

Roy Spencer tells Slayers: “Put Up or Shut Up”

Presents his “time dependent model” as a challenge

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Dr. Roy Spencer has challenged the Slayers to either “[put up or shut up](#)”ⁱ and presents what he says is a “time-dependent” Earth model to describe “reasonable surface temperatures”, and asks us to produce the same. Anthony Watts added his reply: “Like me, you’ve reached a GHG [greenhouse gas] tipping point with these folks. Good for you for taking a stand. I await them addressing your model challenge.” Watts has subsequently responded on his own blog: “...if and when they are able to provide a simple working model of the atmospheric energy balance that matches their theory with observations, I’ll be happy to take another look at the idea here”.

Spencer provides an xls spreadsheet showing the “code”, and he references the model as being “time-dependent” several times in his text. He also says that it produces “realistic temperatures”, and this is apparently supposed to be taken as some sort of support for the model.

A few things here. First, “reasonable temperatures” can be created by any arbitrary model at all. So, that his “time dependent model” produced such temperatures means nothing at all. The Ptolemaic model of the solar system, for example, produced “reasonable planetary positions” for over a thousand years, yet it was so fundamentally flawed that correcting it brought about a scientific revolution. The unquestioning belief in Ptolemy’s model is analogous to a current belief in the “greenhouse gas effect”, as Joe Postma [has observed](#)ⁱⁱ.

Second, and this is the really important part, we have to ask if Spencer’s own model is even “time-dependent”, as he claims it is. His model’s solar input is a *constant* 161 Watts for each square meter of the Earth, which is a value equal to 230 Kelvin (or -42^o Celsius). Hence, that model is *not* a “time-dependent” model. For him to call what he has there a “time-dependent model” is scientifically and mathematically incorrect. It is not a time-dependent model because the sun is *static* at a constant 161 W/m², and this indicates static, flat, non-rotating Earth, with no day and night, and hence no time dependence at all. That the “model” Spencer produced can be run from a starting temperature to a final temperature in time does not mean that the model is “time-dependent”. The real sun rises and sets over a rotating spherical Earth, meaning that Spencer’s model actually abandons any attempt to make surface temperatures “time-dependent”. Such a description can only be called misleading at best, for the term “time dependence” in differential equations and heat flow calculations denotes something else entirely than what Spencer offered. Spencer’s model is static and he seems to not understand this; he challenged us to produce a time-dependent model and presented us with his own, however, his isn’t even what he claims it is.

So then, with sunshine *freezing cold* and *constant*, meaning the model is static and not time-dependent, they *insert* the required greenhouse effect (GHG) pumping up factor wattage from an even *colder* atmosphere in order to force it to produce a “reasonable temperature”, with values “...based upon the Kiehl-Trenberth diagram” (quoting Spencer) which is designed to do precisely that – to force a flat-Earth model to work when the initial assumption of freezing cold and static sunshine is wrong. Thus, cold has to heat hot and the atmosphere needs to be an additional source of heat, even though it is not even a source of energy, because that’s what they need to make their static model with static

freezing cold sunshine “work”. This is pretty much how you define circular and tautologous reasoning. It is just like Ptolemy arbitrarily adding epicycles to make his model work.

What is equally noteworthy at the moment is not just that Spencer’s model is actually static, but that Spencer’s challenge per se could only be predicated upon utter ignorance about PSI’s and the Slayer’s work. Not only has PSI member Postma [created an actual real-time model](#) ⁱⁱⁱ, meaning that it genuinely uses a time-dependent Sun, his model also included the effects of the latent heat of liquid H₂O which showed that such heat helps to hold the surface temperature higher than otherwise all by itself. The modeling also used a temperature-dependent function for the thermal capacity of water. Astonishingly, none of this is even mentioned by Spencer or in his model, which means he didn’t even think it relevant to include in the model the vast majority of what the surface of the Earth actually is. PSI and the Slayers do think it important.

To be sure, Postma’s model uses the exact same heat flow equation as Spencer used in his model, but the difference is that Spencer’s model is actually a static non-time-dependent model that assumes a flat Earth and cold sunshine, while Postma’s model actually rotates the spherical Earth and accounts for real-time solar heating and latent heat as an actual time-dependent differential equation. Spencer’s model requires the GHE to produce a reasonable temperature, while Postma’s does not. The difference arises in using fictional vs. actual boundary conditions and inputs: one model is based on fiction which therefore creates fiction, while the other model is based on reality in real time and therefore reproduces reality. So, PSI has already presented much more than what Spencer challenged us with, and it turns out that Spencer doesn’t even have what he seems to think and claims that he has in the first place.

Postma’s model produces “reasonable temperatures” without including any “greenhouse gas effect” at all. Indeed, his model was tested against real-time observational temperature data collected by PSI member Carl Brehmer, and Postma’s dynamic model predicted the results with great accuracy, finding no need to introduce a single epicycle of back-radiation warming from “greenhouse gases”. The results proved that backradiation heating from the atmosphere did not, was not, and does not occur on top of the solar forcing, even though backradiation is maximized during the day time as we see here:

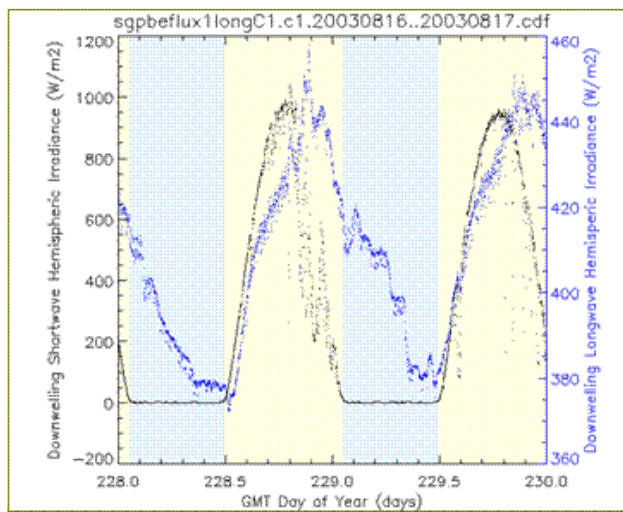


Figure 1: 440 W/m² of backradiation did *nothing* to augment the surface temperature above the solar forcing. The Slayers have always said that cold doesn’t heat hot. (Image source: <http://www.arm.gov/news/facility/post/51>; Blue is DWIR, black is DWSW.)

Postma's model equations also showed that, overnight, the majority of atmospheric cooling occurs directly at the surface and that the amount of cooling overnight was at least *ten-times* the value expected *without* a theoretical backradiation delay in cooling. Cooling at the surface is actually enhanced overnight rather than impeded, and there is no sign of delayed overnight cooling occurring at all. This is a matter of observational fact and can be explained by the enhanced cooling caused by convection and conduction at the surface with a cooler atmosphere. The paper proved beyond any doubt that Sunshine is hot and cannot be averaged down to an artificial freezing-cold value as it is in the creation of the GHE, as Spencer does in his model.

In that paper Postma also showed precisely how to calculate the wet atmospheric temperature lapse rate from first principles, given by adding water vapour condensation to the dry lapse rate. The real-time model also explains precisely why and how the temperature lag to insolation forcing occurs on both the diurnal and seasonal time-scales, and Postma also explained how to extend the model to be more general and discussed some of the other boundary conditions the more general model would have to satisfy.

Spencer and WUWT have seemed to continually short-change their readers in this debate. Spencer's challenge itself creates a sham in claiming that we have never presented any alternative model. But we have had it already in Postma's [previous paper](#)^{iv} from 2011. Postma's follow-up paper in 2012 details precisely what has now been demanded of us. It is there, in the links, on our website under 'Publications' and has been there now for almost two years.

Postma's model is not only referenced in many of our articles but also in blog comments elsewhere (including at WUWT and Spencer's blog). Time and again, we have invited our opponents to familiarize themselves with that model and engage with us in friendly discussion about it, comprehending the implications that the usual static models (like Spencer's) are wrong. Thus, Spencer's latest challenge to "put up or shut up" over this issue points to his intellectual laziness or something less forgivable.

Postma says: "I have always wondered if this was some genius conspiracy or plot behind man-made climate alarmism to block people like the Slayers from asking a simple question like 'Hey, you know, instead of modelling Sunshine as freezing cold and constant, neither of which it is, then, what difference will it make if we acknowledge that Sunshine is actually really hot and that the Earth can't actually really be modeled as flat and with no day and night?'. It turns out it isn't a genius conspiracy or plot to gate-keep such simple questions from being asked; the gatekeepers really are just scientifically illiterate. Can you believe that in the climate change orthodoxy, you're not allowed to talk about how hot sunshine is, and what it can do, because it conflicts with the incorrect tenets of the GHE?"

Postma's paper has pages and pages of discussing an *actual* real-time, time & temperature dependent, differential heat flow equation and it included pages of Matlab code and all the required algorithms, showed how to calculate the solar forcing in real-time (*actual* real-time, not static non-real-time constant cold input with no day and night and a flat Earth), successfully compared the results to actual real-world data, discussed how to improve it, etc. etc.

Spencer accuses the Slayers of "cult science". That's a nice accusation, but please point it out. PSI can point out yours: a) you literally think it is reasonable that sunshine is freezing cold, b) you literally think it is reasonable that there is no day and night, c) you literally think it is reasonable that the Earth is flat, d) you literally do not know what "time dependent" means in regards to a

differential equation, e) you literally think it is reasonable to say that because “greenhouse gases cool the atmosphere/the atmosphere would have no way to cool without greenhouse gases” (direct quotes from Spencer) that this means that GHG’s *heat* the atmosphere...because they *cool* it, f) you literally deny or are at least incapable of acknowledging that the near-zero emissivity of O₂ and N₂ means that 99% of the atmosphere can hold a higher temperature for a given radiative output than it would otherwise, when this is the very basis of radiative thermal physics and doesn’t require a GHE or GHG’s at all.

Need we go on? Those beliefs don’t relate to “cult science”, but a full-blown fanatical and insane religion. We Slayers, in reality-land, have simple questions pointing out basic facts which makes GHE believers go blind with rage. Just look at an example of what GHE orthodoxy wants us to believe:

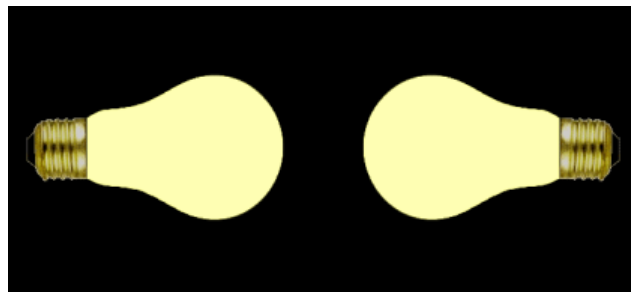


Figure 2: Do two light-bulbs near each other make each other shine brighter? (Image courtesy of Alan Siddons.)

In the GHE orthodoxy of backradiation heating, when you put two light bulbs near each other then it means that the photons from one “have to be slowing the cooling of the other light source, meaning that it has to heat up the other light source and make it brighter”. Of course, the same thing would happen both ways and so the idea should strike one immediately as being unphysical and unlikely, because it sets up a run-away mutual heating process. Of course, any person who has artificial lighting in this world knows that what is claimed doesn’t happen. It doesn’t happen for candles beside each other, light bulbs beside each other, etc.

In fact, the GHE orthodoxy even requires that a heating scheme such as this will occur from a single light bulb’s own light shone back upon itself. This scheme is in fact directly analogous to GHE orthodoxy because that idea is based on backradiation from the atmosphere, the atmosphere which was heated by the earth’s surface in the first place, causing the surface to heat up some more even though the atmosphere is far colder than the surface and cannot rightly be considered a heat source for the surface in the first place, because it is the surface which is the heat source for the atmosphere. Does shining a flashlight at a mirror so that all the radiation comes back to the flashlight make the flashlight shine brighter? We all know it doesn’t.

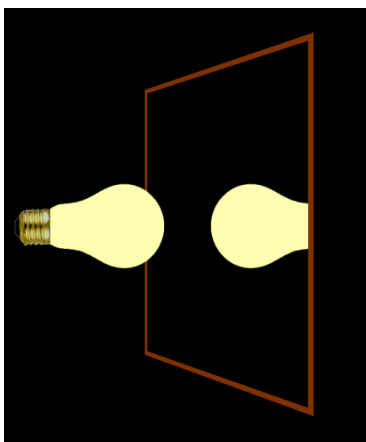


Figure 3: A light bulb facing a mirror does not heat up or shine brighter from its own radiation coming back. (Image courtesy of Alan Siddons.)

Let's also go back to the claim that, because GHG's *cool* the atmosphere, this means that they *heat* the atmosphere. This is literally what Spencer says. Belief in the "greenhouse gas effect" says that without GHG's, the atmosphere wouldn't be able to cool, and because of this fact, GHG's heat the atmosphere. Yes you are correct, that makes no sense at all. In reality, the Stefan-Boltzmann Law shows that the only way for a thermal radiative object to have a higher kinetic temperature than what its radiative output flux is, is if it has an emissivity lower than unity. Well, 99% of our atmosphere, which is oxygen and nitrogen (O_2 and N_2), have emissivities *near zero*! It is O_2 and N_2 which literally "trap heat", because they are unable to radiate any heat away at all, and radiative flux energy loss is the only way the planet has to cool down. Alan Siddons [discussed this years ago](#)^v when he pointed out the fundamental flaws of GHE orthodoxy.

There are three things the GHE orthodoxy will not touch with a ten foot pole. 1) that sunshine is hot and has to be treated in real-time, not averaged out to some non-physical and therefore meaningless value, and that it is impossible to meaningfully average solar power input; 2) that O_2 and N_2 have near-zero emissivity and that in the land of the Stefan-Boltzmann Law and radiation, the only way to get something to a higher temperature with the same flux output is to reduce its emissivity, 3) that the lapse rates (both dry and wet) can be calculated without reference to any GHG radiation whatsoever and that according to GHE theory, the lapse rate should be steepened by GHG radiation, yet the rate is still exactly as it is calculated without reference to GHG radiation, and when the "GHG" water vapour is present it lessens the slope of the lapse rate and decreases the surface temperature, not increases those as is required by the GHE.

The usual responses are: 1) to accuse us of not knowing what an average is, and insult our intelligence with snide remarks in a few ways, which just begs the question if they have any clue as to what power input means and that more power does *more power* than less power; real sunshine can drive extremely energetic processes (take the water cycle for instance, etc.) and generate very high real-time temperatures that 240 W/m^2 (let alone 161 W/m^2 !!) could *never* emulate – not without inventing their GHE (hello!!) to make up for the difference; 2) they never address the emissivity question as far as we know because it automatically and immediately renders the GHE superfluous; 3) they've backed away from the lapse rate = GHG effect but still use it from time to time, but the point simply needs to be made repeatedly as it was above, because the lapse rates, both wet and dry, can be calculated without any reference to GHG's at all and GHG's do not have the observed effect which is claimed.

Postma did ‘put up’, last year already, exactly what Spencer requested. And more, Spencer walks into his own trap by presenting his own model which is *not* even a time-dependent model as he claimed and seems to think it is. All the Slayers have always ‘put up’ the simple questions about the actual nature of reality that has always made GHE believers get very upset. We didn’t actually ever need to have an alternative model anyway, we just needed to point out what was really unscientific and wrong about the GHE one. They never learned from the criticisms, and in general they couldn’t handle them at all. They ignored what we did try to put up and usually won’t even allow it to be discussed on their blogs. Why aren’t people allowed to ask that, if sunshine is actually really hot, then how can treating it as cold correspond to anything in reality? It is such a simple thing: real-time sunshine can drive processes that are much higher temperature and much more energetic than the averaged-out, cold-sunshine, no day & night assumption *could never do*. In short, *clouds exist*, and therefore any model that averages out sunshine down to a freezing cold value is wrong, and has to be wrong. Hence, the greenhouse gas effect is wrong. And that is why the greenhouse gas effect is invented with these flat-Earth cold-sunshine models: because they have nothing to do with reality.

ⁱ <http://www.drroyspencer.com/2013/05/time-for-the-slayers-to-put-up-or-shut-up/>

ⁱⁱ [http://principia-scientific.org/publications/Copernicus Meets the Greenhouse Effect.pdf](http://principia-scientific.org/publications/Copernicus_Meets_the_Greenhouse_Effect.pdf)

ⁱⁱⁱ [http://principia-scientific.org/publications/Absence Measureable Greenhouse Effect.pdf](http://principia-scientific.org/publications/Absence_Measureable_Greenhouse_Effect.pdf)

^{iv} [http://principia-scientific.org/publications/The Model Atmosphere.pdf](http://principia-scientific.org/publications/The_Model_Atmosphere.pdf)

^v http://www.americanthinker.com/2010/02/the_hidden_flaw_in_greenhouse.html