

Global Warming Reduction Insight into Basic Concepts and Preliminary Assessments

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Abstract:- Purpose of this work is to explain in a most simply and clear way as possible, the concepts that represent the ground of thinking and intuitions related to scientific measurements and the interpretation of history facts connected, related to Vital problem of global warming and proposed solutions.

Keywords:- Copernicus; Einstein; Albedo; Task.

I. INTRODUCTION

In previous research using the scientific-mathematical method, I have demonstrated that the main cause of Global Warming is to be found in both Natural and Nuclear Combustion Processes, which essentially produce two fundamental elements: the Heat of Combustion and as a residue Carbon Dioxide or Radioactive Waste.

The melting of glaciers, due to the presence of the latent heat effect, does not cause temperature increases up to 1910, but this does not mean that melting does not happen.

In addition, in a marine environment it occurs for temperatures around $-1.8\text{ }^{\circ}\text{C}$.

The quantity of precipitation on an annual scale until 1712, in accordance with James Lovelock's [2] intuition, was regenerated into Ice every relative winter season: northern winter, southern summer and vice versa, in a continuous dynamic-thermal balance.

The in-depth analysis relating to 1910, the year of the beginning of the progressive increase in ocean temperatures detected by official measurements, is fundamental.

The ratio between frozen mass and liquid mass has started to change.

By deduction, up to that moment the total annual equivalent of precipitation had melted, no longer regenerated in the winter phases, so from that moment on there was a continuous and progressive melting linked to the phenomenon defined as thermal inertia, of whose danger we are beginning to perceive today.

With the start of the Second World War, this process was temporarily interrupted: what is the cause of this interruption, given that in terms of energy use, the available data does not indicate any decrease?

I think one explanation is related to the fact that until the period preceding the industrial revolution (~1960 in Italy) and the beginning of consumerism, animals and human beings were predominantly used to carry out work, which with less use and waste of energy and reduced level of needs, they kept heat emission relatively low.

Furthermore, in the period, consumption was reduced to the limits of survival, and the needs linked to the seasons were reduced to a sustainable minimum: the fire was mainly used for cooking food and to heat the refractories used in winter to be able to survive.

Considering only Heat of Combustion emission for Energy production purpose, from 1712-2022 has been produced the Total Heat of Combustion equal to 735Gtoe, tons of oil equivalent.

This value can be Transformed into other equivalent Units [4], according to these scientific parameters:
 $1\text{Gtoe} = 39.68\text{QuadBTU} = 11,630\text{TWh} = 41.87\text{EW}$.
 $735 \times 41.87\text{EW} = 30.77\text{ZW} = 30.77 \times 10^{21}\text{W}$

Since 1712, this Heat from Anthropic origin, was Major of EARTH'S Natural capacity of transfer it into Space.

For this reason, this excess of Heat production has been considered the Main cause of global warming.

From 1712 until now we did not consider EARTH'S Limits:

We must provide to correct this ONLY HUMAN mistake, neglected for more than three centuries now.

The task we must analyze and try to solve is to be able to transfer this Excess Heat into Empty Space before Thermodynamic Balance situation become critical and out of control.

II. METHOD

The only way I have found to transfer this Energy into Empty Space is represented by the possibility of reflecting part of the Solar Incoming Energy from Earth's surface towards Space, using White Panels [1].

This choice is linked above all to the belief that it must represent the natural solution already adopted by Nature, consisting of the presence of Glaciers in both terrestrial and marine environments which, like during the Earth's history have led to Glaciation periods.

With an appropriate roughness, new material Evolution or using Mirrors, the reflection capacity could also be increased, with direct consequence on the time necessary to bring the Earth's Thermodynamic Balance back into Security Level.

This level of safety is represented by a proportion between Ice Mass and Liquid Mass as it was before 1712.

Very important question:

It is important to install panels perpendicular to the Earth's radius, to avoid as much as possible crossing light Concentration and associated increase of local Atmospheric temperature.

Another important aspect lies in the fact that it can be managed according to need, "simply" increasing, or reducing the Panels surface extension.

To fully understand the dynamics of the Solar System and avoid possible errors of interpretation, It Is Necessary to change our point of view, bringing it to the center of the Solar System, and review our believes from this point.

We Need to become familiar with the Sun as the correct point of view, to see and better understand the whole aspects and relationships of Life.

If we want to survive, we should re-elaborate every thinking considered until now, considering Copernicus perspective.

Everything would be seen in a new light and would provide all necessary elements to improve and change our Consciousness and Mentality.

By association of ideas, when I took the Kinematics course for CATIA4 by Dassault System, I discovered the possibility to fix One element of kinematic chain and see the rest of the elements move around this element, in harmony with the laws applied.

This possibility increases individual perception of Reality, seeing the same dynamic phenomenon from different points of view.

A car with the windshield wiper moving is very familiar and usual to everybody.

Can you imagine holding the wiper blade fixed and see all the other associated components, moving around the fixed blade?

Something similar is the transition from Tolomeo to Copernicus vision.

Following this consideration, here is an interesting result.

Spherical Surfaces with Radius equals to distance between Sun and Earth centers, or Astronomical Unit [7] is:
 $1\text{AU}=149.6\text{Mkm}=1.496\times 10^{11}\text{m}$.

That is: $(1.496\times 10^{11})^2 \times 4 \times \pi = 2.81\times 10^{23}\text{m}^2$.

With Earth's Quadratic Radius = $6.373\times 10^6\text{m}$,

Apparent Earth Surface from Sun point of view is:
 $(6.373\times 10^6)^2 \times \pi = 1.27\times 10^{14}\text{m}^2$.

Total Sun Energy Emission can support Life with efficient Ecosystems for more than

$2.81\times 10^{23} : 1.27\times 10^{14} = 2.2\times 10^9$ Earth equivalent.

Very impressive value: Earth is Really a Small Place, the House where we Live, and for this reason it is Vital that we Respect and Help to grow, instead of Destroy it.

At the same level of importance, I think it is important to focalize and understand one of Albert Einstein's main intuitions "Everything is Energy", expressed in the famous relationship: " $E = m \times C^2$ ".

This relationship gives us the possibility to connect Mass and Energy.

Speed of Light = $C = 299,792,458$ m/sec.

$m = 1$ kg.

$E = 1 \times 299,792,458^2 = 8.98755\times 10^{16}$ W or J [5]

With Anthropic Energy emission from 1712÷2022 equal to $30.77\times 10^{21}\text{W}$ we can calculate the equivalent Mass transformed into Energy.

$m = 30.77\times 10^{21}\text{W} : 299,792,458^2 = 342,362$ kg = 342.4 ton.

Instructive is the fact that it can be applied to any element of the periodic scale or to any molecular aggregation, and associated to the specific weight, we go back to the volume of the matter considered.

For Water, with a specific weight equal to $1\text{kg}/\text{dm}^3$, it corresponds to 342.4m^3 .

For Uranium, with a specific weight equal to $18.7\text{kg}/\text{dm}^3$, it corresponds to 18.3m^3 , and so on.

In oldest time, Wisdom and Spirituality perceived these aspects too.

Humanity had always Intuitions regarding the deep connection between Light and Life and the Sacredness that envelops and support this Vital Harmony.

In Vedic Culture there is the fire bringer Mātariśvann; in Greek Mythology Prometheus, best known by stealing Fire from Olympia Gods and giving it to humanity in the form of technology, knowledge, and more generally, civilization.[6]

Some artists, such as Hieronymus Bosch, have represented these concepts, foreseeing the consequences that we are experiencing in our time.

III. RESULTS

Today Solar Radiation at 1AU, outside the Atmosphere is $1.368 \times 10^3 \text{W/sec per m}^2$.

According to nowadays general knowledge, at Zero Sea Level, this Radiation is considered ~30% Less, approximately $10^3 \text{W/sec per m}^2$.

With White Panels, I have assumed that we can transfer into Space a Total Visible Light quote of $\sim 10^3 \times 40\% = 400 \text{W/sec per m}^2$.

More precise value will be defined with Specific research and tests, with a general impact on the global results.

White Panels surface equal to 1Mkm^2 from Sun point of view, i.e., $1 \text{Mkm}^2 = 10^{12} \text{m}^2$.

Total Reflected Energy becomes:
 $400 \text{W/sec} \times 10^{12} \text{m}^2 = 4 \times 10^{14} \text{W/sec per m}^2$.

From EARTH'S point of view, there is an average 12 hours' Light time per day during the year, that means:
 $4 \times 10^{14} \times 3,600 \text{ sec} \times 12 \text{ h} \times 365.25 \text{ day} = 6.31 \times 10^{21} \text{W/year}$.

With $1 \text{Gtoe} = 39.68 \text{QuadBTU} = 11,630.0 \text{TWh}$ [4], according to definition, is equal to
 $11,630 \text{W} \times 10^{12} \times 3,600 \text{sec} = 41.87 \times 10^{18} \text{W}$.

Since Anthropogenic Energy Emission from 1712 up to 2022 has been $30.77 \times 10^{21} \text{W}$, we get that:

$30.77 \times 10^{21} \text{W}: 6.31 \times 10^{21} \text{W/year} = \sim 5 \text{ years}$.

Considering a preliminary average of 50% time with no Cloud and Blue sky, the necessary time Will become:
 $\sim 5: 50\% = 10 \text{ years}$.

The Time necessary is basically connected to Panel Apparent Surface in an inversely proportional relationship.

For instance, with $1 \times 10^6 \text{km}^2: 20 = 50,000 \text{km}^2$, we need:
 $10 \text{years} \times 20 = 200 \text{years}$.

Of course, we must consider the additional Heat emission during this 200 years' time, with the result of increase this Time or the Panel Surface Installation, until the equilibrium point Is reached.

Energy Emission in 2022 is $\sim 14 \text{Gtoe}$,
 Equivalent to $14 \times 41.87 \times 10^{18} = 5.86 \times 10^{20} \text{W}$.

With this Level Emission in next 200 years, we have
 $5.86 \times 10^{20} \text{W} \times 200 = 1.17 \times 10^{23} \text{W}$.

That is $1.17 \times 10^{23} \text{W}: 6.31 \times 10^{21} \text{W/year} = \sim 19 \text{ years}$.

With preliminary average of 50% time with no Cloud and Blue sky, the necessary time Will become:
 $\sim 19: 50\% = 38 \text{ years}$.

Hence, with $50,000 \text{ km}^2$ we need:
 $38 \text{years} \times 20 = 760 \text{ years}$

Total time will be:
 $200 \text{years} + 760 \text{years} = 960 \text{ Years}$.

It is a total negative feedback process, thinking that in future we need the same or even more Energy.

The Ice Mass is reducing, and the temperature are rising and will reach a level where Life will be unacceptable or impossible, for everybody of us and the whole living beings.

This is the mathematical confirm that it is not ONLY NECESSARY, buy also INDISPENSABLE to reduce our ENERGY CONSUME LEVEL if we want to have a CHANCE to SURVIVE.

With nowadays Energy Level of Consume, we are Living in a COMPLETE NEGATIVE FEEDBACK CYCLE that led ONLY to the DESTRUCTION OF THE WHOLE LIFE ON PLANET EARTH.

The ONLY possibly alternative Is to increase Panels Surface to Balance the Total Year Energy Emission.

It is essential to consider the spherical surface of the Earth, to keep into account the Real Total amount of Panel Surface relative to distribution on Spherical EARTH'S surface.

This can be done taking the well-known Longitude-Latitude Mask and rotate until the axis of the mask is aligned with Sun-Earth axis.

It allows us to calculate the equivalent surfaces of circular crowns Panel Location, considering the combination of EARTH'S movement "daily rotation + year Ecliptic position" following this geometry relationship:

1Mkm^2 seen from Sun = $1 \text{Mkm}^2: \cos(\text{Latitude Mask}^\circ)$ on Earth.

IV. CONCLUSION

Only both marine and terrestrial ecosystems can use the Energy coming from the Sun, transforming, and conserving it into Chemical Energy or Food, an indispensable premise for the survival of all living beings that form the so-called food chain, from microorganisms to final users.

These ecosystems are also able to remove Carbon Dioxide from the atmosphere and water, conserving it stably in the form of carbonate salts or lignin.

Besides, they produce oxygen, a fundamental element for the maintenance of life through the process of chlorophyll photosynthesis which occurs in the kingdom plant, or in Stromatolites as regards marine environments.

Albedo concept considerations.[3]

Definition of Albedo: it is measured on a scale from 0 (corresponding to a black body that absorbs all incident radiation) to 1 (corresponding to a body that reflects all incident radiation).

Albedo values of some references:

Open Ocean 0.06
Forests 0.09÷0.20
Desert 0.40
Fresh Snow 0.89

I think it become essential to make this remarkable observation:

Ocean and Forest, even with lower Albedo, are the only Ecosystems that convert and storage incoming Light Energy into Chemical Energy or Food: I think this must be considered positive feedback.

In Desert, even with higher Albedo, incoming Light Energy can only be Transformed into Heat: I think thus must be considered negative feedback.

I think It Is time to consider these two fundamental and Vital concepts: where there is Life, there is a capacity of generating positive Surviving feedback, where Life Is missing, the only possible transformation of Energy Is Heat, generating negative Surviving feedback.

The Energy Is Always the same, with complete opposite results regarding the Thermodynamic Energy Balance, and Consequently Surviving possibilities.

During the period before 1712, the Incoming Sun Energy was Neutral for thermodynamic balance, this is the starting point I have considered according to James Lovelock analysis. [2]

The only variable elements that could change the Thermodynamic Balance were the Volcanoes activity, Asteroid impact, Albedo modification like in Glaciation periods.

From 1712 on, there was an additional Heat Emission from Anthropic origin, through Combustion process of wood, coal, oil, Natural gas, nuclear combustion, or later for cooling Electric Power appliances Like tooling machine, Computers, Air Conditioning of Living places and so on.

To Say the same things in other words, from 1712 we started to transform into Heat through Combustion Processes more and more stored chemical Sun Energy, generated from Millions of years Ecosystems activities: from Cenozoic ~65.6M years.

In addition to Anthropic Energy Production, we must consider the Total Albedo Glaciers Reduction (Terrestrial and Marine) plus Total Albedo Reduction due to increased Land Desertification, and all the additional Heat production like in Fires that happen Always more frequently.

Due to the complexity of this additional Global condition, the answers can only come from Scientists and Research Organizations.

I think it is really time to consider in the right perspective the expressed concepts of Positive and Negative Albedo Effects.

Tipping point is to SWITCH-OFF the WHOLE NOT VITAL COMBUSTION PROCESSES, in SYNERGY with INCREASING of ONLY POSITIVE ALBEDO EFFECTS.

Looking back to recent History, a "coincidence of events", or a "message not understood" can be identified in Titanic tragedy happened in 1912, a couple of years after the END of ICE LATENT HEAT MITIGATION EFFECT.

I think we must meditate deeply these concepts, until they become the ground of our thinking.

I Remember what a friend of mine told me years ago, an intuition regarding the nature of Photons, basic element of Light: "Photons are Thoughts".

In Spirituality, this can be translated into "Illumination" or "Divine Sparkling".

"The Fuji Declaration" points are integral part of my believes.

"The task is, not so much to see what no one has seen yet; but to think what nobody has thought yet, about that which everybody sees." A. Schopenhauer (1788 - 1860).

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