/in-validated computer climate model man-made CO₂ global warming theory is [just plain wrong](#).

The UK government dismisses the "pause" with deliberate obfuscation. Its [climate change web page](#) * statement that "13 of the 14 warmest years on record have occurred in the 21st century", which is arguably true, is given as "proof" that **man-made** global warming is happening "now", which is **not** true. All that it shows is that the warming trend of the 80s and 90s, which was fuelled by natural El Niños, not man-made CO₂, lifted the Earth's temperature to a new equilibrium. The next trend is more likely to be cooling than warming based on the repeated natural cycles since 1850 ([shown above](#)), which UN IPCC climate scientists are [busy trying to hide](#) through highly suspicious retrospective [temperature adjustments](#). Hopefully the [temperature data review](#) recently launched by Nigel Lawson's climate think tank will shine a light on these dubious goings-on.

* There are many more examples of "climate change" disinformation on this web page. Why do governments (and the EU, UN and [RS](#)) wilfully try to mislead the public so?

Our stable planet has [negative climate feedbacks](#). The UN IPCC's climate model scary predictions rely on theoretical, thus far disproved [net positive feedbacks](#) to amplify the man-made CO₂ greenhouse effect. That the Earth's climate has not suffered "runaway tipping points" in the past suggests that such positive feedbacks do not exist in nature.

UN IPCC climate scientists use their [flawed, unvalidated](#) computer climate models with their unverified net positive feedbacks to calculate so-called climate sensitivity, the temperature increase which could [in theory](#) result from a doubling of atmospheric CO₂, all other influencing factors being neutral. They gave an overstated central estimate of 3°C in the 2007 AR4 but disgracefully declined to give a figure in their latest 2013 AR5 report, probably because they know it is [no longer scary enough](#) to sustain the narrative of impending [climate catastrophe](#), thanks to recent non-IPCC studies using observational data which give much lower estimates, e.g. 1.6°C by [Lewis and Curry 2014](#). In fact the temperature record of the last 70 years would seem to render these arcane, academic calculations meaningless, suggesting the true climate sensitivity figure is closer to zero.

It seems that the truisms that (i) CO₂ is a greenhouse gas and (ii) greenhouse gases raise the Earth's temperature do not necessarily lead to the conclusion that a gradual increase in atmospheric CO₂ will lead to climate catastrophe. Reality check: the Earth's [most potent](#) and abundant greenhouse gas is water vapour, comprising 95% by volume of all the greenhouse gases. Just 0.04% of the Earth's atmosphere is CO₂, of which only 3% is man-made. This means that, according to [Professor Ian Plimer](#), only one molecule of every 85,000 in the atmosphere is CO₂ of man-made origin. What's more, there is a logarithmic (exponential) drop-off in the [CO₂ warming effect](#) as its concentration rises. Yet we are being asked to believe that the marginal addition of one molecule in 85,000 will lead to the UN IPCC's dire predictions of catastrophic global warming. The UN IPCC's invented [theory](#) of **man-made** CO₂ global warming is simply not believable.

Politicians have been repeating made-up climate change propaganda for so long, appealing to the [unmerited](#) authority of the [duplicious](#) UN IPCC, that they perhaps don't realise that much of what they say on the subject is unfounded. Unfortunately politicians literally politicise the science, effectively turning it into [junk science](#), and this can lead to very great dangers. Parallels [have been drawn](#) between the climate change movement and the misguided, destructive Lysenko doctrines of agricultural science which starved millions to death in Stalin's Russia. There was no basis in science for Lysenko's theories but political support ensured that they dominated Soviet research for 30 years.

The outgoing chairman of the UN IPCC [recently revealed](#) that the climate change cause which he has been promulgating is very different to what the public have been told:

*"For me the protection of Planet Earth, the survival of all species and sustainability of our ecosystems is more than a mission. It is my **religion** and my **dharma**."*

Such missionary zeal may be very laudable, but not when it is promoted by subterfuge. Despite his environmental concerns, the fact is that **man-made** global warming is simply not happening, and the chances of it happening in the future must be almost negligible. The steps being taken to mitigate this imperceptible problem are precipitate to the point of irresponsibility relative to any believable climate threat. In [the words](#) of the greatest living physicist Professor Freeman Dyson: "*the remedies are far worse than the disease that they claim to cure*". Further [quotations](#) from Professor Dyson include:

"There is scant evidence that human activity is causing global temperatures to rise; the climate of the earth is an immensely complicated system and nobody is close to understanding it; even if temperatures do increase significantly, it could actually be a benefit to humanity; the global warming hysteria, as I see it, is driven by politics more than by science."

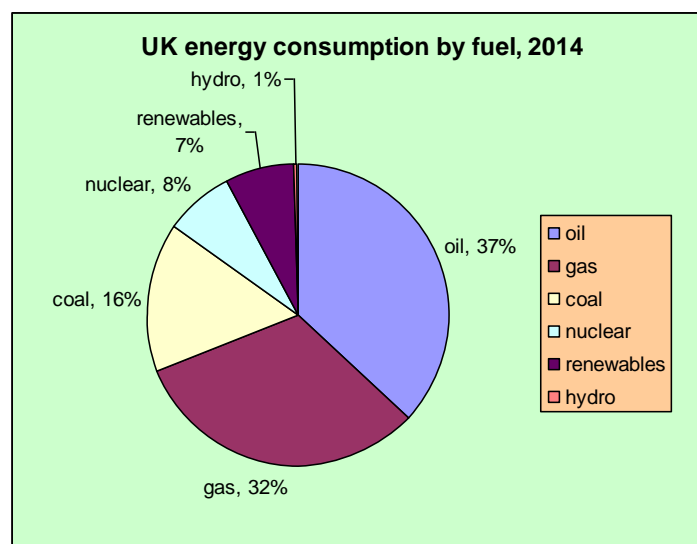
5. Decarbonisation policies are futile and ruinous

The previous sections have explained how **man-made** global warming/climate change is an invented scare which by itself does not merit any direct intervention. Unfortunately the government is intervening, Canute-like, through its energy policies. The problem is that not only are the chosen policies ineffectual and pointless, they are so counter-productive as to be inflicting real damage to our energy infrastructure and entire economy.

The government talks of the so-called trilemma of providing energy which is reliable and secure, affordable and low-carbon (meaning low in CO₂ emissions), aims which obviously conflict. A cautious approach, especially in view of the almost 19-year standstill in global temperatures, would have been to give priority to the first two but the government has given priority to the third in a mad dash to deploy a huge fleet of [disastrous renewables](#). This approach is proving hugely expensive and threatening to our energy and national grid security yet is making only minimal progress on decarbonisation (see Section 6).

Government ministers talk of "the low-carbon transition" to the "low-carbon economy", meaning a draconian cutback in the use of fossil fuels (and emissions of CO₂) within just a few decades, as if it is an unquestionable inevitability. The engineering reality is that this so-called low-carbon transition is impossible on the planned timescales using current energy technology without shutting down whole swathes of the economy. The Energy Secretary responds by saying that these are "exciting times" for the energy industry but she is whistling in the wind. Major energy infrastructure changes do not happen quickly. No breakthrough energy innovations are on the horizon to bail us out of the energy infrastructure shambles that successive governments have landed us in through their ideological crusade against non-existent **man-made** global warming (and against nuclear power by politicians of the left before the "climate change" scare took over).

The pie chart below shows UK energy consumption by fuel type [for 2014](#) (from page 41). It shows that fossil fuel usage was 85% of the UK total, very close to the world average of 86%. This simple chart suggests that the government's hopes of achieving their target of an 80% decarbonisation of the economy by 2050 are forlorn.



The prospects for the UK low-carbon transition are so poor because the government seems to have totally underestimated the scale of the challenge. It has focussed almost all its efforts to date on trying to reduce fossil fuel usage from electricity generation, which has inevitably yielded very little overall progress as electricity generation only accounts for [about 20%](#) of total UK energy consumption. The balance is accounted for by the much more difficult to tackle sectors of heating, transport and industry.

The prospects for the UK low-carbon transition are even worse than suggested by the above pie chart showing that renewables contributed just 7% of the 2014 UK total. This is because there are **major drawbacks** with most of these so-called renewables, on top of their being **much more expensive** than fossil fuels. These drawbacks are outlined below, with shares of UK total energy given in brackets (from [Dukes 2015](#) Chart 6.1).

Wind (1.4%)

The major problem with wind power is its [intermittency](#). It is like a [parasite which is killing](#) the fossil fuel plants essential for its own support. Total UK [wind power supply](#) can drop to [near zero](#) for days on end in cold midwinter when power is needed most. Our entire wind fleet has to be duplicated by conventional plant backup. When the wind is [too strong](#) more wind electricity is generated than the grid can handle, leading to [grid instability](#) unless [expensively constrained](#). The true cost of wind power is double or triple that of gas, see [here](#) and [here](#), and its net CO2 emissions savings are [meagre](#).

Plant Biomass (1.7%)

There are two major problems with plant-burning biomass. Firstly, it is [unsustainable](#), importing clear-felled forests from North America to burn inefficiently in expensively converted UK power stations like Drax because we do not have enough wood of our own. Secondly, it is [not low carbon](#) as it generates [more](#) CO2 emissions than burning coal, especially after taking account of trans-Atlantic transportation. The government promotes plant biomass because an EU-backed carbon accounting fiddle allows it to treat it as "[carbon neutral](#)" and disregard its CO2 emissions, contrary to its own [DECC studies](#), making believe that it is doing "*more for the climate*" than is actually the case. Even [Friends of the Earth](#) say burning pristine plant biomass to "save" CO2 is a nonsense.

Transport Biofuel (0.6%)

Like plant biomass, biofuel is unsustainable. Biofuels are pushing up [world food prices](#) and may even have set off the "[Arab Spring](#)" [food riots](#). Yet the [EU now wants us](#) to increase our use of biofuels even more in a push to get 10% of transport energy from "renewable" sources by 2020. This would cost families £80 a year more in petrol, could make millions of old cars redundant and would further inflate world food prices.

Other Bioenergy (2.7%)

This includes landfill gas, sewage sludge, animal biomass and biodegradables. It seems unlikely there is scope for much expansion of this sector, already almost double wind.

Hydro/tidal (0.3%)

The problem with developing such schemes is that they are very expensive and often very damaging environmentally. A more fundamental problem is that there are simply not enough suitable sites within the UK to allow a significant expansion of this sector.

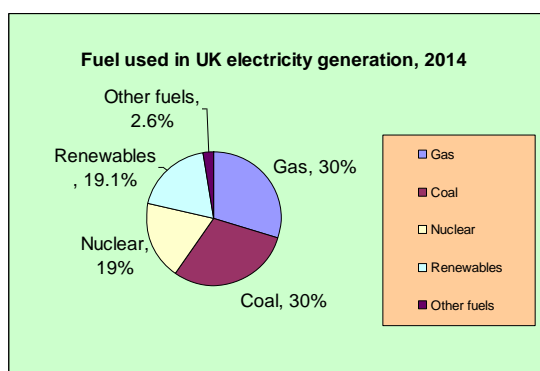
Solar/geothermal (0.3%)

The [major problem with solar](#) in the UK is that it contributes very little in winter when power is needed most (and none at all at night) yet creates a nuisance surplus in summer.

Another reality which politicians seem to ignore is that flexible, responsive fossil fuel powered electricity is essential for balancing the national grid minute by minute every day of the year, as well as providing a share of essential baseload. The government hopes that the major heating and transport emissions reductions needed to meet the 2050 80% decarbonisation target can be achieved by switching from gas and oil to "low/zero carbon" electricity. This would require [at least a doubling](#) of current national electricity supply. Even if this could be engineered, a gargantuan undertaking of gargantuan cost, it would not work because it would require very high levels of intermittent renewables but would lack [necessary grid storage](#). The generating fuel mix would in practice have to be similar to the present, meaning that fossil fuel usage would increase roughly pro rata.

The government is paradoxically pinning its hopes on burning more, not less, finite fossil fuels reserves on electricity generation, but sequestering most of the CO₂ emissions by the energy-hungry process of carbon capture and storage (CCS). In reality this is just a hugely expensive, fossil fuel squandering, potentially dangerous pipe-dream. Using CCS for saving CO₂ emissions is scathingly criticised in [this article](#) by an energy analyst who describes it as "*bonkers*". Drax [recently pulled out](#) of its UK CCS project and there is little or no appetite in [other countries](#) for using this technology solely for CO₂ savings.

With the long-term prospects for the so-called low-carbon economy looking forlorn, the short to medium term prospects for our electricity supply are dire, with our wafer thin 1.2% effective capacity margin leading to warnings of winter blackouts when the wind stops blowing. National Grid is reduced to paying factories to volunteer to switch off when supply cannot meet demand, which must do their businesses no good and simply adds to consumer prices. Consider the following pie chart, from [Dukes 2015](#) (Chart 5.2):



The 19.1% renewables shares of 2014 UK electricity generation was: wind 9%, plant biomass 4%, other bioenergy 3%, hydro 2% and solar 1% (from [Dukes 2015](#) table 6.4). The category "Other fuels" includes oil, STOR diesel and pumped storage.

Cheap coal and gas supplied 60% of our electricity in 2014 yet the carbon price floor tax is designed to force fossil fuel supply out of business in favour of renewables which are mostly incapable of performing the same grid baseload and balancing functions, in denial of the reality that wind and solar supply can fall to near zero when the wind doesn't blow and the sun doesn't shine. The EU's Large Combustion Plant Directive (LCPD) is also forcing coal supply out of business unless expensive plant modifications are undertaken.

An unanticipated consequence of wind (and solar) intermittency and grid standing orders is that wind electricity "steals" market share from fossil fuel plants because it receives higher grid priority, which renders them uneconomic. For example, the capacity factor for CCGT gas plants has fallen dramatically from 70% in 2008 to just 30% in 2014.

As a result, coal is expected to be phased out completely by 2023, barring involvement via unlikely CCS, and many gas plants have been shut down or mothballed (para 2.20). Gas plants will only stay in business if, incoherently, they are paid large subsidies to keep going via the capacity market mechanism, pushing our bills up ever higher.

Nuclear power supplied 19% of our electricity in 2014 yet most of our existing plants are due to be retired within a decade. Unfortunately Gordon Brown sold off the UK's last remaining nuclear expertise to Japan for a song in 2006. The DECC has been struggling to procure the necessary foreign expertise but recently agreed Chinese backing for the 3.2GW Hinkley Point C power station, using a troubled, dubious design from French EDF. The new plant will cost customers at least £4.4 billion and the agreed supply price (£92.50/MWh) is double that of a gas plant. Fortunately progress is being made on a 3.4GW Sellafield project using a better and much cheaper Westinghouse AP1000 design, although completion of this project is not expected before 2026.

A [recent analysis](#) of energy projections reveals that the DECC is relying on a massive programme of new plant construction between now and 2030 which looks very unlikely to be achieved: 43GW of new renewables, 17GW of new gas, 10GW of new nuclear, 5GW of new international interconnectors and 5GW of coal/gas CCS. Even then the UK capacity margin would still be perilously tight, now only 1% yet just a few years ago over 20%.

The new renewables will have to be mostly [short lifespan](#) offshore wind (or "cheating" plant biomass), a ten-fold increase on current offshore capacity which looks unfeasible in view of the many [recently scrapped developments](#). What's more, this could actually [increase CO2 emissions](#) (see Section 6), as could plant biomass. A further difficulty is that the current onshore wind fleet could start to decline within these timescales as old turbines [wear out](#) and are [not replaced](#) due to the recent [withdrawal of subsidies](#).

The new gas equates to 1,100MW of plant every year in the face of very adverse gas plant market conditions, see [here](#) and [here](#), set to worsen as the DECC plans call for these CO2 emitters to be phased out after 2030. The 10GW of new nuclear is equivalent to three Hinkley Points and, what's more, only just exceeds the old nuclear closures due by 2030. The dismal prospects for CCS have already been discussed. If new nuclear and CCS prove to be unfeasible within these timescales then the new build gas would have to be 32GW rather than 17GW, about double the present gas fleet, which if miraculously built would generate more CO2 emissions than the Climate Change Act budget allows.

[Expensive](#) interconnectors are a [double-edged sword](#) which adversely affect [essential dispatchable](#) supplies. Net imports in 2014 were 6% of indigenous production. Adding 5GW could double this. It is irresponsible to rely on imported electricity to keep the lights on because when difficult conditions prevail, supply from abroad is liable to dry up.

These intractable difficulties are leading inexorably towards "the lights going out", now probably unavoidable because of the long lead times on building new plant. As if that wasn't bad enough, the costs of implementing this dysfunctional energy policy are sky-high and are steadily degrading the economy. The government's [strike prices](#) (page 7) for renewables allows £140/MWh for offshore wind (the total cost is even higher when all the wind [external system impacts](#) and constraint payments are taken into account), £105/MWh for biomass (which can emit more CO2 than coal) and a staggering £305/MWh for tidal, all against a [wholesale gas price](#) of ~£40/MWh. Against such subsidies it's a wonder the £92.50/MWh price for new nuclear is not even higher. These policies have driven fuel poverty steadily higher, now [a shocking 39%](#) here in Scotland.

The new post-coalition government seems to have [finally woken up](#) to the catastrophe of its ruinous green energy policies. Following the recent budget, the Office for Budget Responsibility revealed that green levies would [exceed £12 billion per year](#) by 2020. Further green taxes like the Climate Change Levy, Air Passenger Duty and the costs of smart meters gets the total to £16 billion per year, £600 per year per household.

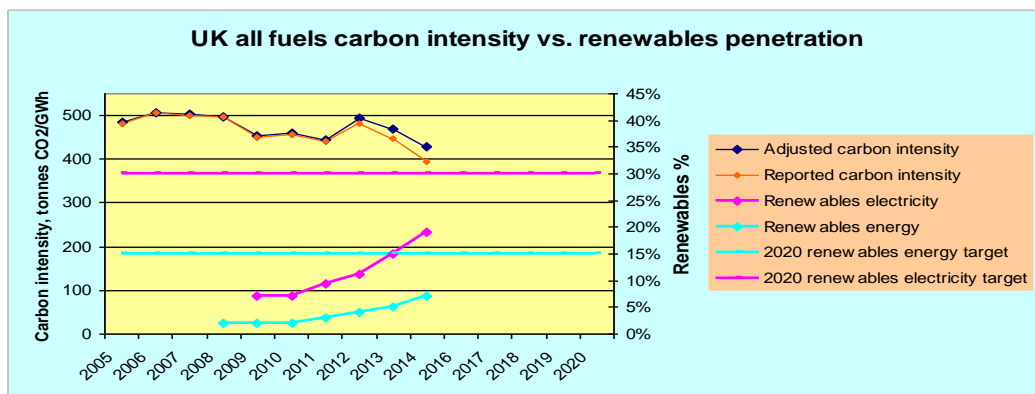
It remains to be seen if the government will have the gumption to tackle the root cause of this craziness, i.e. the pointless and unattainable targets of the Climate Change Act. It is mindboggling that an enlightened country like ours has been sleep-walking into such a disaster with politicians saying they are forced to follow these futile and damaging energy policies because of a [faked consensus](#) on [fictional man-made global warming](#).

Here in Scotland, the perverse result of the SNP's ["irrational"](#), ["pseudo-scientific"](#) support for "climate change" and ideological opposition to new nuclear is that Scotland will soon (when the [Longannet coal-fired station](#) and our two aged nuclear plants have closed down) be almost entirely dependent on thermal/nuclear backup electricity from England to keep the lights on when the wind doesn't blow, with the added twist that 'Climate Change Act' England may not have enough spare capacity to bail us out!

6. Decarbonisation isn't working

Most politicians unquestioningly assume that so-called renewables are "a good thing", paying scant attention to how well they actually perform. Indeed our EU 2020 energy targets are framed in terms of quantity of renewables, never mind the quality. The previous section outlined the main disadvantages of currently available renewables. This section shows how costly renewables are not actually reducing CO2 emissions by all that much. The modest progress to date has come at the high cost of a wafer thin electricity generation capacity margin, cut to the bone by closing down high emitting coal power stations without providing functionally equivalent replacements, e.g. new gas plants.

Most of the emissions reductions since the 1990 baseline happened in the early years, from the "dash for gas" switch from coal and heavy industry closures. What now matters most is the performance from around 2005 and after the 2008 Climate Change Act. The dual-axis chart below plots both aspects of energy policy: progress on deployment of renewables and, more importantly, progress on actual decarbonisation as distinct from just reducing emissions. The data are from the annual Digest of UK Energy Statistics (Dukes) 2008 - [2015](#) and the BP Statistical Review of World Energy 2010 - [2015](#).



The two lower lines plot the renewables share of UK total energy consumption and total electricity generation for as far back as data are available, showing rising renewables penetration, particularly for electricity generation which has been the main focus of the government's efforts to date, with intractable heating and transport largely ignored. They show that the 2020 renewables targets may be achieved (albeit partly through unsustainable, "cheating" bioenergy) although this is by no means certain given the recent axing of renewables subsidies and the reducing implementation options.

The two top lines (basically the same measure) plot the "UK all fuels carbon intensity" of electricity generation since 2005, in units of tonnes of CO₂ emitted per gigawatt hour of generated electricity. This is a measure of the efficiency of UK electricity generation in terms of how much CO₂ is emitted per unit, the lower the better. It shows a somewhat stuttering improvement over the last 10 years. The lower line plots the official "make believe" figures which assume that burning plant biomass is carbon neutral, a fall of 18% since 2005. The upper line takes out the effect of plant biomass emissions "cheating" by using the carbon intensity of coal on the plant biomass supply (which only recently started to expand significantly), showing a true fall of just 11%, less taking account of the uncounted emissions of our (mostly green) electricity imports. This modest improvement, only since 2012, is partly due to the 7% fall in total supply since 2012 which allowed a big 42TWh (30%) cut in coal supply against only a 24TWh rise in renewables supply. This is a long, long way from sustainable, "low carbon", electricity.

The "holy grail" for climate alarmists is to decarbonise electricity generation. Two years ago climate activist politicians tried unsuccessfully to set in law that the UK all fuels

carbon intensity should be cut from the then almost 500tCO₂/GWh to 50tCO₂/GWh by 2030. This near 90% wished-for reduction is simply unfeasible/unaffordable with current energy technology, as the modest progress of the last decade shows. Replacing coal with gas would give a reduction of just 32% (to ~270). If deployment of new nuclear is delayed and gas has to be used to replace worn-out nuclear then electricity generation carbon intensity could start to rise again. The 50tCO₂/GWh target would allow an unabated gas supply of just 10% of the current essential coal and gas supply, so either the capacity of unsustainable, expensive CCS would have to be vastly more than the nominal 5GW which the DECC has planned for 2030 or a vast capacity of unsustainable, "cheating" plant biomass would have to be built. Fortunately, the coalition government threw out the misguided 2013 Energy Bill amendment. The new government needs to go further and throw out the entire Climate Change Act and its unattainable targets.

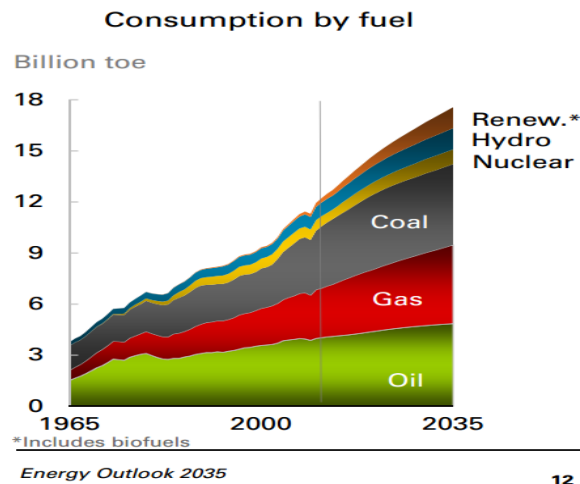
UK primary energy consumption and electricity generation have remarkably fallen about 18% since 2005, with a concomitant fall in CO₂ emissions, due mainly to the economic downturn (bad), improved energy efficiency (good) and [loss of industrial production](#) to emerging economies (bad: moved production, same consumption, higher global emissions). Could it be that this expensively-purchased falling UK energy/emissions trend has masked the fact that progress on true decarbonisation has been not very good at all?

The justification claimed for using wind power is its alleged saving of CO₂ emissions. However in a stance typical of the lack of transparency/honesty in matters of climate change policy (or simply head in the sand denial of reality), the government and the EU have refused to publish any credible evidence that using wind power will yield worthwhile savings in net CO₂ emissions at the high levels of wind penetration they hope to achieve. If they do know, they don't dare publish and if they don't know, they don't dare find out for fear that the facts will demolish the only justification for deploying wind power.

The key point is that when wind power operates as part of the national grid supply network, the intermittency and variability of wind forces the supporting fossil fuel plants into inefficient operation, burning more fuel and emitting more CO₂ for a given output of electricity. They have to maintain wasteful spinning reserve in case the wind suddenly drops and inefficiently ramp up and down as the wind speed changes, causing accelerated [wear and tear](#) and further loss of efficiency. The [DECC website](#) claims that this effect is "*insignificant*" without justification or any reference to the planned high wind penetration levels. The large fleet of short-term operating reserve (STOR) [diesel generators](#) being [incoherently](#) rolled out nationally to back up windfarms and try to keep the lights on when the wind stops blowing is also very CO₂ inefficient.

Could wind-induced fossil fuel plant inefficiencies help to explain why electricity carbon intensity has almost stalled despite a decade of new windfarms? It has certainly been enough to wreck the economics of fossil fuel power stations, thanks to wind's hidden extra subsidy of having grid priority. Many independent studies (e.g. [here](#) and [here](#)) have questioned the usefulness of wind power in reducing CO₂ emissions. This [Irish study](#) found that wind power could cause net CO₂ emissions to increase if wind penetration gets above 20%. The 2014 UK wind supply penetration was only 9% but the government wants to increase this significantly, which could in practice cause higher CO₂ emissions.

On top of these domestic difficulties, decarbonisation is simply not happening globally. Contrary to the [deluded wishful thinking](#) of many Western politicians, there is little support for a global low-carbon transition. Most of the rest of the world is not going to follow our failing, damaging example. Currently [2,100 coal plants](#) are being planned worldwide. The [BP Energy Outlook 2035](#) graph below shows that world fossil fuel usage will continue to grow through 2035, by which time the world's share of fossil fuel energy consumption will be only a few percentage points less than the current level of 86%.



The graph shows how UN IPCC propaganda since 1990 and the now-expired Kyoto Treaty had negligible impact on slowing global energy consumption and the rise in CO₂ emissions. The world's emerging economies, striving to lift their people out of poverty, will not agree to Western exhortations to cut their consumption of cheap, reliable fossil fuels because that would mean sacrificing their own economic growth. In any case they are not obliged to do so by the UN's own [Article 20](#) (para 4). The emerging nations have not bought into the UN's **man-made** global warming narrative to the same extent as affluent, credulous Westerners. However the emerging nations are canny enough to hoist the Western nations on their own CO₂ scare petard by demanding huge reparation payments for the "climate damage" allegedly caused by Western industrialisation. UN head Ban Ki-moon shamelessly asserts the West's "[historical responsibility](#)" for this hypothetical climate damage without a shred of any credible, empirical justification.

The predicted continuing rise in global fossil fuel energy consumption means that the UN's made-up limit on future CO₂ emissions to keep global warming below their "plucked from thin air" pseudo-scientific threshold of 2°C will inevitably be surpassed within a decade or so. Meanwhile, politicians still ignore the unexplained, almost 19-year "pause".

[BP data](#) show renewables comprising just 2.5% of global energy supply and [IEA data](#) show that renewables are not capable of meeting the climate change objectives. The UK accounts for less than 1.5% of global CO₂ emissions. Our unilateral climate and energy policies are worsening our domestic fuel poverty especially for the least well off and rendering our industrial businesses such as steel uncompetitive, long foreseen as our crippling green taxes have given industrial electricity charges double those of Germany.

True to form, climate alarmist Ed Davey recently made the nonsensical argument that intermittent renewables like wind and solar are essential in order to maintain our energy security. Climate alarmist Nicola Sturgeon is reduced to the delusional argument that yet more regressively expensive, ineffectual, landscape despoiling, health and welfare impairing, bird killing, unsafe wind turbines are essential, especially in Scotland, in order to set a "good" example to other countries in the run-up to the Paris climate summit.

History shows that drastic decarbonisation of an economy by expanding intermittent renewables is simply not possible. Naïve, in-denial politicians who support this approach will soon have to face an uncomfortable reality check when the lights start to go out and decarbonisation is clearly seen to be unattainable and pointless. The pragmatic approach would be to concentrate on emissions-free nuclear, low-emitting gas (preferably fracked in the UK) and energy efficiency measures. Fortunately, no decarbonisation is needed at all since beneficial, man-made CO₂ has no, or negligible, influence on the climate. Hence there is no reason why cheap clean coal should not be used as well. Admittedly fossil fuels are a finite resource, which is a good reason for giving priority to nuclear power.

7. Conclusions

Establishment thinking on climate change prompted [Professor Richard Tol](#) to say:

"Politically correct climate change orthodoxy has completely destroyed our ability to think rationally about the environment".

As [Nigel Lawson says](#) *"Global warming orthodoxy is not merely irrational. It is wicked"*. Politicians urgently need to shake themselves out of their groupthink climate daydream. They are the real "[climate deniers](#)", ignoring all the evidence and common sense arguments against their **man-made** global warming/climate change scare story. They have constructed a massive man-made climate change folly built on foundations of sand.

The 2008 UK Climate Change Act legally commits the UK to decarbonise its economy by 80% by 2050. That it was passed into law by then Climate Change Secretary Ed Miliband with the assistance of a *Friends of the Earth* campaigner (now Lady Worthington) and that no other country in the world (apart from Scotland) has set such a draconian legally binding target should be enough to set major alarm bells ringing. No proper cost-benefit analysis has been carried out and the plans as to how it might be achieved are airy-fairy. The Climate Change Act elevates the "precautionary principle" to an absurd level when we could just [adapt](#) to whatever happens (warming or cooling) as and when necessary.

According to the government's own figures, the Climate Change Act will cost the UK an incredible £18 billion per year. Leftist politicians seem strangely untroubled by this vast expenditure in these times of austerity. It may work out to even more, as figures from the EU and the IEA researched by ex-environment minister Owen Paterson suggest that for Britain to reach its 2050 targets would cost [£1.3 trillion](#), a sum which could instead pay off most of the national debt. On top of this the EU has, unbelievably, committed at least 20% of the [entire EU budget](#) to climate-related spending. All this because of [make-believe](#), [unvalidated](#), [disproved](#), [invalidated](#) computer climate models.

The Department of Energy and Climate Change (DECC) and the Committee on Climate Change (CCC) have set about the task of supposedly bringing the Earth's climate under control with missionary zeal. Unfortunately most of their pronouncements have a biased "climate change" propaganda slant and objectively-minded sceptics are disinclined to believe a word of what they say. The top CCC bureaucrat recently gave a radio interview which was so ["off the wall"](#) as to cast real doubt on his fitness for office.

The CCC recently issued an [advisory paper](#) on options for the UK's so-called fifth carbon budget (2028-2032), characterised by one expert as ["green crap trumps common sense"](#). It follows along the lines of the DECC energy projections described in Section 5 of this paper and shown to be unrealistic pie in the sky. In a [series of recent posts](#), "best blog" analyst Paul Homewood describes the CCC's plans as *"wishful thinking"*, *"pure gibberish"*, *"utterly dishonest"* and leading to an *"astronomic bill"* of £17 billion per year by 2030.

All the spin, obfuscation and deception surrounding "climate change" is explained by the fact that the climate change movement was [highjacked](#) at its inception as a vehicle to promote sustainability, as described in the previously referenced book by [Dr Tim Ball](#). Today it seems to be a mixture of left-wing [authoritarianism](#) and muddled global society changing agendas: for [Agenda 21](#); for [global wealth redistribution](#) and trying to ["change the entire global economy"](#) through unelected UN politicians and bureaucrats with dreams of [world governance](#) pushing for binding global agreements; against alleged environmental damage caused by [greedy Western capitalists](#) and consumers to the alleged detriment of the world's poorest; against alleged ["climate injustice"](#), to save the world's poor from the imagined ravages of non-existent **man-made** global warming; all on the [pretext](#) of supposedly *"tackling climate change"*. To add to the parody, as man-made global warming is simply a political fabrication, in practice all that results from futile,

pretend efforts to "*tackle climate change*" is that the world's poorest suffer the most. Where is the self-righteous moral superiority in such a political stance? Resource depletion is a looming problem, but it needs to be faced in a rational, honest manner.

Our politicians ostensibly set great store by the UN's December Paris climate summit, despite the fact that every other such summit has ended in failure with this one [shaping up](#) to be no different. Hopefully they are just playing a political game, knowing that their [professed hope](#) for a legally binding agreement has no chance of coming about. It is sad that despite all the evidence that man-made CO2 is not a problem, politicians keep going to such climate talks proposing actions which will achieve nothing but economic harm.

It seems unlikely that between now and December the government will have an "[Emperor's New Clothes](#)" realisation of the obvious truth that the climate change movement is not wearing a suit of fine clothes but is actually stark naked (which Ukip realised long ago). However it must [seize the opportunity](#) to change policy when, [as expected](#), the Paris summit ends in failure or in a meaningless fudge. That will be the time to repeal the [flawed](#) Climate Change Act, or [at the very least](#) to drop its unilateral, unattainable targets. This would surely be welcomed by the [overwhelming majority](#) of Tory MPs said to be sceptical of man-made climate change. A more palatable political option might be to suspend the Climate Change Act rather than repealing it, until such time as potentially dangerous **man-made** global warming actually starts to show itself.

Obviously the government needs to avoid making rash commitments at the Paris summit, such as committing to our unattainable but still revocable Climate Change Act targets. The climate ideological EU and USA's President Obama (whose [blog](#) and [actions](#) show him to be very badly informed or shamelessly partisan) are fanatical cheerleaders for the climate change [scare](#), with no qualms about [sacrificing their industries](#) to their cause. We should resist committing to [the EU's](#) proposed 40% emission cuts from 1990 levels by 2030 and especially [the G7 summit's](#) proposed 40%-70% emissions cuts from 2010 levels by 2050 which could be even more unattainable than the Climate Change Act 80% target from the 1990 baseline. We should side with the pragmatists, admittedly few and far between in a world where most politicians have lost all sense of reality on this issue.

In fact David Cameron should insist on the repatriation of our energy policies in his EU renegotiations on new UK terms of membership. He should challenge the flawed, statist belief that authoritarian, supranational regulation is essential "*to tackle climate change*".

The EU must know that, as outlined in this paper, (i) the science shows that man-made CO2 poses only a far future, relatively minor, perhaps even net beneficial, currently not even discernible* climate risk, (ii) our intermittent renewables technology is incapable of achieving meaningful national emissions reductions and (iii) the determination of the now-dominant developing countries to continue using fossil fuels means that the EU's damaging climate policies are certain to prove globally ineffectual and pointless.

* disregarding the [knee-jerk](#), [easily disproved](#), [scaremongering claims](#) by climate propagandists that practically every severe weather event that happens is due to "climate change", the alarmists' obfuscating new name for "**man-made** global warming".

This suggests that the main reason for the EU's zealous promotion of the climate change scare is not because of the science, not "virtue signalling" and certainly not due to any rational analysis of the facts, but raw power politics. To the EU, "climate change" is just another device for exerting enforced "solidarity" and "ever closer union" control over its member states, no matter that it is based on an imagined threat (shades of George Orwell's "1984") and no matter how severe and pointless the economic damage caused. The retribution that will fall on politicians when the broader public realise how they have been deceived on this issue will be severe unless they start to backtrack soon. The EU's

absurdly profligate, "green-energy basket case" climate policies and the hefty fines it could impose on us for failure to meet its ill-considered energy directives is by itself a good reason for voting no to continued membership of the EU.

If the government is serious about sustainability it ought to be encouraging research into innovative, energy-rich fuels of the future rather than leading a regressive charge backwards to using energy-sparse fuels of the past like wind and wood.

Finally, the government needs to stop listening to subversive environmental groups like Greenpeace, WWF and Friends of the Earth with their undemocratic hidden agendas. Who do they claim to represent? Their support for a zero or negative growth economy with no fossil fuels and no nuclear power is totally unrealistic and misguided. It would take us back to the poverty and squalor of the Middle Ages when all the evidence shows that a growing, wealthy economy provides better support for the environment.

This paper has described how the policies of the Climate Change Act are wrecking our energy infrastructure, precipitating electricity blackouts, worsening fuel poverty and making our businesses uncompetitive, all for marginal, irrelevant decarbonisation. This damage could be stopped at a stroke by repealing the Climate Change Act. With no more renewables subsidies or carbon taxes on "demon" fossil fuels, the deployment of unviably incompatible renewables would be stopped dead and could start to be reversed, allowing essential new fossil fuel and nuclear power stations to be commissioned at affordable prices. The economy would be unshackled from the albatross of the Climate Change Act lunacies. The DECC and the Committee on Climate Change could be disbanded and proper engineers put in charge of energy policy instead of naive green activists and politicians. Funding of the subversive UN IPCC could be stopped. Rationality would be restored.

Links:

Host source: http://www.caithnesswindfarms.co.uk/Repeal_the_Act_2.pdf

<https://notalotofpeopleknowthat.wordpress.com/2015/11/12/doug-brodies-letter-to-mps-2/>

http://www.caithnesswindfarms.co.uk/Madness_of_Crowds.pdf