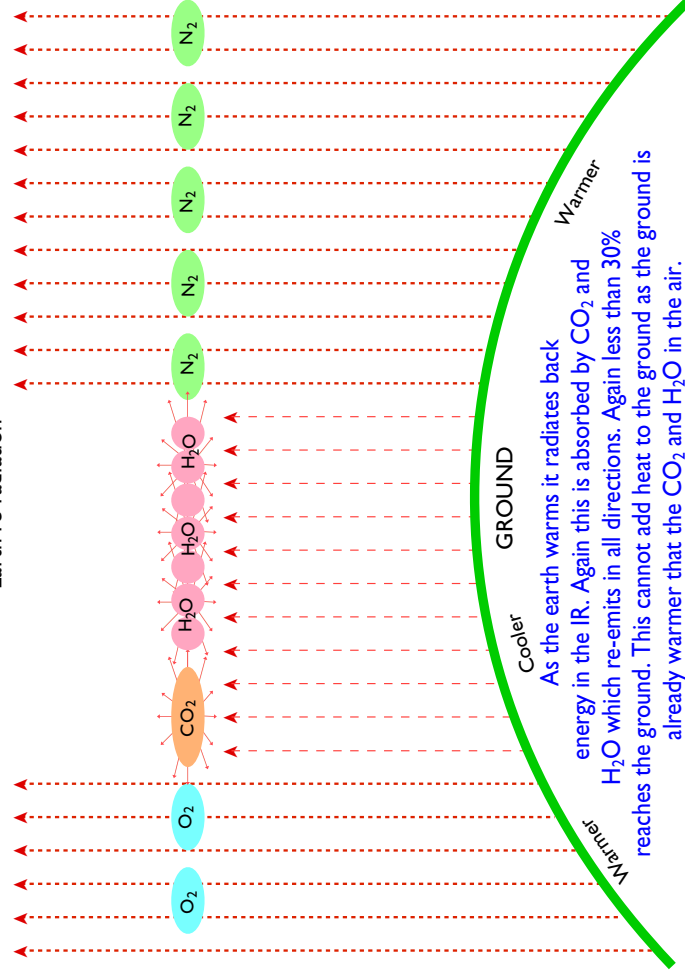


Earth re-radiation



All that these infrared absorbing and emitting gases can do is to very slightly cool the planet. They are not 'greenhouse' gases. There is no such thing in real science as a 'greenhouse gas'.

This brief pamphlet draws from the work of Alan Siddons, a radiochemist, and Hans Schreuder, an analytical chemist and a member of Mensa.

Philip Foster MA (Nat. Sci. & Theol.)
(an initiator of the *Copenhagen Climate Challenge*, in Dec 2009)

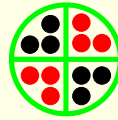
Books and websites

While the Earth Endures: Creation, Cosmology and Climate Change by Philip Foster, foreword by Prof. David Bellamy OBE. SMP Ltd, 2009.

Climategate: the CRUtape letters by Steven Mosher and Thomas Fuller, published in the UK by SMP Ltd, 2010.

www.copenhagenclimatechallenge.org
www.wattsupwiththat.com
www.climate-sense.com

www.nzclimatescience.net
www.ilovemycarbondioxide.com
www.weatheraction.com



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Greenhouse? What Greenhouse?

When I was learning physics I was taught the usual theory about how a greenhouse warmed. As a physics teacher in the 1970s, I also taught my students the same theory. But despite it being in all the text books the theory is wrong and has been known to be so for a hundred years!

Note on the Theory of the Greenhouse

by Professor R. W. Wood, 1909.

THERE appears to be a widespread belief that the comparatively high temperature produced within a closed space covered with glass, and exposed to solar radiation, results from a transformation of wave-length, that is, that the heat waves from the sun, which are able to penetrate the glass, fall upon the walls of the enclosure and raise its temperature: the heat energy is re-emitted by the walls in the form of much longer waves, which are unable to penetrate the glass, the greenhouse acting as a radiation trap.

I have always felt some doubt as to whether this action played any very large part in the elevation of temperature. It appeared much more probable that the part played by the glass was the prevention of the escape of the warm air heated by the ground within the enclosure. If we open the doors of a greenhouse on a cold and windy day, the trapping of radiation appears to lose much of its efficacy. As a matter of fact I am of the opinion that a greenhouse made of a glass transparent to waves of every possible length would show a temperature nearly, if not quite, as high as that observed in a glass house. The transparent screen allows the solar radiation to warm the ground, and the ground in turn warms the air, but only the limited amount within the enclosure. In the "open," the ground is continually brought into contact with cold air by convection currents.

To test the matter I constructed two enclosures of dead black cardboard, one covered with a glass plate, the other with a plate of rock-salt of equal thickness. The bulb of a thermometer was inserted in each enclosure and the whole packed in cotton, with the exception of the transparent plates which were exposed. When exposed to sunlight the temperature rose gradually to $65^{\circ}C$, the enclosure covered with the salt plate keeping a little ahead of the other, owing to the fact that it transmitted the longer waves from the sun, which were stopped by the

glass. In order to eliminate this action the sunlight was first passed through a glass plate.

There was now scarcely a difference of one degree between the temperatures of the two enclosures. The maximum temperature reached was about 55°C. From what we know about the distribution of energy in the spectrum of the radiation emitted by a body at 55°C, it is clear that the rock-salt plate is capable of transmitting practically all of it, while the glass plate stops it entirely. This shows us that the loss of temperature of the ground by radiation is very small in comparison to the loss by convection, in other words that we gain very little from the circumstance that the radiation is trapped.

Is it therefore necessary to pay attention to trapped radiation in deducing the temperature of a planet as affected by its atmosphere? The solar rays penetrate the atmosphere, warm the ground which in turn warms the atmosphere by contact and by convection currents. The heat received is thus stored up in the atmosphere, remaining there on account of the very low radiating power of a gas. It seems to me very doubtful if the atmosphere is warmed to any great extent by absorbing the radiation from the ground, even under the most favourable conditions.

I do not pretend to have gone very deeply into the matter, and publish this note merely to draw attention to the fact that trapped radiation appears to play but a very small part in the actual cases with which we are familiar.

Following are diagrams showing, in a very simplistic way, why CO₂ and H₂O (along with O₃, N₂O and CH₄ - not included in the diagrams) in the atmosphere *cannot* cause warming. If they did we would have access to unlimited energy for no cost! The very small amount of radiated infrared from H₂O and CO₂ reaching the ground cannot warm the ground as the temperature of these gases is lower than the temperature of the ground - just as hot coffee in a Thermos does not start boiling! By suggesting that it can is to break one of the laws of thermodynamics.[†] The only role they can play is like that of a glass plate as opposed to a rock-salt plate as described by Prof. Wood above: namely to slightly *inhibit* the warming of the ground. But as they cannot trap the convecting air (unlike solid glass in a greenhouse) all comparisons with a 'greenhouse effect' are invalid.

[†]As Kevin Trenberth (head of CAS at NCAR) has done: www.cgd.ucar.edu/cas/abstracts/files/kevin1997_1.html

