



A Critical Review and Response to the Climate Change Denier Letter “There Is No Climate Emergency”

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Abstract

The deliberations bordering around the disaster of climate change today has become a matter of growing importance to many environmentalists around the world as well as environmentally concerned organizations like the United Nations. The combination of anthropogenic activities on the environment which began over half a century ago has only served to exacerbate the effects of heat waves, natural disasters, ocean acidification processes, etc, being witnessed around the world today. This has necessitated more scientific investigations to be conducted over time into the causes and solutions to the climate change problem. Nonetheless, just as with every deliberative process which, more often than not, constitutes contrasting views, climate change deniers continue to refute this reality of climate change in our world today. One of the most outstanding denier arguments was recently written by a group of scientists, professors and political leaders, under the sponsorship of the European Climate Declaration, in a letter titled “There is no climate emergency”. In this letter, these deniers penned down six points in refutation of climate change and its emergency. Therefore, in continuation of the ongoing climate change deliberations, this research attempts to review and respond to these points raised by these professors against the reality and emergency of climate change. In doing so, this research arrives at the conclusion that climate change is indeed a reality of the present age and more importantly, an emergency.

Keywords: Science; Climate Change; Denials; United Nations; Emergency; Response.

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1. Introduction

One of the widely debated concerns around the world today, is on the concept of climate change and its adherent problems. This debate on the climate change topic is one which has evolved over time calling together climate scientists and environmental professionals in a continuous dialogue to verify or to disprove its truth. On the 26th day of September, 2019, an assemblage of about 500 professionals from around the world under the aegis of the European Climate Declaration met to append their signatures on a letter titled, “There is no Climate Emergency.” This letter which was addressed primarily to the UN Secretary-General and to other top political figures across Europe was written and its signatories spearheaded by the co-founder of the Climate Intelligence Foundation, Guus Berkhout. The content of this letter outlined six controversial points which they brought up to support their claim that “There is no climate emergency” and also to strongly oppose the ‘net zero’ policy of the United Nations which is targeted by 2050. In the end, the fact remains that there is not just an ongoing climate change emergency but that we, humans, are rapidly running out of time to curtail that emergency. Hence, this research attempts to give a point-by-point analysis to all the claims raised by these professionals against the emergency of climate change. In doing so, this research will attempt to debunk these claims and propose that these climate deniers rethink their standpoint as to the climate change debate.

2. Research Methodology

In recognition of the previous as well as the ongoing debates and scientific findings which verify the present problem of climate change and global warming, this research will employ a qualitative methodology in the process of analyzing these controversial points raised by these climate change denier scientists. This research will mostly make use of secondary and descriptive data collection which entails the gathering of existing observations and previously conducted scientific researches which are aimed at primarily proving the scientific claim of a climate change emergency and global warming. To this regard, this research candidly acknowledges its constraints as it is limited to only the use of secondary data without using any primary data for its analysis. The reason for employing this form of research methodology is to recognize that there has already been sufficiently conducted scientific observations around the world which have reliably proven the existence of climate change and its emergency in our present world. Such experiments as those conducted by climate change research organizations like the Intergovernmental Panel on Climate Change, the National Oceanic and Atmospheric Administration and many other environmental research organizations around the world. Such observations have strongly verified, overtime, the hypothesis that we live in an era of climate change emergency. Hence, this research purposefully sees the need to bring up, in its data analysis, these previously conducted experiments on global warming and climate change to engage this discussion on the climate change emergency. Finally, this research will analyze these past verifiable scientific observations on climate change in a point-by-point refutation of the claims being made by these climate change deniers.

3. Natural as well as anthropogenic factors cause warming

In their first point within the denier letter, these climate deniers claim thus:

The geological archive reveals that Earth's climate has varied as long as the planet has existed, with natural cold and warm phases. The Little Ice Age ended as recently as 1850. Therefore, it is no surprise that we now are experiencing a period of warming. Only very few peer-reviewed papers even go so far as to say that recent warming is chiefly anthropogenic [1]. In response to this point, this research would begin with their last statement by affirming that a well-observed scientific discovery does not need to be peer-reviewed before its truth value is acknowledged. Moreover if, just as is claimed, only a very few peer-reviewed papers have done very outstanding researches to conclude that recent warming is chiefly anthropogenic are we to dismiss or falsify their claims on the basis that they are just only very few? No. Any scientific claim to be verified or falsified need not be dependent on a certain number of awaited peer-reviews but on observable and scientifically proven outcomes of such a claim. As regards this case study, a number of detection models have been used to arrive at a consistent conclusion over time that the noticeable earth surface temperature increase is attributed to anthropogenic activities. Such anthropogenic activities are largely based on accumulated industrial actions [2] in 1997, introduces his Multi-pattern optimal fingerprint technique wherein he uses the global mean surface air temperature (GMST) according to the observed global temperature dataset, HadCRUT4, as the dependent variable while the natural drivers and the anthropogenic drivers of climate change make up the independent variables in a linear regression; a simulation which confirms the anthropogenic temperature rise. This standardized fingerprint methodology was used again in 2013 by Aurélien Ribes and Laurent Terray to observe the global near-surface temperature changes while using simulations. After which "the analysis of global mean temperature shows that changes can be robustly detected and attributed to anthropogenic influence" [3]. Also, in 2013 [4] conducted similar investigations using the timeframe of 1860 to 2010. In their observation of the HadCRUT4 dataset and the CMIP5 standard set, it was found that those simulations which included both anthropogenic factors and natural factors span changes inside the observed temperatures of the timeframe 1860 to 2010, while those simulations which had only natural factors do not warm as much as observed [4]. Thus, "[the] calculations of attributable temperature trends based on optimal detection support previous conclusions that human-induced greenhouse gases dominate observed global warming since the mid-20th century" [4]. This goes to verify the anthropogenic effects of global warming which has been with us since the mid-20th century. In line with these scientific observations, the claim that the recently observed global warming is both natural as well as anthropogenic could be reconsidered if not totally falsified. Furthermore, we should not just be surprised at the level of global warming being experienced today but we should also be worried at it. Does it surprise these and other climate change deniers that the little ice age which, as they say, ended recently in 1860, actually ended just two decades after the conclusion of the first industrial revolution of Britain (1760 – 1840)? It is true that Earth's climate has varied as long as the planet has existed, with natural cold and warm phases, nevertheless it is apparently true also that recent scientific observations on the steadily increasing global average temperatures since the middle of the 20th century till date has largely been attributed to anthropogenic activities and the more scientific observations are made the more this claim is strengthened. The first assessment report of the IPCC did not find any causal link between the human activities and the environmental problems. It nevertheless found out that "the unequivocal detection of the enhanced greenhouse effect from observations is not likely for a decade or more" [5]. However, the second assessment report of the IPCC reached a conclusion that "the balance of evidence suggests a discernible human influence on climate" [6]. This observation was made stronger by the third assessment report of the IPCC in 2001 which increasingly strengthened the claim and

concluded that “most of the observed warming over the last 50 years is likely to have been due to the increase of greenhouse gas concentrations” [7]. Subsequently, the fourth assessment report of the IPCC unearthed more findings which led it to build up on the previous scientific observations: “Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations” [8]. In its fifth assessment report, these scientific claims were further verified in the conclusions drawn by the IPCC that “It is extremely likely that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forcings together” [9]. In their use of the term “extremely likely” the fifth assessment report of the IPCC carries with it a 95% – 100% probability in the observation that more than half of the observed warming was caused by anthropogenic factors. It is quite unfortunate as seen in these reports that this age of human evolution which is marked by the most anthropogenic activities has also been recorded as the period with a consistently rising weather temperature. The earth has kept on warming up since the inception of the first industrial revolution which kickstarted the earth’s warming process. This is chiefly as a result of an excessive industrial emission of CO₂ among other heat trapping gasses into the atmosphere which is constantly heating up the earth by means of the greenhouse effect. In his article, Henry Gastineau states that “The Industrial Revolution kick-started global warming much earlier than we realized” [10]. Not only does this research support Gastineau’s factual claim but also asserts that the industrial revolution did not only kick-start the global warming process but has also kept the planet on a steady temperature rise ever since then. Sharing a similar view, the United States Global Change Research Program (USGCRP) in the Fourth National Climate Assessment noted that “It is extremely likely that more than half of the global mean temperature increase since 1951 was caused by human influence on climate (high confidence). The likely contributions of natural forcing and internal variability to global temperature change over that period are minor (high confidence)” [11]. To this steady increase of the global mean temperature, the assessment report gives some statistics that between 93% to 123% of the total observed 1951-2010 warming was due to human related activities [11]. As has been consistently proven in these different scientific reports, the timeframe of this steadily increasing global warming is seen to have begun from around the mid-20th century upwards; an era that is usually referred to as the “Golden age of Capitalism”. Meanwhile, the [12] also confirms the scientific fact of a steadily increasing global temperature in their findings that the year 2019 has been the second hottest year ever recorded after 2016 which was said to be the hottest year ever recorded. Hence, in conclusion to their first point and in view of the available scientific researches shown to support the observation of an anthropogenically linked global temperature increase, it is not scientifically true as claimed by these climate change denier scientists that the present carbon induced global warming and climate change has little or nothing to do with anthropogenic carbon emissions.

4. Warming is far slower than predicted

In their second point within the denier letter, these climate deniers claim thus:

The world has warmed at less than half the originally-predicted rate, and at less than half the rate to be expected on the basis of net anthropogenic forcing and radiative imbalance. It tells us that we are far from understanding climate change [1]. In an analysis of this claim, one could accept that there is some truth within it; some truth

which lie in the fact that these professors accept the unstated assumption that the earth is actually warming regardless of whether it is slower or faster than predicted; hence, these professors accept the fact that the warming of the earth is real and happening. Also, it might be a bit difficult to scientifically engage this particular point of their claim since it has no supporting scientific evidence to prove it. This makes this particular claim scientifically inaccurate and unfounded. Nevertheless, it is important for these climate scientists to note that while they keep on debating about the pace of the earth's warming, the earth's surface temperature is presently increasing to previously incredible degrees. In one of the latest scientific studies, it has been found that the year 2020 is presently the warmest year since the mid-1800's. Global average temperature records taken and analyzed from six different research groups [NASA; NOAA; Met Office Hadley Centre/UEA; Berkeley Earth; Cowtan and Way; and Copernicus/ECMWF] show that the first nine months of the year 2020 have been strangely warm [13]. These six different groups which carried out the same studies as to the rising temperature warming all arrived at the similar findings on the increasing global surface temperature. This puts 2020 on course to being recorded as the hottest year since reliable temperature records began to be documented. In a similar correlation:

Greenhouse gas concentrations reached a new high in 2020, driven by human emissions from fossil fuels, land use and agriculture. Three greenhouse gases – CO₂, methane (CH₄) and nitrous oxide (N₂O) – are responsible for the bulk of additional heat trapped by human activities. CO₂ is by far the largest factor, accounting for roughly 50% of the increase in “radiative forcing” since the year 1750. Methane accounts for 29%, while N₂O accounts for around 5%. The remaining 16% comes from other factors including carbon monoxide, black carbon and halocarbons, such as CFCs [13]. As a result of this concentration of greenhouse gasses as observed by [13], the observation of global warming which has reached a new high is a clear indication of the earth's anomaly in relation to the global average surface temperature. Statistical multivariate regression model, was used in the above study to show that the earth's abnormal surface temperature is steadily increasing and is now reaching a perturbing degree which is based on the net anthropogenic and radiative forcing. Furthermore, even if the earth is presently experiencing global warming, even at less than half of the originally-predicted rate, does that mean that we should not respond to the very alarming rate of warming which the earth is presently recording? No. contrary to this claim from the climate deniers, one would think that even though we may be far from understanding the climate as these professors hold, yet we should not relent in curbing the anthropogenically related global warming which is presently increasing the earth's temperature to unbearable heights.

5. Climate policy relies on inadequate models

In their third point within the denier letter, these climate deniers claim thus:

Climate models have many shortcomings and are not remotely plausible as policy tools. Moreover, they most likely exaggerate the effect of greenhouse gases such as CO₂. In addition, they ignore the fact that enriching the atmosphere with CO₂ is beneficial [1]. Most climate deniers ever readily put forward the point, that climate modelling is just a pseudo-science, as a favorite punchline target with which to argue against its credibility and therefore against the reality of climate change. They state that the models being used in the analysis of the climate are defective and that they do not represent a reliable account of the changing climate. Some other

skeptics also say that the findings of these models are unproven and in order to be reliable it should be able to test a 100-year temperature projection. Thus, these computer models should be able to project the climate variability in 100 years and if in a 100 years' time we see them to be right then we can accept these models as adequate and scientifically true. The climatic computer model which is a mathematical representation of the relationship within the ecosystem is presently the most advanced means used in the projection of future climatic events. These models tell us based on the present climatic conditions what the future climatic conditions will be. Even though the past geoscientific models that were being used for environmental projections were not very comprehensive in making climatic projections. Yet, it is true that the complexity of our climate is one that made climate modelling very difficult to attain a perfect and accurate projection. But does that make climate computer modelling invalid? No, the inadequacy of climatic modelling is not a reason to totally jettison its projections because these models have made up the most reliable sources of climatic projections and they keep on being developed. How else can we verify the credibility of modelling apart from having its predictions reliably confirmed? Within the present day's geoscientific projections, climate modelling has evolved even better than it was and its projections have become more and more verifiable.

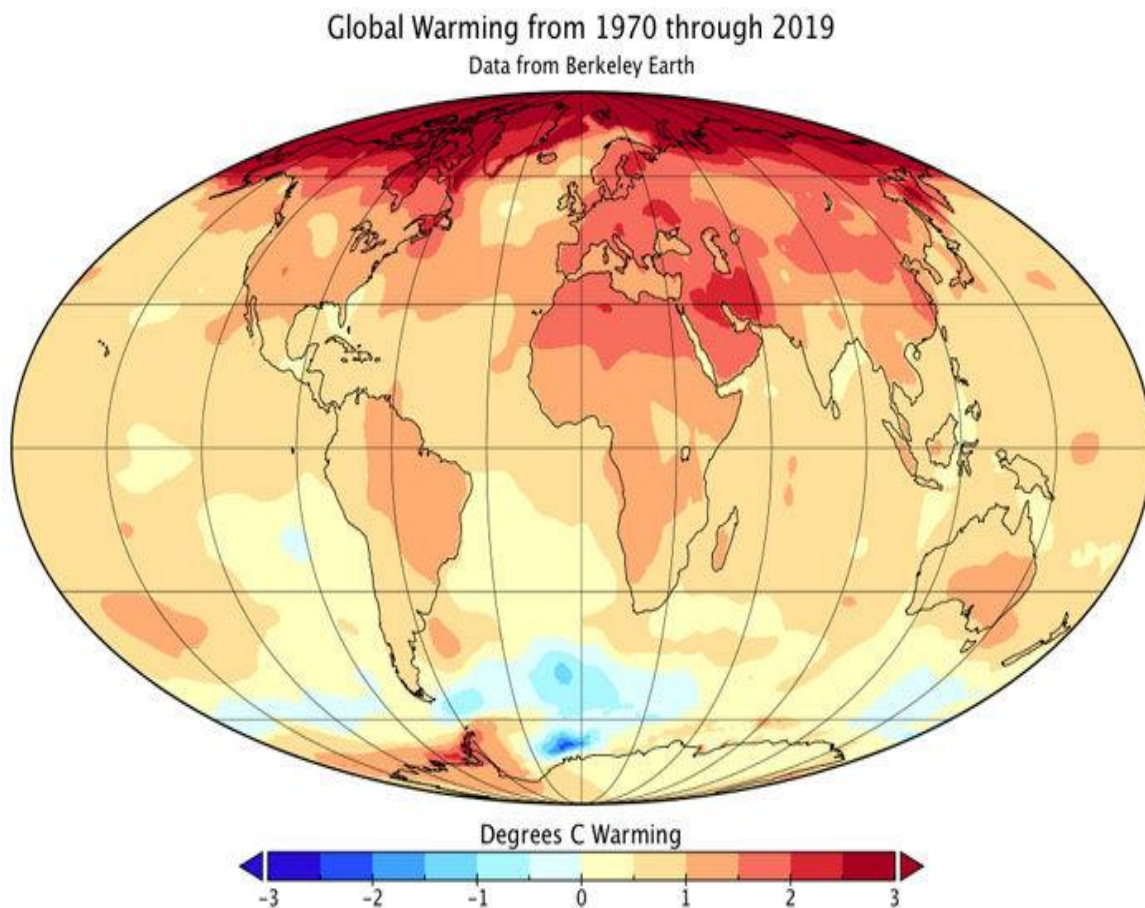


Figure 1: from [14]

There are a lot of short-term as well as long term climate change model predictions which have been evaluated

and their predictions were confirmed to have accurately matched the observations. Most climate models which were used in the past have been validated to have accurately predicted today's climatic conditions. In a study conducted by [14], the accuracy of past climate model predictions was confirmed in their observational outcome of the predictions, "How much warming we are having today is pretty much right on where models have predicted" [qtd in 15]. To prove the accuracy of these past models, [14] compared some of the annual average global surface temperatures to the global surface temperatures which were gotten from 17 different climatic predictions. Also, these predictions were all gotten from a set of 14 different computer models which were within the time frame of 1970 to 2001 [14].

In their findings from the research as seen in the graph above, most of the models used were seen to have accurate predictions on the recent global surface temperatures around the world which have risen to highs of approximately 0.9°C since the year 1970. It was also found that within 10 different predictions, there was no prove of any statistically substantial variance between their output and the historic observations of their predictions [14]. This goes to verify that the science of climate modelling has so far, been accurate in their projections. In different other studies models have been used in the past to predict present climatic situations which all came out true. For example, Models were used to forecast an unevenness between the energy coming in from the sunlight and the energy going out through the infrared radiation in a likely greenhouse effect phenomenon and this has been verified in a study conducted by [16], and is now scientifically proven. Models have also been used to project that the arctic is warming up at a rate which is twice the rate of global warming and this was just recently confirmed by the Arctic report card of the U.S. National Oceanic and Atmospheric Administration in 2018 [qtd in 17]. Lastly, climate models were as well used to predict the rising spate of global warmings and so far, they have been on point. These are just but a few cases where climatic models proved to be very effective. For skeptics who insist that a 100-year period of testing, or more, is needed to verify the long-term projections of a climatic model, the use of hindcasting in modelling would be very adequate in this regard. By using hindcasting, climate modelers have succeeded in backdating the models for up to 100 years in the past and then allowing these models to run into the future and give us a projection of the climatic condition of the present age. When this hindcasting was done, the models gave an almost accurate account of the present climate change reality. In a hindcasting study done by [18] we are presented with a successful model simulation of the steady rise in global warming starting from the year 1900. For their study they made use of a global ocean-atmosphere coupled model wherein the tropical Pacific sea surface temperatures were forced to follow the observed evolution. The result of this study shows a huge possibility for the use of the computer climate models to give an almost accurate hindcast and from this be able to make almost accurate future projections about the effects of climate change in the next 100 or more years. Haven said this, this I think that there is presently a climate change emergence within which humanity does not have enough time for 100 years in order to verify if the computer climate models being set up today would give adequate projections or not. It may be true that a few of these computer models are likely exaggerating the effects of greenhouse gases such as CO_2 but what if these models are, on the contrary and as have been proven in recent evaluations, actually underestimating the effects of these greenhouse gasses on earth's atmosphere? That would be a risky venture to wait for 100-year climatic prediction models in order to affirm or disprove the climate models being used. What if the earth would have been totally destroyed in 100 years' time? It might be dangerous for the climate if we sit and allow the

carbon emissions around the world to keep on destroying the future of our ecosystem while we wait 100 years for the outcome of our model projections to be verified; we need to act now on the knowledge of our existing model predictions which are the best being used right now in the scientific findings and forecasts. Hence, the present computer climate models are adequate enough to make climatic projections and are even better developed in today's age. These models have given us real and accurate projections in the past and there is no reason to falsify them based on an inductive proposition. Moreover, these denier scientists who think that these models are inadequate are doing so without bringing any other better options to the climate change discussions and debates. If we agree that our present advancements of climate modelling are unreliable why should the only line of argument be to jettison them and not to build on them to create better forms of climate modelling? Could we not argue from the opposite point of view of improving them and making them better? It would rather be a positive step towards ending climate change if climate change organizations and scientists around the world invest in more researches which will lead to the enhancement of these models or, better still, into the invention of new sophisticated computer models in order for us to have a much adequate and reliable climate projection.

6. CO₂ is plant food, the basis of all life on Earth

In their fourth point within the denier letter, these climate deniers claim thus:

CO₂ is not a pollutant. It is essential to all life on Earth. Photosynthesis is a blessing. More CO₂ is beneficial for nature, greening the Earth: additional CO₂ in the air has promoted growth in global plant biomass. It is also good for agriculture, increasing the yields of crops worldwide [1]. Photosynthesis is the basis of plant life and survival and is essential for food production. Science agrees that CO₂ is a very important gas which is needed for plant life on earth and an additional CO₂ in the air might have a positive effect on agriculture and crop yield. Science also agrees that the earth has always had its ways of adding more CO₂ into the atmosphere when there was not enough through the process of the greenhouse gas effect. Nevertheless, in making this claim, these climate deniers allude to some unstated assumptions which could be untrue as we will presently unpack. The first unstated assumption is that no matter how much of CO₂ is added into the atmosphere, there will always be a plethora of CO₂ absorbing trees available to absorb and utilize these huge CO₂ emissions. This assumption is not true. In a global tree mapping survey done by [19] in 2015 and published in the journal *Nature*, it was discovered that there is approximately a total number of 3 trillion trees in the world today. Of these 3 trillion trees, an estimate of 15 billion trees is being cut down each year around the world for industrial, agricultural, and economic reasons and at present, about 46% of the total number of trees in the world is estimated to have been cut down already through climate change activities.

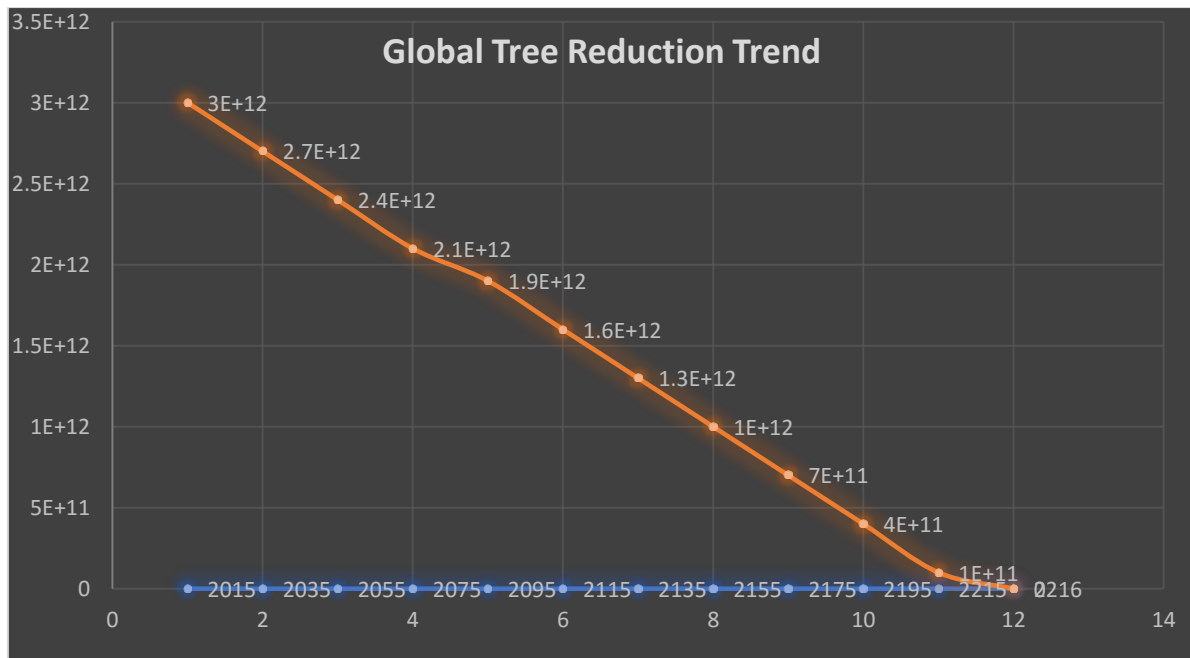


Figure 2

According to the tree mapping survey done in 2015, we had about 3 trillion trees around the world as shown in the chart above. Now, if the estimated trend of 15 billion trees being felled every year around the world, according to [19] continues, and all things being equal, we will be left with only 2.7 trillion trees by 2035, this number will further reduce to 2.4 trillion by 2055. This downward trend will continue until the dawn of the year 2216 when the earth will finally be without trees. This forecast will be inevitable unless the desire to stop the present tree cutting trend as well as the desire to plant new trees is seen all over the world. Hence, we do not have sufficient trees to absorb the enormous CO₂ emissions in the atmosphere and even if we supposedly considered 3 million trees to be enough to absorb all CO₂ emissions this number is fast going down and in less than 200 years from now there will be zero trees available if nothing is done to stop this tree reduction trend as a result of tree felling around the world. Another unstated assumption, by these deniers, within the above claim is that since there are a lot of trees available in the world for the absorption of the excessive CO₂ then there might be no need to reduce on carbon cuts around the world by industrialists hence this will be more beneficial for nature as these trees will always absorb and utilize the CO₂ for their food production. This assumption might be dangerous to the environment and might serve to worsen the climate change disaster the world is already experiencing. This could become an avenue for anthropogenic CO₂ emissions to keep rising incessantly and could exacerbate the global warming process. Hence, anything taken to an extreme becomes detrimental, and this includes the CO₂ emissions. Moreover, it has been discovered that earth's ecosystem, which is made up of the freshwater, the ocean and the terrestrial ecosystems are unable to sequester every CO₂ in the atmosphere. In his article [19] states that "Of the carbon emitted to the atmosphere by human activities, 45 percent remains in the atmosphere; about 30 percent is taken up by the oceans, and the remainder is incorporated into terrestrial ecosystems" [20]. Reference [20] further notes that this inability of the terrestrial ecosystem to sequester all of the emitted carbon is even made worse by the ongoing problem of deforestation. Hence, the earth's terrestrial ecosystem absorbs only around 25% of usable carbon and the ocean takes 30% of it while the rest is left in the

atmosphere. This remaining 45% of anthropogenic carbon left in the atmosphere every year by anthropogenic emitters serve to further cause the global warming and climate change. Furthermore, when we talk about carbon emissions from industries, we do not mean just CO₂ which is absorbed by the ecosystem. Carbon emissions from fuel fossils which form the greenhouse gasses comprise of such gasses as Nitrous oxide (N₂O), Carbon dioxide (CO₂), Methane (CH₄), Trioxxygen (O₃), and fluorinated gasses such as hydrofluorocarbons, perfluorocarbons, sulfur-hexafluoride, and nitrogen-trifluoride. These gasses are synthetic and powerful greenhouse gases that are constantly emitted from various of industrial procedures. Ultimately, it is true that CO₂ is good for agriculture and increases crop yield worldwide but if it is emitted in excess as is presently the case, it could become dangerous to the earth's ecosystem for which it is being emitted. Thus, there is need for the United Nations carbon cuts initiative to reduce carbon emissions around the world.

7. Global warming has not increased natural disasters

In their fifth point within the denier letter, these climate deniers claim thus:

There is no statistical evidence that global warming is intensifying hurricanes, floods, droughts and such like natural disasters, or making them more frequent. However, CO₂ -mitigation measures are as damaging as they are costly. For instance, wind turbines kill birds and insects, and palm-oil plantations destroy the biodiversity of the rainforests [1]. In dissociating the negative effects of climate change to the environmental hazards and natural disasters, these climate deniers attempt to convince the world that there is no evidence based on statistics which can prove that climate change is intensifying natural disasters. Nevertheless, this claim does not deny that climate change directly and indirectly brings about natural disasters but the denial that climate change is not intensifying these natural disasters. Contrary to their stated assumption, the problem of climate change has become the major causative factor for natural disasters around the world. The hazardous effects of climate change and global warming directly and indirectly give rise to all other natural disasters in the world today. For example, the increasing of Greenhouse gasses in the atmosphere certainly brings about an increase in temperature and global warming around the world as has been shown by previously cited studies. This increases the risk of droughts and intensified storms which cause cyclones and higher wind speeds. In addition, global warming causes a greater amount of evaporation of the sea and ocean surfaces into the atmosphere; an effect which brings about more stormier rainfall patterns. This wetness of the atmosphere which is the result of a warmer planet also intensifies natural disasters like hurricanes and the high rise of sea levels. There are now lots of credible scientific evidence which prove that the excess of CO₂ emissions now forms the major causes of floods, hurricanes and all other natural disasters around the world. In a research [21] categorically asserts that "Climate Change is Making Natural Disasters Worse, and More Likely". In a brief literature review of this research [21] speaks on some of the recent and devastating natural disasters which have happened recently around the world like the fires, hurricanes and storms etc. Here, she re-echo's the poplar assumption held by many other climate scientists that even though some natural disasters are not directly linked to climate change yet the adverse effects of climate change heighten the severity of these natural disasters: "To a certain extent, disasters like firestorms and hurricanes are an unavoidable part of life on Earth—scientists do not believe they are a direct result of climate change. But a warming planet does create the conditions that make these extreme weather events more likely, and more severe" [21]. The complications of natural disasters as a result of climate

change have very adverse effects on our public health. In addition to the present worsening state of natural disasters as a result of climate change [22] both make a projection, in their research, that climate change will not only bring about more severe and frequent natural disasters in future but will definitely have a negative effect on the world's economic growth. The present occurrence of climate change and global warming is as a result of the anthropogenic emissions which were injected into the atmosphere a long time ago and has lasted so long within the atmosphere. To that effect, the present carbon-emissions which are still on the rise will serve to be of a disastrous effect in decades or centuries to come. Hence, climate change is evidently destroying our earth and the warming of the globe as years pass by might also increase its severity in the future if we do not cut down on our present anthropogenic emissions which are the primary causes of increasing CO₂ in the atmosphere. Moreover, the constant emission of huge greenhouse gasses around the world are even more harmful to the biodiversity of the rainforests and destroy plant and animal life on a larger scale. There is a causal-effect relationship here and the cause needs to be immediately addressed. Furthermore, the installation of climate change mitigation measures tends to create some problems for some parts of the terrestrial ecosystem. For example, the installation of wind turbines disrupts the bio-diversity of the rain forests and of those animals that live therein. Nevertheless, it will be to the advantage of the future of the terrestrial ecosystem and the future of billions other animals, plants and even humans if these measures which will lead to a net zero carbon emission are successfully installed. On the long run these climate mitigation devices will be of immense benefits to all other organisms and forest plants because it will create an alteration from the burning of fossil fuels for energy to the use of wind turbines for the generation of clean and reusable energy.

8. Climate policy must respect scientific and economic realities

In their sixth point within the denier letter, these climate deniers claim thus:

There is no climate emergency. Therefore, there is no cause for panic and alarm. We strongly oppose the harmful and unrealistic net-zero CO₂ policy proposed for 2050. If better approaches emerge, we will have ample time to reflect and adapt. The aim of international policy should be to provide reliable and affordable energy at all times, and throughout the world [1]. Contrary to this claim as has been shown by [9], there is need for measures to start being put in place to reduce carbon emissions as there is and should be cause for panic in view of a fast-destroying earth. The net-zero carbon emission policy is an agreement signed in 2016 by all the signatories to the United Nations Framework Convention on Climate Change to cut down on the emissions of man-made greenhouse gases from the atmosphere through their carbon cut policies. This is a means of reducing the Earth's net climate balance to zero through the use of natural and artificial carbon sinks. By taking this bold step the world would become carbon neutral and the global temperature would stabilize. Unfortunately, these climate denier scientists refer to this net-zero carbon move as 'harmful' and 'unrealistic'. There is need to cut back on carbon emissions in order for us all to have a habitable earth and also for the future generations to enjoy and harness a livable planet. In their argument, these deniers further state that "if better approaches emerge, we will have ample time to reflect and adapt" [1]. But with the increasing global warming there might be little or no time to reflect and adapt but to act. There is no time to reflect on better approaches to emerge when we can use the best approaches which we have now to curtail the increase in climate change and global warming. We could already respond to the harmful effects of climate change with the tools we have at our disposals rather than to

delay some of these action plans being suggested by the UN. Rather than waiting until better approaches emerge, we could support the already existing climate mitigation strategies, which are promising, in order to begin reducing the effects of huge greenhouse gas emissions which destroy our planet. The aim of international policies should not only be to provide reliable and affordable energy but more specially to provide clean, renewable, and ecologically-friendly sources of energy; energy sources that do not end up destroying the environment but help to restore and preserve the environment.

9. Conclusion

The aim of this research paper has been to critically respond to these climate deniers on their standpoint to the problem of climate change in the world today. The climate change discussion is a continuing topic in the world today which brings together climate change researchers and deniers alike in debating about this challenge. Hence this research has argued using secondary scientific data as well as a more philosophical approach that climate change is a reality and an emergency. This research also attempted to convince these climate deniers of the reality of climate change in the world today. In view of the climate change and global warming which are being experienced today, this research underscores the reality of a climate change emergency which needs to be addressed in order for the climatic conditions of our world to be ameliorated.

Acknowledgement

The main focus of this research borders on the deliberations of the climate change reality as well as on the denier arguments put forward by climate change skeptics around the world. This research argues from the point of view that climate change is a reality and more so, a disaster. Scientifically, more and more phenomena like the global warming, the melting of glaciers, the acidification of the seas and oceans, etc, all point to the dangerous noumenon of climate change bearing within its message an undertone that it needs to be addressed. This research generally debunks the assertions made by denier scientists that there is no anthropogenic-induced climate change in our world today. More specifically, this research addresses the denier letter written by the European Climate Declaration which stated that "There is no climate emergency". In refuting these claims, this research has used previous scientific studies to show that what these denier scientists avow are largely not based on scientific proof. Thence, this research contributes to the ongoing discussion on the reality of climate change. This research also suggests that further studies and investigations into the reality of the climate change emergency should be done as these would help to prove beyond reasonable doubt that the reality of climate change is present with us in this age and time. This research only adds a voice against climate change denialism and strengthens the call for world-wide policies that would serve to ameliorate the adverse effects of the anthropogenic-induced climate change; such policies which are being discussed by world environmental bodies such as the United Nations and other governmental climate change organizations. A proper understanding of the reality of climate change as well as its dangerous effects in our world could bring to an end these divisions in the climate change discussions, which are brought about by skeptics and deniers, and possibly unite the whole of humanity to addressing the climate change emergency with one voice.

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