

A trap for fools

When facing a climate of climate alarmism, the question is how to deal with it. The problem of the subject is, that it is complex and difficult. It would be nice to have some simple argument for winning and ending the discussion. The physics professor Denis Rancourt, emeritus of the University of Ottawa, in his [article about global warming and the greenhouse effect](#) pointed to some often used arguments of sceptics, which are not correct and should never be used.

After initially stating that „*Sceptics are correct that warming alarmism has not been justified from scientific principles or from empirical facts. Sceptics are correct that warming alarmism seems to be motivated by careerism and corporate/finance opportunism*“, he warns, not to use the following incorrect arguments (see pp. 17-18) It makes the case of sceptics untrustworthy – the very last needed to stand up against alarmism.

C02 is only a trace gas

“C02 is only a trace gas.” Yes, but that is not relevant. What is relevant is C02's contribution to the atmosphere's longwave absorption. It is a question of actual cross section, not absolute concentration. Satellite spectroscopic measurements are unambiguous that C02 contributes 1/4 to 1/3 of all longwave absorption by the atmosphere (the rest being due to water vapour and clouds, depending on sky conditions) and that C02 absorption is saturated in its main absorption band, meaning that infrared is completely absorbed within a short distance of about 25m.

Not a radiation balance effect

“It's not principally a radiation balance effect.” Other effects like pressure or lapse rate are stated as explaining principles instead. Rancour gives a simple answer: „*Turn off*

the Sun and calculate Earth's temperature! „. Energy from the sun comes as shortwave radiation and infrared radiation leaves the atmosphere into space. Radiation is the only form of energy transport through empty space. A high percentage of the IR is emitted from the atmosphere. Only „greenhouse“ gases like CO₂ or water vapor are able to emit IR.

Violation of thermodynamics?

“Heating the surface by a greenhouse effect violates thermodynamics.” This argument is often stated in the context of „re-radiation“ or downwelling infrared radiation. While it is problematic to state that heat flows from a cold part of the atmosphere, which it does not, the expression „downwelling radiation“ is used as a synonym that ***local temperatures adjust towards steady state to balance energy fluxes. The steady state is not a state of equal temperature, but an atmosphere with lapse rate, and wherever heat is introduced into the system, it adjusts towards the corresponding equilibrium state.***

There is no greenhouse effect

“There is no such thing as a greenhouse effect.” It is true, that the – open – atmosphere cannot honestly be compared with a greenhouse, the main effect of which is to retain heat by reduction of convection, the atmospheric greenhouse effect depends

- on the thickness of the atmosphere
- on the lapse rate of the atmosphere
- on the concentration of the different greenhouse gases such as CO₂, especially at the top of atmosphere

A planet's surface (and atmosphere) heats up without any greenhouse gas present but it heats up faster and reaches higher temperatures with greenhouse gases.

Good arguments?

This website was made to provide a solid foundation to understand climate and to discuss climate related topics. [Here is good start for understanding the greenhouse effect.](#)