

Climate Crisis and Greenhouse Effect – an Analysis

Triggered by the discussion about the third airport runway for Vienna Schwechat Airport, at the beginning of 2017 I started a personal analysis of what this much-discussed CO₂ is actually about. The result is the content of this document. This is the 2nd major revision of this paper dated October 2021, the initial version was from March 2017.

My education is electrical engineering and electronics, so I consider myself to have a corresponding physical foundation. Intensive "exchange" with "co-authors" took place.

First, an abstract for the impatient:

The often heard claim of "climate science" that the earth would have a mean temperature of -18°C without "natural greenhouse effect" is a proof that these people obviously misinterpret reality!

If there would be something verifiable at this model calculation, which just claims, without a so-called natural greenhouse effect the earth average temperature would be only at -18°C, there should not be measurable ground temperatures up to approx. +80°C in deserts near the equator. And for this you don't need a greenhouse effect, it is enough to reduce the solar constant 1368 W/m² by the albedo of about 30% and to roughly estimate the possible maximum temperature with the Stefan-Boltzmann formula, which calculated then results in about +87°C.

The observation of the reality proves clearly that the rotating irradiation semicircle of the sun in the zenith draws a daily repeating heat trace over the earth, which causes that the heat reservoir earth at the surface charges up to those temperatures, which are directly measurable. Especially the oceans, whose water temperatures remain de facto identical day and night depending on the latitude, prove this. No point on earth follows a theoretical temperature profile, which can be determined as the result of a Stefan-Boltzmann calculation, based on a 24 hour period of the respective local radiation power.

Therefore all considerations, which e.g. lead to the assumption, the irradiation amounts exclusive Albedo in the average 239 W/m² and lead to the assumption, the average temperature would be -18°C, are absurdities of special class. If one takes this into account, this leads to which consequence?

The following pages will go into the details and discuss supplementary aspects that are directly related to this. It should already be noted that no "higher" science is required for the analysis, even if this is sometimes claimed.

Because this analysis turns out in many points contrary to what affects us daily medially as a kind of "permanent brainwashing", especially those who do not agree with this analysis are asked for counterarguments: Address for typing down on the right!

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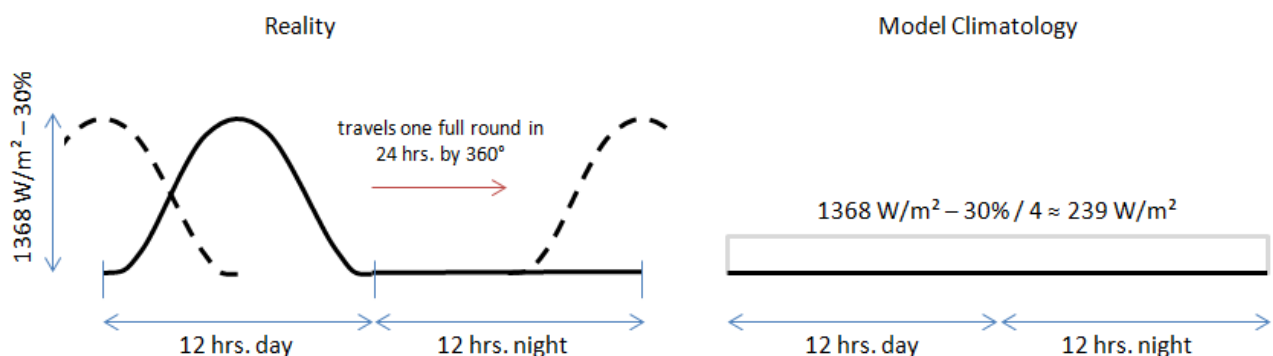
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The Greenhouse Effect

One reads occasionally, for the "reasoning" of the greenhouse effect the following train of thought is taken:

One tries to calculate, how high the average surface temperature of the earth would be without atmosphere. Because the earth is approximately a sphere with a surface of $4r^2\pi$, the following thought experiment is made: The earth is illuminated from the sun's point of view on a circle with a diameter of $r^2\pi$, it radiates over the full surface of $4r^2\pi$. The radiation therefore takes place over the quadruple surface. Therefore one distributes the radiation power of the sun, which shines real with approx. 1368 W/m^2 on the globe, virtually by a radiation with 25% of this intensity over the entire surface. Thus approx. 342 W/m^2 , in order to consider the day/night change and the spherical form. At first, one pretends that this thought model is a "black body", i.e. a fictitious structure, which completely absorbs all incident radiation, converts it into heat and, according to this heat, radiates it again immediately, i.e. 342 W/m^2 in and 342 W/m^2 out over the entire surface and thus a balanced balance. Because this does not correspond to the reality, one introduces a correction factor, which is to make this calculation realistic, in this case 0.3. This correction is to represent the Albedo (whiteness), the actual absorption/reflection behavior of the earth. Because a part of the visible radiation is just reflected without warming effect. Then we calculate with the Stefan-Boltzmann formula, which normalized to 1 m^2 is: $P = \text{Sigma} \times T^4$, that after deduction of the reflection ($30\% \approx 103 \text{ W/m}^2$) still 239 W/m^2 are left for heating the surface. And these 239 W/m^2 result in -18°C average temperature according to the "reversed" formula of Stefan-Boltzmann. Sounds not illogical at first. However, one immediately wonders that something can't be right with this calculation, because the actual mean temperature of the earth is about $+15^\circ\text{C}$, i.e. 33°C higher. The possible extreme values go even up to approx. $+80^\circ\text{C}$. And this, although the actual radiating surface is by its mountainousness substantially larger than idealized $4r^2\pi$ and thus also the cooling capacity is larger. So where is a possible error?

Let's first look at the model that leads to -18°C :



Climatologists quarter the albedo-adjusted value of the solar constant and distribute it over the entire surface, as an instantaneous value. In reality, however, the "half-sine" of solar radiation moves around the entire globe in 24 hours (dashed). This means that the energy input into the overall system is much greater than a quarter of the instantaneous power. This is the difference between power and energy, which is not taken into account by climatologists. Only energy contains a time component [Ws]. The graph on the left shows one moment of a 24-hour orbit. The

half-sine moves to the right once in 24 hours until it reaches the position again on the next day. Without making a detailed calculation, you can immediately see that the energy supply as it actually takes place is considerably higher than shown on the right. And this also easily explains the "mysterious" difference of 33°C. It is based on an incorrect model conception.

The Stefan-Boltzmann law applied to this is normalized to one square meter: $P = \sigma \times T^4$, where P is the radiated power in W/m^2 , σ is a Boltzmann constant with value 5.67×10^{-8} and with "conversion dimension" and T is the temperature of the surface in Kelvin, which radiates the power P due to its temperature. Thus, the radiant power increases in proportion to the fourth power of the temperature. Thus, using this formula, one can calculate the power radiated by a body with surface temperature T . Where the body gets this temperature from does not matter when applying the formula. Results of this calculation agree quite well with the measurable reality. A small difference is caused by the so-called emission factor, which is a property of real matter. The originators of the formula hold also explicitly, this formula is valid only for a theoretical "black emitter", it is therefore only an idealized model, because real black emitters do not exist!

What does the "established" climatology do now? This climatology tries to calculate with this formula inversely also the temperature T , which a body assumes by irradiation with power P .

To do this, you first have to transform the formula to T . Mathematically this is no problem. But the question is, how well does real substance agree with the transformed calculation results? This can be easily tested. For a power of e.g. $400 W/m^2$ the calculation results in approx. $+17^\circ C$, for a radiation power of $100 W/m^2$ it results in approx. $-68^\circ C$ and for zero W/m^2 the formula results in 0 K or $-273.15^\circ C$, i.e. the absolute zero 0 Kelvin. If one makes appropriate tests, one finds out, real matter behaves deviating from it. And this deviation is caused mainly by the mass of the considered matter. If one takes a matter for the test, which has e.g. at first $0^\circ C$ initial temperature, one finds out with irradiation with $400 W/m^2$, the temperature does not jump immediately with beginning of the radiation on $+17^\circ C$, like with switching on a light switch the light, but it rises only slowly, exactly depending on the mass of the body, in order to reach only after longer time at the surface a temperature close to the calculated value. If one reduces the irradiation now e.g. to $100 W/m^2$, one can observe that the temperature also does not take the new value immediately, but again only sinks slowly depending on the mass, until it arrives after appropriate time approximately at the calculated value. So we find out, a calculation of the momentary actual temperature is not possible with the formula according to Stefan-Boltzmann, because the temperature-causing energy=heat does not occur in the formula!

If one now looks at the real rotating earth, then one half is permanently irradiated by the sun supplying energy and the other half is not irradiated. So the shined half will tend to approach a so-called thermal equilibrium, where then approximately as much is radiated as absorbed. The unirradiated half, if it were to follow the Stefan Boltzmann law, would have to assume a temperature close to absolute zero. This is of course not the case, because matter has heat storage properties as shown. The oceans store the solar energy in such a way that between day and night on day length de facto no temperature difference develops. All oceans, i.e. two thirds of our earth's surface, contain an estimated heat equivalent of about 50,000 days of radiation. This is supposedly equivalent to a heat quantity of more than 4.59×10^{26} joules. So much for the oceans.

For land areas, on the other hand, there is a noticeable nighttime cooling. So the nighttime sum of radiant energy will cause the temperature to be slightly cooler at the end of the night than at the beginning. The next day, the warming now begins where the night ended and moves back toward thermal equilibrium. Measurements at different locations in different weather provide a clear picture of reality. So these are the facts.

Irradiated is thus real always with 100% energy with the phys. Dimension Joule or Ws. During the day there is a rough energetic balance, during the night of course not. And in the day one must consider as said also the Albedo, which amounts to allegedly on the average approx. 30%. So only 70% of the 1368 W/m^2 , which are available in the earth distance, have a warming effect. That would be a maximum of about 957 W/m^2 , which means a theoretically idealized limiting temperature of about $+87^\circ\text{C}$. Ground temperatures of around $+80^\circ\text{C}$ are actually reached in deserts near the equator. Such a value would never be attainable at a theoretical 25%. Towards the poles the effective component of the radiation decreases due to flatter incidence angles down to 0 at 100% grazing light. So one can easily state, the surface reality influenced by the radiation properties agrees well with this consideration and all measurements, which can be made, do the same.

Considering the storage capacity, however, also the logical approach of science is wrong. Because the actually attainable temperatures minus the albedo are just according to real rotating 100% of the energy and not according to 25%. The semicircle of the rotating vertical solar radiation draws a "heat trace", caused by 100% of the energy. The heat obtained by it goes predominantly into storages and determines everything what comes after it. The absurd -18°C calculation is the cardinal error of climatology. Only this wrong calculation is the basis to invent a miraculously warming greenhouse effect. Where does this effect remain, if one observes and measures everything, which is actually real and draws his conclusions only from it? It disappears without a trace.

The earth axis is inclined approx. 23° . Thus the "irradiation semicircle", which is perpendicular to the sun, swings back and forth between north and south once in the course of a year. This is the reason why the polar regions beyond the polar circles alternately have permanent illumination or permanent eclipse. In the equator region, the perpendicular to the sun therefore swings to the north or to the south by half of the earth's inclination in an annual rhythm. This causes the seasons and the actual angles of the sun's irradiation therefore deviate cyclically from the latitude. In the northern high summer the sun is at the 45th degree of latitude at noon thus not under 45° in the sky, but around the inclination of the earth axis higher, thus with maximally approx. 68° to the solstice. The sine of 68° is about 0.93. Therefore the effective solar power at the 45th latitude, e.g. Milan, would be $1368 - 30\% = 957 \times 0.93 = 887 \text{ W/m}^2$. This value results in a theoretically possible maximum surface temperature of 80°C , which in real terms can probably lead to ground temperatures of up to just under 70°C . So, at midday in Milan on asphalt in high summer, this is quite plausible. The same calculation for Stockholm results in approx. 53° solar maximum. This allows $1368 - 30\% = 957 \times 0.8 = 764 \text{ W/m}^2$. So here asphalt could theoretically get up to 67°C , in reality probably around 55°C . As you can see, the calculations do not contradict the observable nature. For the 25% model of the experts, such values are not possible.

All this clearly refers to the earth's surface, not to the atmosphere. Therefore, it should be added that radiant energy drives atmospheric temperatures only indirectly. Within the atmosphere, i.e. between the surface and space, there are further important dependencies, especially the air pressure, as well as other thermodynamic properties of air like heat conduction and convection.

What does this mean now? It means, the actual temperature of a body is determined first by the actually absorbed radiation power and not by 25% of it and second by its storage behavior due to its mass. And on top of that there are further physical processes, which cause e.g. that the surface temperature of open oceans never rises above approx. 31°C. The existing mass equalizes the temperature gradient towards longer time constants. This causes that the real surface temperatures are strongly oriented to the actual radiation and not to 25% of it. And exactly this can be registered by measurement.

One can make a long-term measurement of the radiation power and one of the ground temperature at any point of the earth's surface to check this fact.

With it it is proved that an instantaneous calculation of the temperature of "substance with mass", thus the reality, is impossible with Stefan-Boltzmann. This fact check on the basis of reality thus falsifies the often heard assertion that an earth without atmosphere would have -18°C, so clearly! One can also make a direct experiment on a small scale, e.g. by irradiating a rotating stone ball with a diameter of about 10 cm with a lamp, which emits light and heat. The temperature that is established will tend to be proportional to 100% radiant power rather than 25%, depending on the distance involved.

That the "scientifically" calculated -18°C are therefore wrong, we immediately suspected. Afterwards we have also shown on the basis of reality, why. But this does not prevent the established climatology, i.e. "the science", to insist on their wrong calculation and to invent a mysterious effect to explain the considerable difference between -18°C and +15°C. They call it the "natural greenhouse effect". But if one calculates with the correct application of the Stefan-Boltzmann formula the radiated power, which results at +15°C, is about 391 W/m², if one calculates what would be radiated at -18°C, one comes as above to 239 W/m². The difference is therefore 152 W/m².

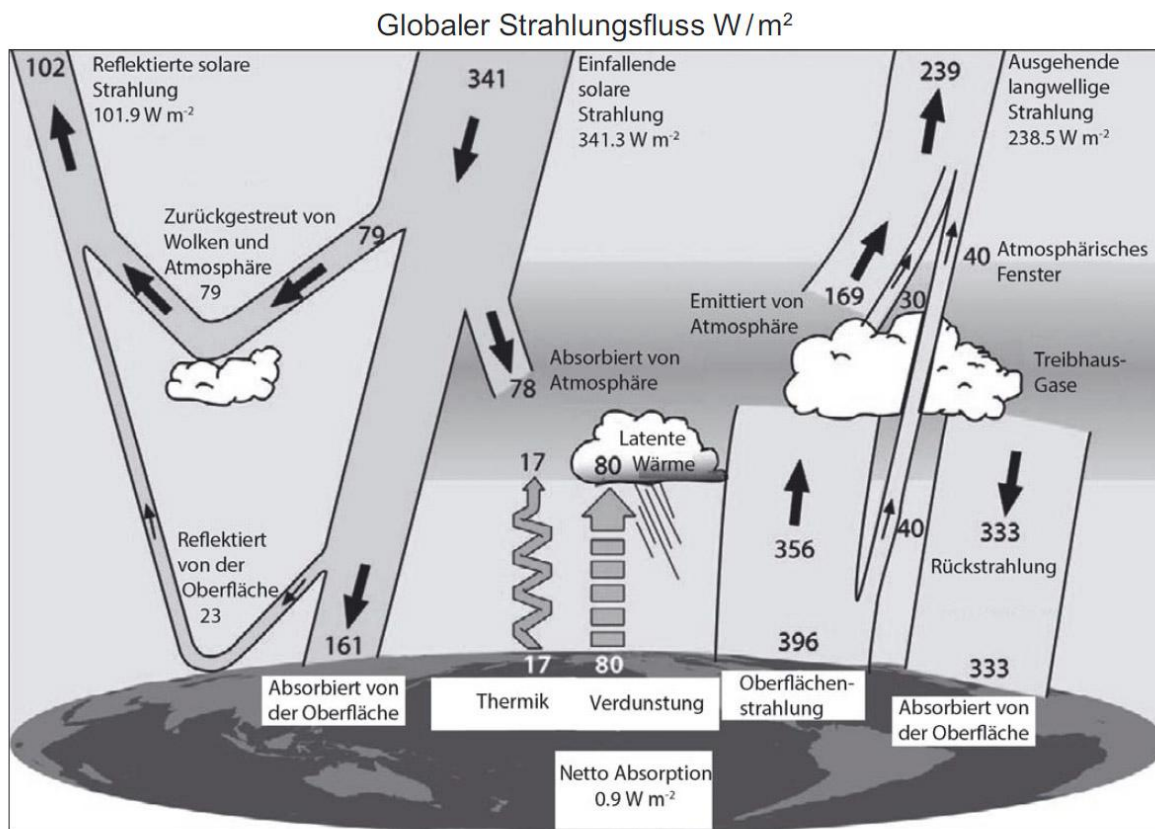
For energy, and here we are talking about energy, because power times time is energy, for energy the law of conservation of energy is valid. It means, energy cannot arise from nothing by itself and also cannot disappear by itself without a trace, energy can only be transformed. So there should be a plausible explanation for this greenhouse effect, where the difference of 152 W/m² on average comes from and how it actually arises? Exactly at this all explanation attempts known to me fail miserably. Not a single one stands energetically a control on the ground of the known physics concerning energy balance.

The unbelievable is now that allegedly 97% of the world-wide science "in the consensus" and without concrete detail proof this "natural greenhouse effect" represents and so argues.

However, one is in the dilemma to have to give an explanation what is the concrete cause for this +33°C temperature difference, because the 239 W/m² irradiation cause -18°C according to this calculation. It must come therefore somewhere from an additional energy, which causes these +33°C with atmosphere plus "greenhouse gases". So the question is, where from?

The following graphic shows an officially published "description" of the greenhouse effect in Austria. Taken from the "Sachstandsbericht 2014", page 143 from the "Climate Change Center Austria" <https://ccca.ac.at>

Similar images can be found in large numbers on the Internet, with the most varied values entered. See image search for "Trenberth/Kiehl".



It is stated that only a part of the $\approx 239 \text{ W/m}^2$ irradiance, namely allegedly 161 W/m^2 , actually hits the ground and heats it. The rest of 78 W/m^2 goes to absorbent molecules of the atmosphere. Where exactly and what happens with it is not specified, perhaps this is the weather drive, although the weather takes place in the atmosphere, but is causally driven predominantly by the ground or water temperature.

And now comes a "remarkable trick": These 161 W/m^2 (= SB: -42°C) are supposed to warm up the surface in such a way that it is supposed to be able "as if by magic" to radiate 396 W/m^2 (= SB: $+15.93^\circ\text{C}$) in the stationary state, i.e. almost 2.5 times as much heat radiation! From these 396 W/m^2 then obviously so much is absorbed by the "greenhouse gases" that these immediately re-

radiate 333 W/m^2 (= SB: $+3.7^\circ\text{C}$) or 84% of it directed(!) in exactly opposite direction (called "atmospheric backward radiation").

Thereby, additional power of 333 W/m^2 arrives on the surface, which according to this theory in the circular reference obviously also "keep alive" the 396 W/m^2 mentioned before.

It should be added that this explanation is treated completely without consideration of the occurring radiation spectra, thus only on the broadband basis W/m^2 . The fact that e.g. CO_2 could absorb only very small spectral parts (bands) from the (alleged) 396 W/m^2 at all is not discussed. From the point of view of balanced energy balances thus a clear impossibility which is recorded here! Also the representation, the back radiation of 333 W/m^2 would be directed and not diffuse, seems unbelievable.

The following can be said about the physical role of CO_2 : If a surface of the earth in thermal equilibrium with e.g. 300 K (27°C) idealized according to Stefan-Boltzmann radiates approx. 460 W/m^2 , then spectrally according to Planck approx. $6.7 \text{ W/m}^2 \text{ sr}$ are allotted to $15 \mu\text{m}$, which is the essential band wavelength of CO_2 here. The "sr" means steradian and indicates that each point radiates spherically and not directionally. Now, to be on the safe side, let's take e.g. 30 W/m^2 instead, because the band area looks a bit wider from a measurement point of view. Then this square meter radiation power of 30 W/m^2 is distributed from the area around $15 \mu\text{m}$ to as many CO_2 molecules as are "hit" from this square meter, which are extremely many. Each individual molecule therefore receives only a tiny fraction of the total radiation, e.g. 30 W per square meter. And exactly this "nano power" could be radiated then according to Kirchhoff's radiation law maximally also again per molecule. But these single radiations do not unite "on the way" additively to a common directed sum radiation. Each molecule radiates "spherically" into space. A part goes towards space, a part to the side and a part downwards to the surface. Therefore, very many tiny nano-radiations meet diffusely(!) at the ground, which, however, cannot heat up the even 300 K warm and 460 W/m^2 radiating ground further because of the 2nd law of thermodynamics, because its temperature is higher than that which would be caused by this CO_2 -supply radiation.

Even if one adds impermissibly, this would be then only maximally approx. $30/2 = 15 \text{ W/m}^2$ backward radiation on 460 W/m^2 radiation. According to Stefan-Boltzmann's law, 15 W/m^2 of radiation result in a maximum achievable temperature of approx. -145°C , but the surface has $+27^\circ\text{C}$!

Imagine a firmament of micro mirrors, which in sum reflect only about 6,5% of the ground brightness (30 W to 460 W), they could not make a 100% radiating ground brightness brighter than it is. If it would be theoretically different, this process would build up by itself explosively unlimited, because more surface heat/brightness would cause again more radiation, which would cause more backward radiation, which would cause again a higher surface radiation and so on.

But it goes even further, the diagram also shows that the total power radiated back into space should again be only 239 W/m^2 , which would not be $+15^\circ\text{C}$, but as calculated before only -18°C at best. That would mean, the "natural greenhouse effect" is a "closed energy system", which makes the earth permanently warmer by 33°C from itself, but has no effect in the energy balance over

all! Thus not only a perpetuum mobile, but even one, which produces still additionally gigantic quantities of "trackless energy"!

On the idea, the inadmissibly simplifying and/or unphysically applied -18°C calculation, which violates also the 1st law of the thermodynamics, could be wrong and/or unsuitable for this consideration, obviously nobody comes. So which conclusion must be drawn? Quite simply: the calculation must be wrong? Why? Mainly, because Stefan-Boltzmann is used for the calculation and Stefan-Boltzmann does not know heat, heat [Ws] does not appear in the formula, but it is the main reason for the observable thermal behavior. Only temperature [K] appears in Stefan-Boltzmann. Heat and temperature is not the same! And second, because this calculation assumes that linear quartering will produce a correct result for a formula whose result depends on a fourth power.

So what?

There are only two possibilities for me:

Either, I completely misunderstand what is spread by popular science, then I would be glad about clarification and correction.

Or, however, what allegedly a large part of the "serious" climate science claims "in consensus" and consequently lets millions of research funds flow to them, is nothing but bullshit, others would also call it (conscious?) fraud ...

Notes to the Balance Calculation

The procedure seems to be highly absurd. So one finds out that reality behaves differently than a model calculation. Normally, one would now start to consider what could be wrong with the model calculation. But this is not done, one "invents" an effect, which "fills up" the difference between the calculation and the observation. That this effect spreads against all principles of physics, as e.g. beautifully recognizable at the various balance diagrams and/or the thermodynamics, is rhetorically avoided to address, which obviously and unbelievably not only works with laymen.

Heat capacity (land + oceans) is of great importance for actual heating and cooling processes. The physical unit for heat is joules [or Ws]. However, exactly this balance-related, quantity-related heat consideration does not occur at all in the SB -18° bill, only temperature with Kelvin. But heat and temperature are not identical!

And also the assumption of a 1:1 "radiation balance" seems unrealistic to me. Everyone can observe that on the earth permanently gigantic water and air masses are shipped. So radiation energy is converted into heat energy and this into permanent work. Energy, however, from this structure changed by work is not given off again by itself as radiation. Work is one of the possible conversion forms of energy, has also the identical phys. Unit Ws or greater kWh.

Beside the radiation intensity only the albedo goes into the temperature. So if the planet would become darker by human activity (if necessary by "greening"), this could cause a temperature increase and vice versa.

The fact that a greenhouse effect of the kind discussed here does not exist can be seen indirectly from the fact that there is not a single physical formula in which any term represents the greenhouse effect. If this would be the case, one could calculate the concrete measure of the effect and also its physical unit by changing the formula. One could then calculate what the temperature would be with or without the greenhouse effect.

According to literature experts an effect named "atmospheric greenhouse effect" can be found neither on thermodynamic nor on radiation theoretical basis in the fundamental literature of theoretical physics on university level. That is, there is no such "greenhouse effect" in the teaching material!

All found measuring data and diagrams, which are supposed to prove a greenhouse effect, are completely in agreement with the physics, they show known connections, however, they do not prove an "additional energy" at all, which delivers a big contribution (officially +33°C) to the temperature increase in addition to the received solar radiation.

If one would transfer the mechanisms of the claimed greenhouse effect to optics, this would mean, if I reflect back parts of the light of a light source with a mirror, the light of the light source becomes brighter, although the supplied energy remains the same ...

Climate Change or Climate Crisis

That there has been a warming tendency of the mean temperatures in comparison to the relatively near past is obvious (glacier retreat etc.). If one takes a somewhat extended time period, some things are put into perspective. As recently as 2015, the retreating glacier stream of the Austrian Pasterze glacier exposed a 6000-year-old Swiss stone pine, itself about 300 years old. Ötzi was uncovered and Greenland is also known to have been greener, i.e. not continuously iced over, at the time of its naming (grassland with recent cultural finds in thawing permafrost).

<https://kaernten.orf.at/v2/news/stories/2718069/>

So, even in past times, when the structure of the Earth was already like today's, there were already distinct warm periods with ice-poor Alps, completely without anthropogenic CO₂.

The argumentation discussed before logically excludes that a greenhouse effect of the claimed causality can exist at all. However, it may of course be that other human activities have warming potential. Conceivable would be large-scale changes of the albedo by settlement construction etc.. The effect is also called heat island effect and is generally measurable.

Night photos of the earth from space show the urbanization and infrared photos prove the same urban areas, which incidentally shows that infrared is naturally receivable from the surface of satellites and is not "swallowed" somewhere.

Climate experts proved already in 1995 that the CO₂ content of the atmosphere before the beginning of industrialization around 1850 has been quite constant over 8000 years in the past and uninfluenced by man. But was the climate also constant? No! It oscillated in a "rhythm" of about 1000 years between warmer and colder periods, called Optima or Pessima. The fact that the CO₂ content remained almost constant at 280 ppm for thousands of years did not prevent the "climate fluctuations" after the Weichselian Ice Age. Our era began during the climate optimum in Roman times (birth of Christ). Then followed a cooling in the northern European-Eurasian area with the migrations of peoples. This was followed by the climatic optimum of the High Middle Ages. This was followed by the "Little Ice Age", which ended around 1850. From then on, with small interruptions in the opposite direction, it became warmer again from about 1950 to 1980. See the following diagram (called Abb. 5).

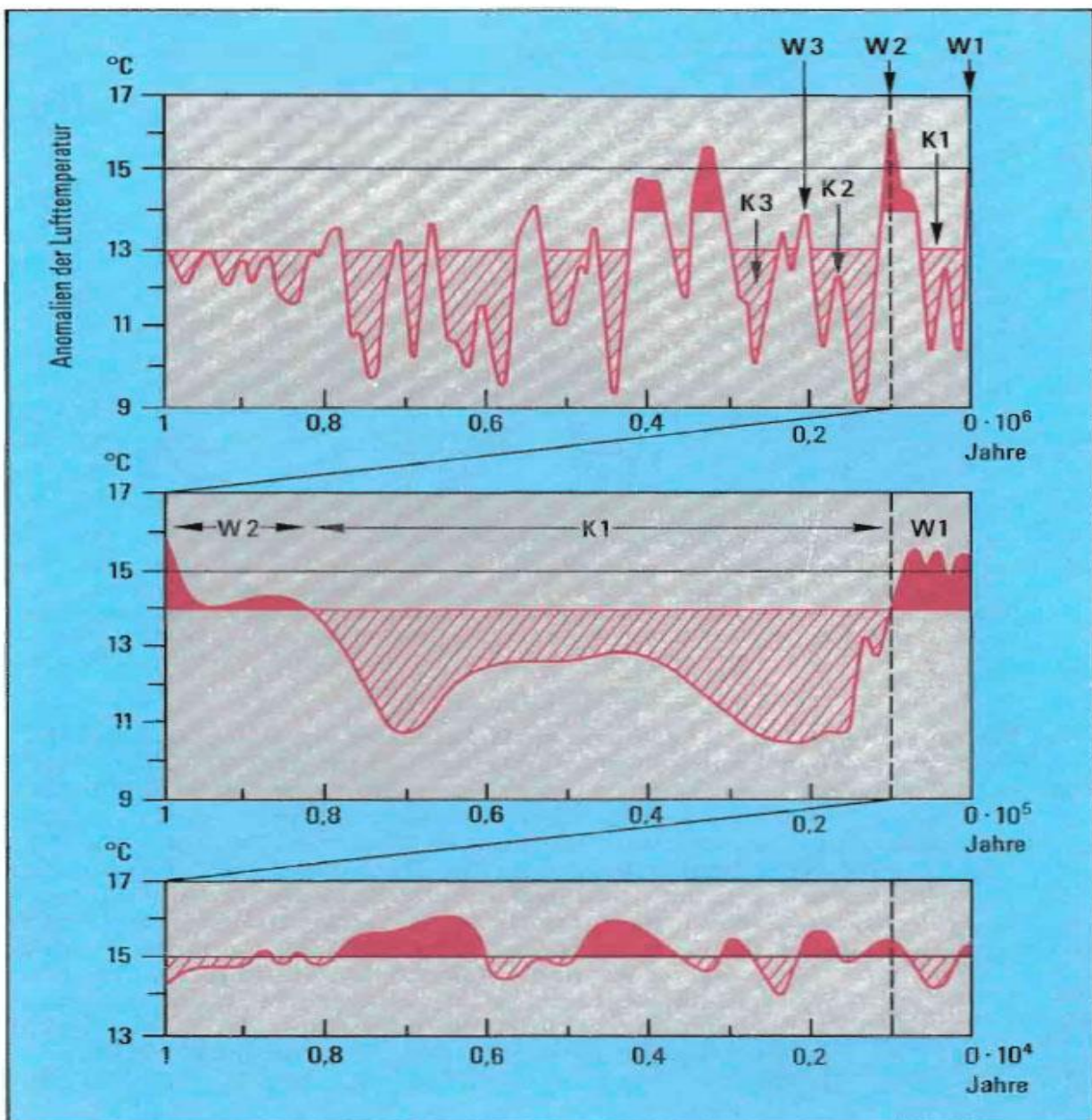
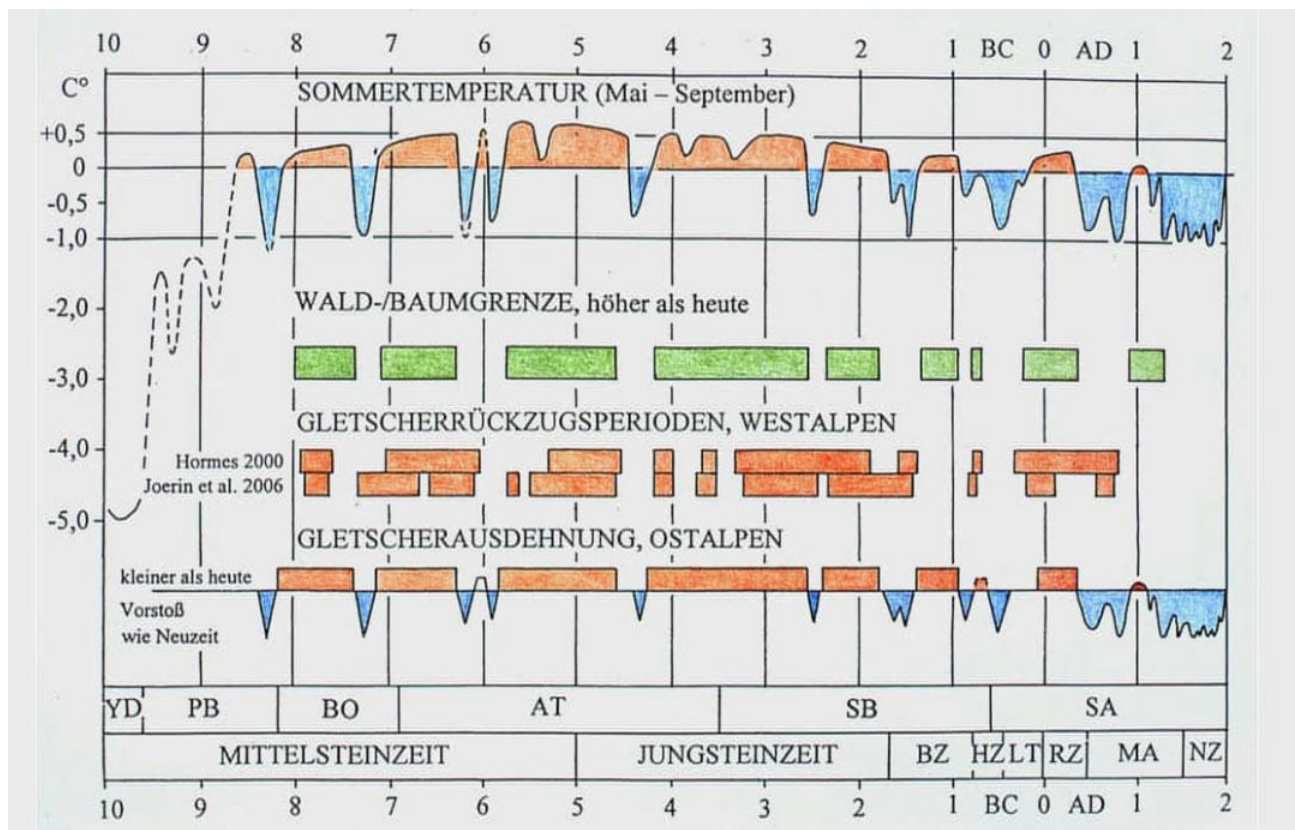


Abb. 5: Überblick der über die Nordhemisphäre gemittelten Temperaturvariationen (bodennah) für die vergangenen Millionen Jahre, 100 000 Jahre und die vergangenen 10 000 Jahre. Die Temperaturen sind Zehnjahresmittel und enden 1980. Daher wird der jüngste Temperaturanstieg, der in Abbildung 1 für globale Mittelwerte dargestellt wird, hier nicht mehr erfaßt. Mit W1, W2 und W3 sind Warmzeiten bezeichnet, mit K1, K2 und K3 Eiszeiten (22).

Diagram from the report of the German "Enquete Commission 1988", p. 182

You can see nicely in the lowest diagram that in the last 10,000 years, since the last ice age, it was often warmer on earth than today. And you can also see that +15°C is used as the baseline in this diagram. For the hottest year since direct modern measurement, the year 2016 is given as about 14.8°C, which, if the numbers are correct, would mean that today we would not even have reached the decade-millennium baseline of +15°C. That is, that the "recovery" since the "Little Ice Age" has not even reached the decade thousand mean (as I said, if the numbers are correct).

The following illustration shows the details from before in more detail. It comes from the glacier researcher Prof. Dr. Gernot Patzelt of the Uni. Innsbruck. He examines the moraines of alpine glaciers as well as moors over many decades and analyzes tree and other finds according to location, find height, age etc. and he compared these findings also with ice cores from Greenland.

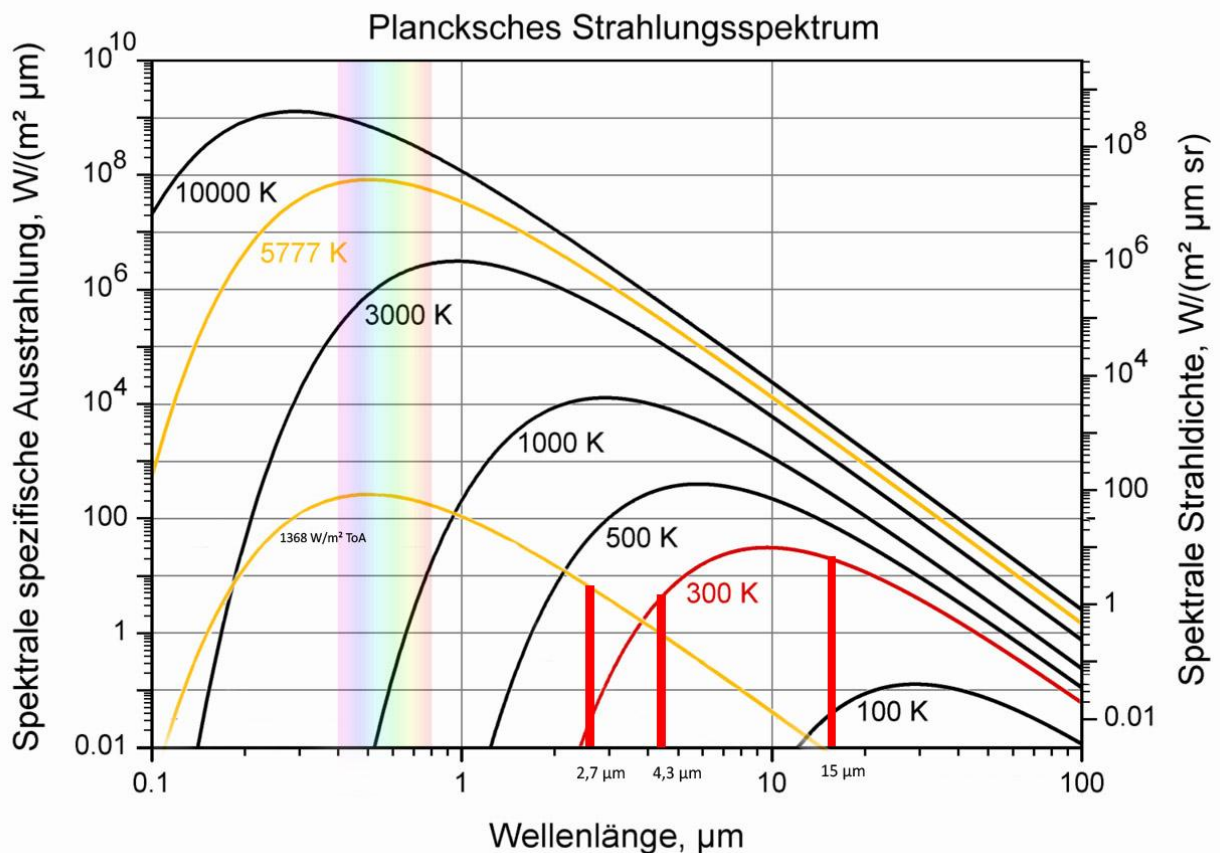


At first glance, one can see that the tree line was mostly higher in the past than it is today, so that the climate was mostly warmer (without any anthropogenic CO₂ at all). Of course, this is not direct evidence that CO₂ cannot play the role it is "said" to play today, but it does prove that the warming hysteria to which we are currently incessantly subjected looks a lot like ignorance spread by people who have never analytically looked at the available climate history. From 800 to 1300 (MA) it was on average even warmer than today. Figs and olives grew in the Rhineland, Greenland was icier than today, and wine was successfully grown in Scotland, according to historical accounts.

So the highest probability is that the causes of "permanent climate change" are extremely diverse superpositions (solar activity, cosmic rays, albedo changes, long-period oceanic processes, Earth's orbital parameters, etc.), coupled with a dash of chance (weather, clouds), i.e. without any chance of realistic human influence. A physically tenable and comprehensible real temperature increase due to CO₂ could not be found anywhere on earth so far. And this would first have to be substantiated if CO₂ is to be identified as the culprit.

Green House Gas

The actual role of the "greenhouse gases" is easy to describe. They do not absorb broadband energy from the spectrum of incident sunlight, but only at so-called atomic absorption bands (for CO₂: 2.7 μ m; 4.3 μ m and around 15 μ m). absorbed parts are then no longer available on the ground for heating. From the spectrum which the earth radiates back (approx. 2 μ m to approx. 300 μ m), they also absorb that range of energy which corresponds to the absorption bands. The graph shows this connection. For those who need help, the area under the red 300K curve represents the radiant energy emitted just at 300K. The vertical red lines, roughly represent the energies that CO₂ absorbs and can re-radiate about half of. They are roughly only lines, i.e. a minimal fraction of the radiation!



The upper yellow curve represents the radiation intensity from the sun. The yellow line shifted parallel downwards shows approximately the 1368 W/m^2 arriving at the earth. It can be seen that

CO₂ absorption bands (red perpendicular) are in the irradiance region as well as in the radiation region. Representation double logarithmic from Wikipedia, with own additions.

The red radiation range of the earth is shown here for approx. +27°C. In reality, of course, the radiation pattern must be estimated with the actual temperature, which can be approximately in the range of +80°C (deserts) to -80°C (Antarctica) and for all gases involved.

The bands 2.7 μm and 4.3 μm are addressed by sun and radiation, 15 μm only by radiation. The left scale quantifies power per wavelength, the right one power per wavelength and solid angle.

One can see nicely that the secondary spectral single power even for 27°C is only in the range of about 0.01 to 7 W/m². And this representation corresponds to sun in zenith, so the actual bar lengths still vary in real terms according to the time of day.

In addition, one recalls the thermodynamic basic principle that heat energy always flows from warmer to colder and never vice versa and that the temperature distribution in the atmosphere typically runs from warm at the bottom to cold at the top. Therefore, received heat is typically transferred from the bottom towards the top and hardly ever in the opposite direction. The constructed diagram on p. 13 represents the situation from the surface, a measured diagram, which shows the same relations incl. indentations in reality, can be found on p. 18.

Global Mean Temperature

A so-called "global mean temperature" exists only mathematically; it has no real-world equivalent. It can also hardly be verified, because the processes involved are complex and hardly comprehensible. So far I found also no description, how a global mean temperature is determined concretely and for what it is valid!?

There are once the "English huts", whose instruments measure the temperature of the air 2 m above the ground, but themselves stand in the most different sea heights. These huts are in any case so distributed that one could not say that they represent a representative grid on the earth. There are also different methods for averaging, as one hears.

Second, there are satellite measurements which, as far as I know, can only measure radiation spectra based on the temperature of the emitting planes. So radiating planes in the atmosphere are measured, not the air at 2m "near the ground". Satellite measurement works with temperature dependent radiation of atmospheric oxygen in the 50 - 60 GHz range. It is also influenced by thermodynamics, because a measurement at sea level with identical irradiance results in a higher temperature than the same radiation e.g. at 1000 m above sea level, because there the cooling of the surface by the surrounding air is much higher, etc. A permanent service is <http://temperature.global/> with currently 13,72°C earth mean.

One has to "consolidate" all these effects via some method and then form a single value from all this. When one does this, one has to make many assumptions that go into the conversion as parameters or parameter fields, about whose choices one can get a wide variety of results.

Finally, what does the value of, say, 14.8 °C published for 2016 tell us? Does it apply to sea level or as an average over everything? Does it apply as surface temperature or at 2 m altitude?

And how do the relative values apply? Most of the graphs show trends relative to a zero line. The question arises, what does this zero line mean? Does this zero line represent the 15°C often given as mean temperature or is it an unnamed (or even unknown) "mean temperature" of 1850? How high was it and how was it determined at that time?

If I say, for example, the earth became 0.8°C warmer than pre-industrial, what does that mean? Every meteorologist knows that it gets on average 0.65° cooler for every 100 m of altitude, and so on. But the altitude gradation also depends strongly on the air pressure and the humidity, which is not constant anywhere on earth and certainly not in the altitude profile. In dry air 1°C per 100 m is valid. In any case, relative data without a reference temperature at reference altitude are of little or no significance.

I have never heard another important question, namely how big is the standard deviation of the given values. Because 0.8 you get as mean value of 0.7 and 0.9 or also of -12 and +13.6, in one case the standard deviation is small, in the other massive.

At the end, values with two decimal places are mentioned, which are supposed to signal precision, although in many stations the measurement uncertainty of the equipment already amounts to approx. 0.3°C.

Without the mentioned accompanying information, such mean temperatures have a similar value as if one would calculate the mean telephone number of Vienna, which also said almost nothing about real numbers.

If one observes the discussion, the mean temperature serves only as an apocalyptic threat to strive for goals (2°C), which are not attainable with the planned measures as shown, but let worldwide state-sponsored "climate protection organizations" shoot out of the ground like mushrooms. Organizations that have huge research budgets allocated to them through lobbying by the EU Parliament (e.g. doubling, see EU: "Clean Energy for All Europeans"). Research proposals that already contain the term climate change or greenhouse effect in the title are good business today. Hard-earned tax money is fed/wasted here by "clueless" politicians "post-factually"!

Radiation Perception

An observation that every person can easily verify is the following. When you sit in the sun, you feel the warming infrared rays on your skin. For example, if you shade a part of your face with your own hand, you will immediately feel that there is no more warming radiation on that part. The same happens when a cloud moves in front of the sun, the sensation of warmth is interrupted. This is especially noticeable in the morning when the sun is still low and the surrounding air is still cool. If there would be a heat radiation from the atmosphere (backward radiation) as claimed, one would have to feel further (diffuse) heat radiation in spite of sun shadowing, because this

radiation should be even stronger according to representation in diagram S 7 (more than double $161:333 \text{ W/m}^2$) than the primary sun radiation. Nothing of it is to be noticed! So what?

Greenhouse effect definition

Whether there is a greenhouse effect, of course, also depends on the definition of what one means by greenhouse effect concretely and precisely defined.

IPCC defines it as follows:

In AR5 "Climate Change 2013: The Physical Science Basis:" (IPCC 2013, annex III, page 1455) the greenhouse effect is defined as follows: "Greenhouse effect: the infrared radiative effect of all infrared-absorbing constituents in the atmosphere. [...]"

With radiative effect being defined as (IPCC 2013, annex III, page 1460):

"Radiative effect: The impact on a radiation flux [...] caused by the interaction of a particular constituent with either the infrared or solar radiation fields through absorption, scattering and emission, relative to an otherwise identical atmosphere free of that constituent. This quantifies the impact of the constituent on the climate system. [...]"

According to this IPCC definition, the presence of, for example, water vapor or CO_2 is therefore already sufficient to speak of a greenhouse effect, regardless of what the concrete effect actually is!?

Thus, for IPCC, the greenhouse effect does not depend on the temperature increase from -18°C to $+15^\circ\text{C}$, i.e. by 33°C , which is repeatedly claimed in popular science writings. This IPCC definition is therefore, of course, not open to attack. The question is, however, if that is all that thousands of highly qualified scientists can determine "by consensus," what quality can the rest of their expertise have?

Because that is not a definition, but merely a fact, doubted by no one, that there are infrared sensitive gases. Nothing more!

So what actually is the greenhouse effect? It is surprising that in the whole literature one cannot find a common or uniform definition of this effect. It seems as if every author produces his own description of the effect. In an analysis the scientists Dr. G. Gerlich and Dr. R. Tscheuschner examined 14 different definitions and found none in a physical paper with "peer review", which describes an effect, which would have been tenable on the ground of physics or even metrologically provable. That is, there is apparently no widely accepted exact definition that is up for discussion!?

Thus the serious question arises, where does actually the acceptance of the generally claimed greenhouse effect come from? What is its exact scientific definition? Which physical bases would have it? By what is it caused? How would it be verifiable on the basis of physics? What is its theoretical energy balance? And how could it be calculated? All questions, to which I have found so far no reliable answers! And among themselves consistent ones already not at all! That might

be also the true reason, why there is no scientifically exact definition for the greenhouse effect! Simply because already an exact definition would reveal that it contradicts the physics. By the way, the gas CO₂ is not necessary to explain the reality!

Measurable facts

If you examine the earth's surface, you can find interesting facts. For example, the temperature dependence on the sea level. An air temperature record is held by Furnance Creek in Death Valley, an area with about -86 m above sea level and a highest measured air temperature of about +57°C (about 36° N). Not very far away is the Grand Canyon. There one can observe that the temperature difference between the upper rim of the canyon, which is more than 1800 m deep, and the valley floor is 11 - 14°C, which corresponds to an average of 0.67°C per 100 m altitude. A value that can also be observed when climbing mountains anywhere on earth. The Altiplano plateau in South America is located at an average altitude of 3600 m and covers an area of about 170,000 km² (15° - 20° S). The average temperature varies between 2° and 10°C during the year. Near the South Pole, at an altitude of 3500 m, lies the Russian research station Vostok, where temperatures of almost -90°C have already been measured.

These few examples show some things that can be observed everywhere in the world. The actual temperatures depend on the solar radiation (angle, irradiation time) as well as on the altitude. In addition, it also depends on heat storage effects, i.e. oceans, which also strongly influence neighboring areas. With identical solar irradiation, this radiation has a stronger warming effect in places with denser air than in places with less dense air, see Grand Canyon. What explanation could the theory of the greenhouse effect provide?

There is the so-called gas state equation, which says $T=P/(R \times \rho/M)$, with T=temperature, P=surface pressure [kPa], R=gas constant 8.314, ρ =density near the surface [kg/m³], M=molar mass. This calculation indicates what the temperature will be at equilibrium for the given parameters, and this is exactly the "zero balance temperature". If we calculate this with 1 013,25 hPa for the earth, we get 288,14 K corresponding to 14,99°C. At -86 m, especially due to more density, more temperature generating heat can exist than at 3500 m. Within the atmosphere, the temperature then propagates upward according to pressure and density, or it also generates thermals.

This calculation must be understood in such a way that it calculates balance values. They are not fixed state values, otherwise the air in an inflated tire would have to have and hold a higher temperature forever. Rather, they are values which occur when all associated parameters are in natural equilibrium. So pressure and density according to gravity, temperature due to energy supply by contact supported by dynamics, i.e. air movement, etc. When the pressure is artificially increased, additional heat is initially generated, but this heat is released to a cooler environment due to heat conduction. Exactly this amount of heat, however, is extracted from the environment again when the pressure is released later.

The decreasing gravity with distance, on which the atmospheric pressure depends, thus has an influence on this behavior. The amount of CO₂ has minimal influence on ρ and M due to its small fraction, which should be the real effect of CO₂ in this process.

This consideration also reveals a fallacy in the popular -18°C calculation, which is said to be real by 97% of scientists. This calculation calculates a value of -18°C for the illuminated surface, but the real temperature value is measured "close to the surface" at a height of 2 m.

But there is no calculation that can be used to calculate what the air temperature will be at a height of 2m at a given surface temperature!

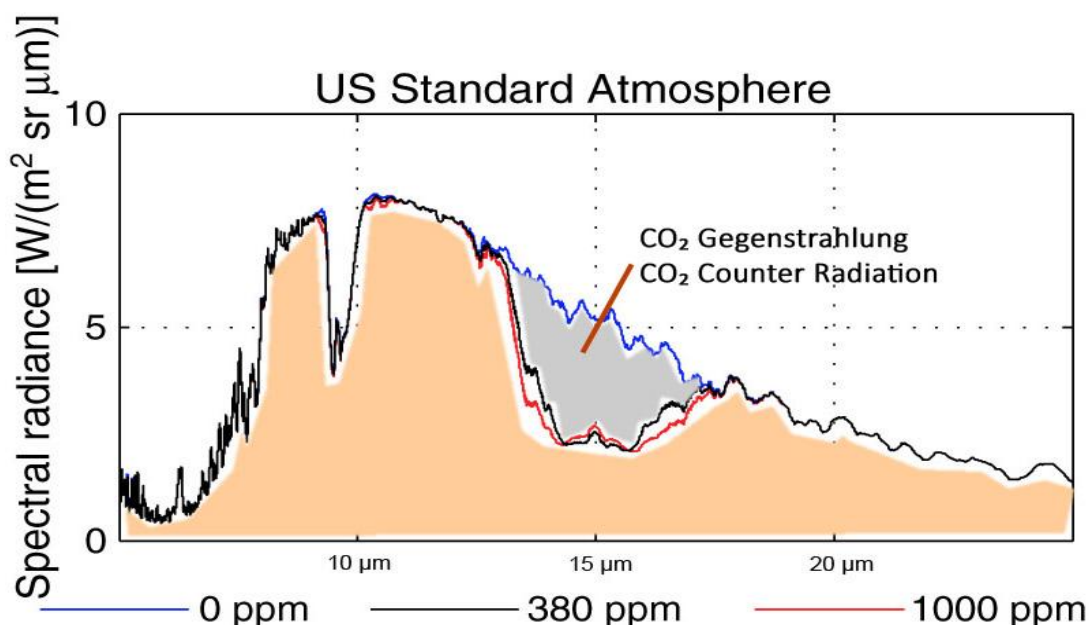
If one calculates the idealized actual radiation power for different areas of the earth's surface, the following picture emerges for ground temperatures:

-30°C radiates 198 W/m ²	+25°C radiates 447 W/m ²
-15°C radiates 251 W/m ²	+35°C radiates 510 W/m ²
0°C radiates 314 W/m ²	+50°C radiates 617 W/m ²
+15°C radiates 390 W/m ²	+75°C radiates 832 W/m ²

Infrared-sensitive gases are therefore "fed" much more strongly near the equator than at the poles. The claimed atmospheric backward radiation should also have this characteristic if it depends on these facts. Are there any indications? Rather the opposite is being discussed, namely that the alleged greenhouse effect is heating up the poles particularly strongly!?

Concentration Considerations

Another question concerns concentration. So, can more infrared sensitive gas at constant irradiance produce more heat to warm the atmosphere disproportionately without at the same time being able to radiate this higher heat again? This is also called ECS (equilibrium climate sensitivity). As the following analysis shows, this is obviously not possible.



Why? The dents around 15 μm are caused by the absorption bands of CO_2 , at 8 μm it is ozone. We can see that the spectral course, which can be registered from space, is reduced to about half of the radiation power. This indicates that only half of the original radiation gets through the atmosphere into space. The other half is apparently radiated back to Earth and to the side. What does this mean? It means that the energy radiated from the surface is equal to the envelope.

With the Planck formula one can calculate which radiation temperature this curve roughly corresponds to. It shows a maximum at about 10 μm and a value of about 8 $\text{W}/\text{m}^2 \text{ sr } \mu\text{m}$. If one goes with these values into the calculation, it results, the curve corresponds approximately to the red 300 K curve of S 13. The situation corresponds thus approximately to the example, which I pre-calculated on S 8 and where I assumed, the absorbed amount around 15 μm amounts to approximately 30 W/m^2 with a total radiation of 460 W/m^2 . So, if half of this or about 15 W/m^2 is re-radiated, this cannot heat the surface above the temperature it has, here 27°C, because of the 2nd law of thermodynamics. According to the 2nd HS, heating would only be possible if the amount of back radiation (gray area) in this case were greater than 460 W/m^2 (orange + gray area), but this is never possible due to the energy balance. In the diagram, the blue curve shows the course without CO_2 , the black one a concentration of 380 ppm and the red one a concentration of 1000 ppm.

Furthermore, each square millimeter of surface radiates with the spectrum corresponding to its actual temperature. The powers are given on p. 18 and one can see nicely that warm spots radiate much more than cold ones and one cannot take +15°C as a normal value because the values go with the fourth power. The 15° difference between -30°C and -15°C is 53 W/m^2 while the 15° difference between 35°C and 50°C is already 107 W/m^2 , i.e. about double. An average value calculation, as practiced by climatology, is therefore nonsense.

ECS - Equilibrium Climate Sensitivity

One more word about ECS, that is the value which is supposed to indicate how high IPCC assumes(!) that the temperature rises with doubling of CO_2 in the atmosphere. The IPCC chapter of interest in this context is the one on "The Physical Science Basis", which I analyzed.

https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf

The first thing to notice about IPCC is that they do not describe all statements as scientific facts, but everything only under a certain reservation of probability (Treatment of Uncertainty). There are 7 main levels of probability used. They range from "Exceptionally unlikely" to "Very unlikely", "Unlikely", "About as likely as not", "Likely", "Very likely" to "Virtually certain" (page 36).

This means that none of the statements can be evaluated with 100% certainty. In addition, it is noticeable that no reasons can be found for the classification of the respective statements as to why which classification was chosen. IPCC assigns these evaluations thus after internal and not directly verifiable ideological considerations?

But now to the important question of the concrete role of CO₂? For this purpose, IPCC introduced the term "Equilibrium Climate Sensitivity", abbreviated ECS. It is supposed to indicate by how many degrees the atmosphere warms on average if the CO₂ concentration is doubled. It would therefore be evidence of the greenhouse effect. So increase, for example, from 300 ppm to 600 ppm (parts per million). IPCC assumes(!), this value would be between 1.5°C and 4.5°C.

But it is explained in a footnote: „No best estimate for equilibrium climate sensitivity can now be given because of a lack of agreement on values across assessed lines of evidence and studies.“ (page 16 bottom).

So there is not only uncertainty, to 100% secured one knows obviously nothing at all. It is reported, for the calculation there are approx. 150 different approaches which lead to results from "not at all" to approx. "+8°C"! Already this shows that one does not really know anything, but pokes extremely in the fog. Nevertheless, the mean value of ECS=3°C is used for many further calculations, also for the scenarios of temperature development published by IPCC, e.g. until 2050 with increasing CO₂ concentration, and which already lead to political measures.

If we now assume, as IPCC does, that the value for ECS is 3°C when the CO₂ concentration is doubled, this means in concrete terms that an atmosphere with 300 ppm CO₂ would have, for example, 15°C mean temperature as a starting point, and if the concentration were increased to 600 ppm, the mean temperature would rise by 3°C, i.e. to 18°C, all other things being equal. In detail, 300 ppm means that 10,000 molecules of air contain 3 molecules of CO₂; at 600 ppm, there are twice as many, namely 6 per 10,000. So if an additional 3 molecules of CO₂ on the total of 10,000 molecules cause a temperature increase of 3°C, e.g. from 15°C to 18°C, there must be a concrete and physically clearly comprehensible explanation or reason for this. So the question arises, what properties must these 3 additional CO₂ molecules have and also why, in order to make the entire considered air volume of 10,000 molecules 3°C warmer? I have not been able to find a concrete answer to this interesting question anywhere. But it is exactly this answer that matters when attributing to CO₂ the effect that is generally claimed. This realization leads to the conclusion, the science determines with the best and most expensive computers of the world "probabilities for probabilities of assumptions" and the policy decides on the basis of it industrial gagging measures, like e.g. a coming prohibition of the combustion engine etc.!

Radiative forcing

One term is also mentioned again and again in discussions: "radiative forcing". IPCC understands this as a disturbed balance between received radiation and emitted radiation. It is claimed that despite constant irradiation there is a permanent radiative forcing of about 1-2 W/m², which is supposed to be responsible for the warming of the earth. So a permanent inability of the earth to radiate according to its actual temperature, thus an inability to establish a thermal equilibrium?!

Here two questions would have to be asked, first, how such a value is defined, thus which factors go into it and second, how one determines such a value practically at all? Because to prove such a statement, one would have to record the envelope integral over the entire earth surface of the incident radiation without gaps and to compare it with the envelope integral without gaps of the

separated radiation. And this not momentarily, but as time integral over longer periods of time. A real completely impossible undertaking therefore. So it can be only assertions without proof! So like very much in the climatology!

Apart from the fact that it is to be asked, how those energies are to be evaluated, which cause work on earth, which cause displacements of water and air masses in gigantic extent. The driving energy for this goes into permanent flow processes at the surface.

When huge ocean waters are heated up in the Gulf of Mexico, water currents are formed, such as the Gulf Stream, and these water masses then flow to Iceland and further, they release part of the stored heat energy through mixing and convection until the current comes to a standstill. In the end, the transport of huge water masses over many thousands of kilometers remains, because the water has really physically "traveled". The drive energy necessary for it was converted into movement work, from which it is not given off by radiation by itself again. Analogous applies to the air, where high pressure areas develop by warmth, which then drive air freights (wind), also the jet streams belong to it. So alone for this reason the calculation must be: Integral received energy = integral radiated energy + integral converted energy by work and not integral received energy = integral radiated energy!

But again to the radiative forcing. Such an effect can exist temporarily, of course, but as already mentioned before only by dynamic changes in the albedo. If the earth would have a tendency to become "darker", then such an effect would be temporarily explainable. Then the relation between reflection and absorption would be shifted.

If more energy warms up, the temperature rises, which would also result in a corresponding increase of the radiation until a new equilibrium is established. Then the "radiative forcing" stops again. Something like this could also be caused by a decrease in the statistical cloud frequency. The frequency of cloudiness is also related to the presence of condensation nuclei, for which one can prove a dependence on certain cosmic radiation inputs into the earth's atmosphere.

Solar influence

If you look at the discussion, you can only wonder. The only energy source we have is the sun (apart from nuclear energy and geothermal energy). So it is quite obvious that the sun plays the most essential role in our climate development. And there are many studies that have found high correlations between temperature trends and various solar processes. Nevertheless, IPCC rejects any solar influence and, it seems, officially does not care about it, they try to forcefully pin down CO₂ as the villain. One could almost suspect that climatology fears a loss of face if suddenly CO₂ would no longer be the cause of climate changes and that is the only reason why they stubbornly stick to the existing explanation. The historiography will know the answer one day, namely also that a large part of the money for this research was wasted money against better knowledge.

Sea level

The claimed sea level rise is exaggerated. Only in 2017, the well-known oceanographer Nils-Axel Mörner from Sweden examined the Fiji Islands, which according to reports are already almost submerged, with the result that there has been no significant rise for decades, in contrast to almost daily reports. This is not to say that there are no changes anywhere in the world, but they are quite normal in the range that has already been permanent since the last ice age. The level differences of the oceans can deviate gravitationally over 1 m from the "linear" bathtub average, as well as from effects, which have however nothing to do with glacier melt or extreme weather, but with volume expansion due to heat supply on the part of the sun or by change of the basin volume by geological shifts. But even rising sea levels do not prove that they are a consequence of increased CO₂, because CO₂ cannot produce heat!

Quantitative assessment of anthropogenic CO₂ - "Economy of Scale":

One liter of water contains about $334.7 \cdot 10^{23}$ molecules, in the atmosphere there are about $0.255 \cdot 10^{23}$ molecules in one liter of air at NN. This now contains approx. 0.04% CO₂. This results in a quantity of $0.000102 \cdot 10^{23}$ CO₂ molecules per liter of air, therefore the quantity of anthropogenic CO₂ molecules is 0.25% of this, i.e. $0.0000255 \cdot 10^{23}$, which results in a comparable molecule ratio of water to anthropogenic CO₂ of 13,125,490 : 1!

Thus, at NN there are over ≈ 13 million warmer water molecules each (mean ocean surface temperature 16.1°C) compared to a single cooler anthropogenic CO₂ molecule (temperature dependent on meters above sea level). With increasing sea level, it rapidly becomes even less degrees C due to pressure drop. And exactly this one, on the average substantially cooler (up to approx. -60°C), is supposed to reheat now according to greenhouse effect theory the 13 million warmer ones again by backward radiation (!)? And then the "reheated" surface should pass on this warmth again by heat conduction - thus thermodynamically - to the entire air mass, that this becomes warmer in 2 m height, where is measured. What physics should explain this, even if a molecule of CO₂ weighs about twice as much as a molecule of H₂O? So another cardinal error of the so-called climate science is to consider this fact apparently possible without any doubt!

Complementary aspects of the greenhouse effect

The greenhouse effect plays the central role in every climate discussion. Only if a greenhouse effect exists, all considerations linked to it would also have a basis. Therefore, here are some further critical observations in this regard.

I have never come across a calculation of the following kind from climatologists: Water has e.g. a heat capacity of 4.18 kJ, which means that one needs 4.18 kJ of energy to warm up a 1 l/kg water by 1 K. So if one wants to heat e.g. 10 l of water from e.g. 20°C to 80°C, an energy input(!) of $(m \cdot \Delta T - 4.18 \text{ kJ}) = 10 \cdot 60 \cdot 4.18 = 2508 \text{ kJ}$ equivalent to kWh is required, or also by 3600 approx. 0.7 kWh!

This kind of calculation is necessary to carry out temperature calculations of matter with mass and therefore with heat capacity. Of course this is a complex thing with a planet because of the inhomogeneous nature and because of the cooling by radiation taking place at the same time, but this is the only way. On the earth the energy supply takes place with a periodicity of 24 hours, in each case with the full effective radiation power and the cooling obeys the Stefan-Boltzmann law due to the achieved actual temperatures. - Conclusion: ?

There are now many ways to view regional and global climatology data via the Internet. One possibility is offered, for example, by the German Weather Service at:

<https://www.dwd.de/DE/leistungen/temperaturglobal/temperaturglobal.html>

Here one can view worldwide monthly average temperatures starting with 2002 and with the averages month, quarter and year. The values are related to the 30-year climate period 1961 to 1990. Deviations from less than -8°C to greater than $+10^{\circ}\text{C}$ are shown in different colors. With the claimed greenhouse effect in mind, one would expect "heat islands" to form where CO_2 is produced, which manifest themselves in a relatively stationary manner. However, the facts look different, a correlation of heat and CO_2 emissions cannot be significantly read anywhere. -

Conclusion: ?

On a NOAA page one can read the following: <https://www.ncdc.noaa.gov/sotc/global/201713>

The 1901-2000 average combined land and ocean annual temperature is 13.9°C (56.9°F), the annually averaged land temperature for the same period is 8.5°C (47.3°F), and the long-term annually averaged sea surface temperature is 16.1°C (60.9°F). So water is twice as warm as land. And the influence on TH effect? It should be twice as high over water? - Conclusion: ?

Now again to the second law of thermodynamics. According to its discoverer Rudolf Julius Emanuel Clausius, it reads: "There is no change of state whose only result is the transfer of heat from a body of lower to a body of higher temperature. Thus, if two radiators radiate onto an object a power equal to 40°C surface temperature each, each will radiate approximately 544 W/m^2 . However, one must not add these two powers, because this would result in 1088 W/m^2 , which would roughly give a temperature of 99°C . However, two radiators with identical temperature can produce in an irradiated object at the most a temperature which corresponds to their own temperature, and this is 40°C . This is a consequence of the 2nd law! In such cases only the strongest single power counts. Such forbidden additions belong to the frequent further cardinal errors of the "established" climatology. But the "experts" are obviously not interested in that. - Conclusion: ?

Then still another linguistic observation. All explanation attempts of the greenhouse effect take reference to different radiation effects etc.. If one leaves all these distracting and embellishing additional explanations away and tries to fathom the basic statement of the effect, this would read approximately in such a way: Due to the presence of greenhouse gases,

the warming of the earth by the sun has a stronger effect than without them. But because the supply of solar energy is assumed to be constant, it means, the mere presence of gases causes permanent additional heat! And heat is pure energy! - Conclusion: ?

To a scientific theory belong things, which must occur according to this theory or are verifiable fact and things, which are excluded due to this theory (in each case provable by attempts, measurements or observations). Without specifying these properties of a theory completely, one cannot discuss about this theory and strictly speaking this theory does not exist then. A theory is so long durable, as all observations and attempts always only determine that predicted results occur and at the same time never something occurs, which is excluded according to this theory (Sir Karl Popper). If this is not exactly possible, it is pseudoscience. How would it look now with the theory of the greenhouse effect and thus of the man-made climate change? - Conclusion: ?

As noted previously, "global warming" is discussed only on the basis of mean temperatures. However, temperature is an intensive quantity (not divisible), while heat is an extensive quantity (divisible). The main heat reservoir of the Earth is the water mass of all oceans. If, as previously reported, the mean water temperature is, say, 16.1°C, then to determine the heat content, the depth gradation must also be determined. Because the heat content of the ocean does not depend on its surface temperature, but on how deep which water temperature gradient is formed. Temperature would be a physically correct measure only if one could assume that the depth gradient is always and everywhere constant, which is of course complete nonsense. To use only the surface temperature of the oceans as a measure for their heat content is therefore physically wrong! - Conclusion: ?

And also another fact: As already stated on p. 17, the registered temperature record (air) on the earth comes from Death Valley from the year 1913. If it would be so, as the warming disciples whine incessantly, then the absolute temperature record would have to tumble every few years and be replaced by a higher value. Why is this not the case? - Conclusion: ?

Alleged experts (Schellnhuber and Rahmstorf of the PIK Potsdam) try in their book "Der Klimawandel, Diagnose, Prognose, Therapie" (Climate Change, Diagnosis, Prognosis, Therapy) to prove the terrestrial greenhouse effect by claiming that Venus is a more extreme example for this effect, because only this would explain the high surface temperatures. Every interested layman sees immediately that it cannot be a greenhouse effect, since the Venus atmosphere is highly impermeable for visible light and thus the central assumption for the greenhouse hypothesis is not fulfilled, i.e. a sun-conditioned warming of the planet surface, because the solar radiation does not reach the surface at all. The Venus temperatures result once from the smaller solar distance but above all from the substantially higher near-surface pressure of the Venus atmosphere (see also gas state equation p 17) - conclusion: ?

"Scientific" opinion 1

From a "lead author" of the 2014 ccca factual report comes the following "interpretation" with reference to the diagram (see p 7) in response to a query:

"The large upward fluxes of radiation at ground level are necessary because the atmosphere absorbs a large fraction of it (only in the "atmospheric window" does terrestrial radiation go directly from the ground to space) and more than half of it is re-radiated back to the Earth's surface. The rest is radiated into space and contributes to the radiation balance. No additional

energy is required for this. Now, if the fraction of greenhouse gases becomes larger, the atmospheric window becomes even smaller and the radiation from the ground must be increased even further so that radiative equilibrium prevails at the top of the atmosphere. The fluxes given in the graph are determined both by measurements (e.g., CERES at the top of the atmosphere or the Baseline Surface Radiation Network at the Earth's surface) as well as by model calculations."

When I read something like this, I ask myself, do the authors not notice the inner inconsistency of their statements or do they ignore it?

Here it is claimed, the earth surface "must" radiate more energy, than it receives at all, because allegedly a part of the "radiation energy" turns back on the way into the space and becomes so not effective at the upper edge. That would mean, within the atmosphere an energy cycle up and down again, and up and down again, etc. is set in motion, of which only a fraction can be radiated. And this fraction corresponds exactly to the alleged energy input, which actually becomes effective at the ground from the sun. So, "as if by magic", an additional energy cycle is created within the atmosphere, which is limited to heating up the atmosphere, but otherwise has no effect. Exactly that, which I recognized in my analysis as perpetual motion machine for impossible, is asserted here in other words then? Energetic balancing processes can take place of course and also take place (e.g. oscillating circuits), however only if the energy necessary for it is available at all in the first place, what is not the case in the above assertion, however.

And further:

"The effect of backward radiation in the terrestrial wavelength range is perhaps obscure but very effective. Man has learned to increase the backward radiation locally even more for practical purposes. For example, the windows of a car parked in a carport freeze much later than a car parked outdoors. The roof absorbs all the radiation from the ground and radiates it back down (especially if it is also insulated). Another example is frost fires as protection against late frosts. They work not by directly heating the air but because the smoke increases the backward-radiation, as does the water vapor released when the straw bales burn. The increased turbulence does the rest."

This explanation is correct in principle, because it does without the additional heating claimed above. Self-radiation or backward-radiation through the roof has a broadband effect (in contrast to CO₂) and in the same way as backward-radiation has an effect, if present, it slows down the cooling, but never has an absolute warming effect. Otherwise, the car window would have to increase in temperature, which it does not do, of course. This example alone shows that the author, who brings this example, has not really understood the actual problem. Another effect of a carport is that it prevents warmer air from rising when there is no wind.

"Scientific" opinion 2

From another scientist (university professor) I got the following "interpretation":

"So, not only solar radiation arrives at the ground, but (even significantly more) infrared radiation from the atmosphere. In equilibrium, therefore, a significantly higher temperature sets in at the

surface, where the fraction of infrared radiation that can leave the atmosphere is in equilibrium with the incoming (non-reflected) solar radiation."

With this text one's head whirls at all. So there is apparently the assertion that the atmosphere has a mysterious source of radiation for infrared, which is not fed by the incident sunlight, because it radiates and warms even "significantly more"!? And this mysterious infrared radiation is supposed to be responsible for higher surface temperatures than if only the sun would shine alone!? And because to the space only a certain part can leave the atmosphere, the warming part remains in the atmosphere!!! Such a science "serves" our media with what these then spread, what should one still say to it?

"If you are interested in the details - I have a whole lecture on this this semester, that starts tomorrow (14:00)."

Verbatim from an email dated March 8, 2017 - great ...

My Conclusions

If a greenhouse effect of the claimed kind does not exist, it does not exist for CO₂ either! The CO₂ demonization of our days is therefore completely ineffective nonsense!

Therefore, all activities for decarbonization are blatant misdevelopments, which are pushed either out of ignorance, error, lobby affiliation or out of pursuit of other goals and promote vast sums of money into few "post-factual" channels! Money that should be used much more intelligently in other ways.

In view of the enormous effects that decarbonization would have on our entire system of existence (keyword "transformation", see e.g. "German Climate Protection Plan 2050"), a critical fact-checking with regard to the continuation of the current strategy is inevitable! It destroys important infrastructure voluntarily and without equivalent alternatives.

The only indirect influence of CO₂ could be that the albedo has changed due to the greening of the earth, because green areas could possibly absorb more than bare areas. Studies in this regard would be useful.

All climate models whose calculations are based on CO₂ can only produce crap! Their function is: to produce "probabilities for probabilities of guesses". Their inability to correctly recreate the past of the last 20,000 to 30,000 years is proof.

And climate change has always been taking place, as shown, as the comprehensive past analyses clearly demonstrate, even long before anthropogenic CO₂ existed. Every "scientific" statement, which is based only on computer models, is to be met with highest skepticism. This is nothing but science fiction or virtual reality.

The politics of our days is ultimately responsible, because science will always find reasons why errors may not have been noticed, see e.g. the ECS value, which is the basis of all model

predictions. As the objective analysis shows, only common sense and one hour of Google is necessary to detect nonsense, one does not have to be an academic physicist.

It seems as if nowadays one single superficially plausible sounding treatise (the obscure -18°C -calculation) would be able to influence a whole field of science incl. school lessons in the direction of nonsense, because all following ones take over the existing only with copy & paste, without checking for plausibility themselves. One does not get rid of the suspicion that various today's "experts" have attained their diplomas after the swindle pattern "von Guttenberg".

Since the actual course of the global weather pattern nowhere on earth shows a comprehensible dependence on the CO_2 content of the air, all measures to reduce greenhouse gas emissions for the purpose of "climate protection" must remain unsuccessful.

The theory that the CO_2 is a temperature leading variable in the climate is clearly refuted by the details of the researched climate past! That politicians believe that they can influence the climate development of the planet (Paris 2°C target etc.) is strongly reminiscent of the adventures of the "shield citizens" who wanted to bring e.g. light in buckets into a dark interior.

If one considers how many state-funded institutes for climate research there are worldwide, where thousands collect high salaries for predominantly nonsense, one does not need to be surprised about emerging displeasure of those who have to finance all this.

Even IPCC states in the published reports that the number of storms, thunderstorms, etc. show no statistically significant increase. However, we are told differently by the media every day, because television cameras are always and everywhere in use today. But even if there were an increase, it would be due to a natural development, especially a strong increase of people and the corresponding spread of settlements.

Of course, the availability of fossil fuels is not eternal, if they really come from fossil sources. Therefore, researches in alternatives are important. Unfortunately, however, research into alternative nuclear energy methods (e.g. liquid salt reactors) is currently hardly supported (only in Russia and China) or even hindered. Such processes based on thorium, however, seem to be much more promising than to "parcel out" the whole world with wind turbines producing fidget power. Independently of this, however, there is also the theory of abiotic petroleum formation, which has been around for a long time and is quite suppressed in public.

How stupid the policy argues, can be seen by the fact that the output by wind power is always proudly stated as the expanded nominal output. In Germany, for example, already more than 40%. Politicians obviously do not understand that this power does not count when there is no wind. But this is the reason why for a stable supply of electrical energy a conventional power plant park, which must be able to provide the entire output, must always be kept available, and this not only "cold", but for the most part also permanently running (grid control, n-1 availability, etc.). What can be saved with wind turbines and photovoltaics is a part of the fossil primary energy, when the wind blows and the sun shines. However, the amount is small, because according to statistics, wind power provides only about 17% of the nominal power as an integral value.

Dr. Patrick Moore (co-founder of Greenpeace): "I argued that we must first recognize that carbon and carbon dioxide are the foundations of all life on Earth. All the carbon in my body and in your body and in the bodies of all other people and in all plants and other animals came from carbon dioxide in the atmosphere. There is not a shred of scientific evidence that CO₂ is the main reason for the bit of warming that has occurred over the last couple of centuries."

Those who equate CO₂ avoidance with environmental protection have not understood basic things! Environmental protection is about avoiding substances that are demonstrably harmful to the environment. Based on this analysis, this is not only not the case with CO₂; on the contrary, CO₂ is essential to life, completely harmless in naturally occurring concentrations (exhaled air contains 100 times as much CO₂ as inhaled air) and, as shown, also climate-neutral. Unfortunately, many media treat CO₂ avoidance under the heading of environmental pollution!

Prof. Dr. Horst Malberg (FU Berlin): "How ideologically presumptuous one must be, to give nature a "2 degree target". The dominating solar influence on our climate in connection with the thermal memory of the ocean will not change even if man tries to be a sorcerer's apprentice."

Final words: This analysis was compiled ideology-free from purely physical view! It is only a small part of the whole material which was compiled, but unfortunately nevertheless already 28 pages, therefore here no more arguments. Because the analyses turn out in many points, however, contrary to that what affects us every day medially as a kind of "permanent brainwashing", especially those who do not agree with this analysis are asked for contacting with concrete counter-arguments: Email for typing on the right below!

I thank you of course also in the name of my anonymous partners in discussion. They may fear negative professional repercussions if their name appears here.

„Natural science is the belief in the ignorance of experts. “

[Richard P. Feynman 1966]

many regards
N. P. Eberhard