



14.11.2019

# IPCC's claims on global warming are based on erroneous calculations



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## Introduction

Climate has always changed and changes in a way which can't be predicted **temporally** a) because climate is influenced by many unpredictable factors, b) because of physical inaccuracies of the climate models c) because of numerical inaccuracies of the climate models. However, influences of various variables of the global climate, like carbon dioxide, can be estimated with reasonable accuracy by applying thermostatics and -dynamics.

Emeritus professors Pertti Sarkomaa and Seppo Ruottu, henceforward the Authors, have studied influences of carbon dioxide on global climate, got acquainted with IPCC's climate models and made from their studies the report Climate Change and Use of Fossil Fuels (henceforward the Report). In the Report the Authors have proved in IPCC's climate models several errors, each of which as such makes the models invalid for studying of influences of carbon dioxide on global mean temperatures.

The Authors have sent the Report for review among others to IPCC's secretariat, all Finnish universities, WMO's Secretary General Petteri Taalas, SITRA, the Finnish Meteorological Institute and the Finnish climate panel. The Authors have received feedback from Academy professor, Professor of Meteorology in Helsinki university Timo Vesala and Scientific director of the Finnish Meteorological Institute, professor Ari Laaksonen. Vesala's feedback was that he didn't had readiness to review the Report. With Laaksonen, who categorically defended IPCC's climate models, a dispute by emails took place.

It is unfathomable and destructive that measures of media, scientists, politicians, leaders of economy, industry and states are conducted by IPCC's warming predictions which vary between 2 – 5 °C depending on **cloud feedback, which physically doesn't exist**. The Authors wish that reading this popularly understandable proof of errors of IPCC's climate models makes readers who believe in IPCC, to reconsider their beliefs.

## Summary

Major results of the Report are presented in figures 1 – 10 of Appendix 4 which present results of calculations by the SRclimate model. The figures prove that SRclimate model produces correct results and responses correctly to all changes of calculation parameters. Accordingly, the SRclimate model simulates correctly the global climate and proves that the **influence of carbon dioxide on global mean temperatures is insignificant**.

Vesala or Laaksonen couldn't show any errors in the figures 1 – 10 of Appendix 4. Vesala didn't comment the figures at all and Laaksonen commented only figure 1 and even it entirely wrong. In chapters Error 1 – Error 8 the Authors show that a) IPCC's climate models are physically wrong b) based on physically senseless assumptions c) atmospheric radiation is calculated wrong d) influence of carbon dioxide depends on **cloud feedback, which physically doesn't exist**. Tens of years research of heuristic **cloud feedback** is one of the most unfathomable plunders of science.

The proofs of Errors 1 – 8 are based on simple physical and mathematical facts which everybody understands or can easily check. Finnish Meteorological Institute and the Finnish Climate Panel haven't answered Authors' request to comment the Errors 1 – 8. This means, de facto, that they admit the Errors.

## Errors of IPCC's climate models

### Error 1: Mathematical starting point of IPCC's climate models is wrong

Validity of 3-D time dependent climate models for studying the influence of carbon dioxide on global mean temperatures would demand that instant and local velocities, compound compositions, temperatures and number densities of gas, droplets and particles everywhere in the atmosphere could be forecasted precisely for tens of years. This isn't and will never be possible.

### Error 2: The models are thermostatically and -dynamically wrong

Valid mathematical models of all chemical and physical processes and natural phenomenon **must** be based on thermostatics, thermodynamic transfer equations of compounds, momentum and energy, balance axiom, on element, compound, momentum, energy and number balances equations of all entities of the system and their initial and boundary conditions. IPCC's climate models don't fulfill **any** of these conditions.

Influence of carbon dioxide concentration on global mean temperatures **must be studied** by calculating global mean temperatures as functions of carbon dioxide concentrations **keeping all other initial and boundary conditions the same**. In IPCC's climate models this isn't possible, because influence of carbon dioxide depends on arbitrary choice of heuristic *cloud feedback*.

### Error 3: Temperature differences between gas and droplets have been neglected

Error 3 proves that makers of IPCC's climate models don't understand thermostatics and -dynamics. According to the 1. law of thermostatics condensation on droplet obligates energy flow between gas and droplet. According to the 2. law of thermostatics, energy flow between gas and droplet obligates temperature difference between gas and droplet. Accordingly, when water condensates on droplet or vaporizes from droplet **there must be** temperature difference between gas and droplet. From Error 3 follows that in IPCC's climate models cloudiness must be calculated by heuristic and erroneous correlations. Cloudiness dominates atmospheric radiation whereupon Error 3 leads to entirely erroneous global mean temperatures.

### Error 4: Cloud feedback

According to meteorologists "*cloud feedback is the coupling between cloudiness and surface air temperature where a surface air temperature change **leads** to a change in clouds ...*" i.e. cloudiness and surface air temperature are **arguments** of each other. If this were true, change of *cloudiness* would *lead* to change of *surface air temperature* which would lead to change of *cloudiness* et cetera i.e. *cloudiness* and *surface air temperature* would endlessly change each other without external influence. Physical existence of *cloud feedback* would cause that climate would change **endlessly** and **indefinitely** by itself. Because this isn't true there is no **coupling** between cloudiness and surface air temperature i.e. ***cloud feedback* doesn't exist physically.**

### Error 5: Heuristic cloud feedback makes solutions of IPCC's climate models indefinite

The **necessary demand** of valid climate model is that it determines **uniquely** the thermostatic and -dynamic state of the atmosphere, i.e. numbers of chemical compounds, momentum and energy of gas, droplets and particles everywhere in the atmosphere. These quantities are the **functions** of climate models, including global *cloudiness* and *surface air temperature*, and the quantities of initial and boundary conditions are their **only valid arguments**. Changes of initial and boundary conditions change both *cloudiness* and *surface air temperature*, hence they have causal **correlation**, but they are not **arguments** of each other.

*Cloud feedback* makes IPCC's climate models indefinite. Therefore, *cloud feedback* can be calculated only for **imaginary** climates. By choices of the imaginary climates, whatever values of *cloud feedback* and accordingly whatever global warmings for the same increase of carbon dioxide concentration can be obtained. This is shown by IPCC's senseless warming estimates which vary between 2 and 5 °C. In IPCC's climate models influence of carbon dioxide increase on mean temperature of the ground isn't determined by carbon dioxide increase but by heuristic *cloud feedback* which doesn't exist physically.

#### Error 6: Atmospheric radiation is calculated fully wrong in IPCC's climate models

All molecules have a statistical mean area, perpendicular to direction of radiation, from which molecules emit, absorb or reflect radiation. These areas (henceforward **radiation areas**) are functions of thermodynamic state and frequency. Radiation area of a compound per volume of medium (**linear radiation coefficient**) is product of **radiation area** and number density ( $1/m^3$ ) of the molecules. **Total** linear radiation coefficient of medium is **sum** of linear radiation coefficients of **all molecules of all entities** (gas, droplets (clouds), particles) of the medium. Clouds influence on atmospheric radiation **only** by increasing total linear radiation coefficients of the atmosphere. Clouds have only **instant** causal influence on global mean radiation to the ground which is **unique** function of **instant** cloudiness of the **whole** atmosphere. It is an unfathomable error of IPCC's climate models that **instant** radiation to the ground is function of cloudiness of **other** atmospheres like an imaginary *clear sky* atmosphere.

#### Error 7: The time mean percentage of cloudy sky determines global albedo

In standard language by cloudiness is understood the local overhead cloudiness which is described quantitatively by amount liquid water per unit area of the ground ( $kg/m^2$ ). The Authors call this cloudiness as **surface cloudiness** which is integral of volume density ( $kg/m^3$ ) of liquid water over the meaningful height of the atmosphere. The Authors call the volume density as **volume cloudiness**. Because local instant albedo of the atmosphere is **nonlinear function of volume cloudiness** local instant **surface cloudiness** doesn't determine local instant albedo. Accordingly, the global longtime mean **surface cloudiness** of the ground, not to mention the perfectly indefinite *mean percentage of cloudy sky*, doesn't determine the longtime mean albedo of the atmosphere. It is determined uniquely by global **volume cloudiness**.

#### Error 8: Increase of cloudiness decreases albedo of the atmosphere

As explained in chapter Error 6, linear reflection coefficient of the atmosphere increases when **volume cloudiness** increases whereupon albedo of clouds **can't** decrease when **volume cloudiness** increases. When the influence of clouds is calculated according to the theory of radiative transfer it is observed that when the global mean temperature of the ground increases the increasing global **volume cloudiness** resists strongly increase of the temperature, and the opposite. Clouds resist strongly **all** changes of the mean temperature of the ground. Errors 6, 7 and 8 prove that makers of IPCC's climate models don't understand radiative transfer.