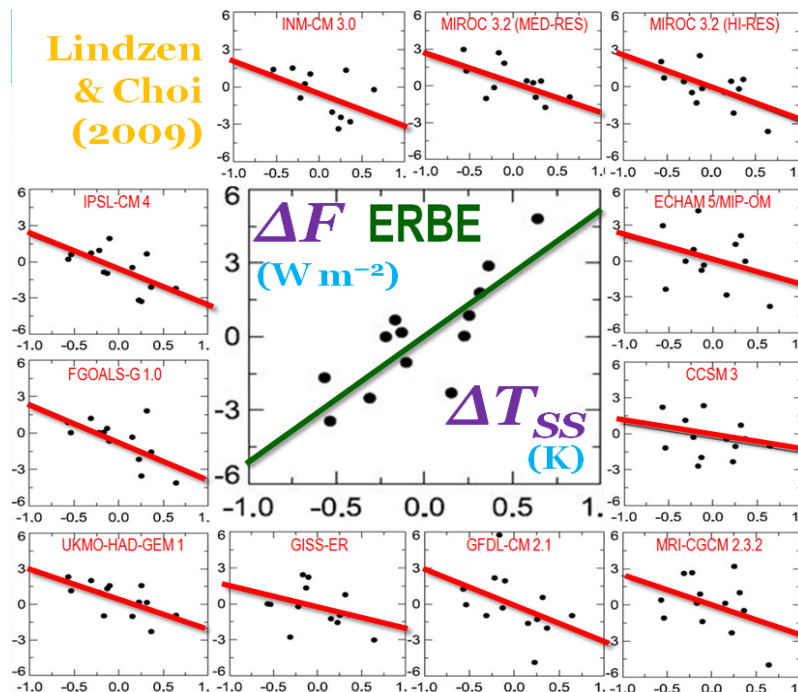


Response by The Viscount Monckton of Brechley to a statement by Steven Chu, US Secretary of Energy, before the Committee on Environment and Public Works in the United States Senate, Washington, D.C., October 27, 2009

SECRETARY CHU'S STATEMENT is predicated upon two false assumptions: that the "threat" from "climate change" is "grave"; and that, even if it were grave, reducing carbon emissions would make a difference. He cites the now-outdated 2007 Climate Assessment Report of the IPCC and a subsequent but also now-outdated MIT study, saying global warming by 2100 would be 7-11 F°. These excessive estimates are founded solely on computerized guesswork. The UN's models are wrongly instructed to assume, and hence wrongly predict, that the warming effect of CO₂ is 5-6 times higher than it is now known to be: 7 F° at CO₂ doubling, where 1 F° is the true value.

CO₂'s warming effect is best determined by measurement. It cannot be measured directly. However, it can be derived from the relationship between changes in surface temperature and corresponding changes in outgoing radiation escaping to space, though sufficient data for a reliable measurement have only become available very recently. Lindzen and Choi (2009), using outgoing-radiation data from the Earth Radiation Budget Experiment satellite, forced 11 of the UN's climate models with periods of unidirectional sea-surface temperature changes of at least 0.2 F°, of which there were 13 in the past two decades, so as to avoid statistical "noise".



All UN models (**11 are shown in red**) wrongly predict that as the sea surface warms by 1 C° (1.8 F°), the outgoing radiation escaping from the top of the Earth's atmosphere to space *diminishes* by about 3 Watts per square meter. The UN wrongly assumes temperature feedbacks cause water vapor – the most significant greenhouse gas – to accumulate in the upper air.

However, direct measurement with the Earth Radiation Budget Experiment satellite (**green: center**) shows that as the sea surface warms by 1 C° (1.8 F°) the outgoing radiation escaping to space does not *diminish* by 3 W m⁻²; it *increases* by 4 W m⁻².



The graphs from the models' predictions actually trend in a direction opposite to that of the graph from observed reality. This startling discrepancy between what the models predict in cyberspace and what is measured in the real world occurs chiefly because the IPCC has long wrongly assumed that the most important of the temperature feedbacks that reinforce any initial warming – an increase in water vapor concentration – will occur at all altitudes. However, Paltridge *et al.* (2009) have recently demonstrated that subsidence drying carries any additional water vapor from higher to lower altitudes, where it has far less warming effect.

The UN's models had wrongly been instructed to predict that the tropical upper air should warm at thrice the surface rate. A series of papers (e.g. Douglass *et al.*, 2008) had analyzed records of temperature to show that the tropical upper air warms no faster than the surface. Paltridge's paper, published recently, explains why the instructions given to the models were wrong.

Lindzen and Choi, in their very recent paper, provide further confirmation that the UN's models are indeed wrong. As the world warms, very little of the outgoing radiation from the Earth's surface is trapped by additional water vapor in the tropical upper air, where it might amplify the warming. Instead, nearly all of the outgoing radiation escapes harmlessly to space as before.

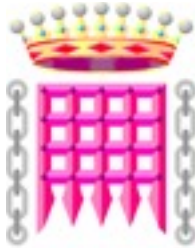
The IPCC also wrongly assumes that the second-biggest of the temperature feedbacks that it lists as reinforcing any initial warming – the cloud-albedo feedback – amplifies the initial warming from increases in CO₂ concentration, when in fact the presence of more clouds reflects more sunlight harmlessly back to space, substantially offsets any initial warming. A paper by Spencer and Braswell (2009), currently in press, is the latest in a series demonstrating this major error.

Lindzen and Choi ingeniously avoided all of the complexities and guesswork inherent in attempts to evaluate the influence of some two dozen temperature feedbacks (none of which can be directly measured empirically or reliably quantified by theoretical means: Monckton, 2008) by simply measuring the change in outgoing radiation from the top of the atmosphere that occurred in response to significant upward or downward changes in sea-surface temperature. From this, they were able to calculate that the net effect of temperature feedbacks, far from tripling any initial warming from increases in CO₂ concentration as the UN had wrongly assumed, in fact somewhat countervails against the initial warming.

Accordingly, Lindzen and Choi calculate that the "global warming" to be expected in response to a doubling of atmospheric CO₂ concentration is not the UN's 2.0-4.5 C° (3.5-8.0 F°) but a small, harmless, and beneficial 0.5-0.8 C° (1-1.5 F). By patient, painstaking measurement, the two researchers have trumped the computer models' unanimously erroneous guesswork, and have definitively ended the debate over the question how much warming CO₂ causes.

Scientifically speaking, then, the climate scare is now over. Lindzen and Choi have demonstrated the rightness of many recently-published scientific papers demonstrating by various methods a far lesser warming effect of CO₂ than that which the UN's scientists had wrongly told their computer models to assume.

Therefore, Secretary Chu's declaration that the "threat" from "climate change" is "grave" and that current levels of CO₂ emission are "unsustainable" has no scientific justification. Nor is it appropriate for Secretary Chu to talk of "carbon pollution", for CO₂ is now proven harmless.



Even if, *per impossibile*, the UN's exaggerated estimate of the warming effect of CO₂ were right, it is trivial to demonstrate that reducing carbon emissions would be the least cost-effective use of taxpayers' money ever devised. Even if the UN's now-outdated central estimate, cited by Secretary Chu, of 7 F° warming by 2100 were right (which it is not), to forestall just 1 Fahrenheit degree of "global warming" it would be necessary for the world to forego the emission of 1 trillion tons of CO₂ – the equivalent of 33 years' total global output at today's emission levels.

However, since the stream of recent learned papers culminating in that by Lindzen and Choi have demonstrated by measurement that a doubling of CO₂ concentration this century would cause not the 7 F° warming imagined by the UN but perhaps as little as 1 F°, to forestall just 1 F° of warming would require the entire world to forego all carbon emissions not for 33 years but for more than 200 years. The calculation is very simple and very robust –

Climate event	Source	Value
Global annual CO₂ emissions	<i>EIA</i>	30 bn tons
/Annual CO₂ concentration rise	<i>NOAA</i>	2 ppmv
=CO₂ emissions per ppmv		15 bn tons/ppmv
xPredicted CO₂ rise 2000-2100	<i>UN A2</i>	468 ppmv
=Predicted emissions 2000-2100		7 trn tons
/Predicted warming 2000-2100	<i>Chu</i>	7 F°
=CO₂ emissions per F° warming		1 trn tons/F°
/Global annual CO₂ emissions		30 bn tons
=Years to forestall 1 F° warming		33 years/F°
xUN sixfold exaggeration	<i>Lindzen</i>	x 6
=Years to forestall 1 F° warming		>200 years/F°

Secretary Chu's implication that reducing CO₂ emissions via the Copenhagen Treaty or via the 900-page Climate Bill now before the Senate would make a significant difference to the climate is accordingly wrong. The Bill, even if fully implemented, would make no measurable difference.

Finally, Secretary Chu presents a regrettably one-sided view of the current market for so-called "renewable" technologies. He talks glowingly of "the cumulative investment in wind turbines and solar photovoltaic panels" and hints that without the Copenhagen Treaty or the Climate Bill the US would somehow miss out on a \$1.5-trillion world market. But windfarms are now in trouble. Spain has had to close its largest windfarm because it was killing rare griffon vultures; Denmark no longer subsidizes wind power because its electricity grid became unstable once the



contribution from the wind exceeded 5%. The carbon emissions saved are negligible because fossil-fueled power stations must be kept in steam in case the wind drops.

As for solar panels, more carbon is emitted in their construction than is saved during their short lifespan. Though they are fashionable, like wind-power they are not a paying proposition unless they are massively subsidized at taxpayers' expense, and their contribution to reducing carbon emissions – even if it were necessary to reduce carbon emissions, which we now know it is not – is negligible. No doubt US corporations are as competent as others worldwide in manufacturing wind and solar power units. There is no case for subsidizing them at everyone else's expense.

Secretary Chu also talks glowingly of the Chinese Communist regime, which, he enthuses, “has made its choice. China is spending about \$9 billion a month on clean energy. It is also investing \$44 billion by 2012 and \$88 billion by 2020 in Ultra High Voltage transmission lines. These lines will allow China to transmit power from huge wind and solar farms far from its cities.” This sounds exciting, but even with UHV transmission lines – which create environmental problems of their own – transmission losses extinguish any minuscule contribution that so-called “renewables” might make to the (wholly unnecessary) objective of reducing carbon emissions.

Furthermore, Secretary Chu unfortunately withheld from the Committee the statement in each annual statistical communiqué from the Peking regime to the effect that one or two fossil-fueled power stations *per week* will be built for the foreseeable future in China, dwarfing the regime's minuscule “investment” in “clean” energy.

Next, Secretary Chu states that the “stimulus” package “includes \$80 billion to put tens of thousands of Americans to work” developing “green” energy. Suppose that as many as 100,000 “green jobs” were in fact created by this “investment” of other people's money: then each “green job” would cost the taxpayer \$800,000, destroying some 40 real jobs for each bogus or “green” job artificially and temporarily created. Well has it been said that “green jobs” is the new unemployment.

Secretary Chu is also eager to endorse the infliction of ever-lower limits on the amount of carbon dioxide each industry and nation can emit, combined with a bogus “market” allowing corporations to buy and sell the ever-more-restricted rights to emit carbon. “Cap-and-Tax”, as it is called, has failed twice in the European Union and once in New Zealand, and the “voluntary” carbon market in Chicago has also recently collapsed with ignominy: the price of the right to emit a ton of carbon dioxide on the coyly-named “Chicago Carbon Exchange” fell recently to just 10 US cents – scarcely a disincentive to emit, not that disincentives to emit are in any way necessary now that settled science reveals the “global warming” scare to be just that. Rightly, the boys in red braces on the trading floors of the City of London refer to buying and selling carbon permits as “tridin' 'ot air”. The Energy Secretary has not yet mastered his portfolio. It is high time he did, or the consequences for taxpayers will be as costly as they are pointless.