

# Corona Virus Pandemic: A Possible Antidote to Climate Change Crisis

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**Abstract:** *As of today the world is threatened by two crises. One is the corona virus pandemic which is an abrupt and sudden threat that gripped the world within a matter of months and other is climate change, a doom which is destroying the earth like slow poison. There has been much uproar in the last decade against the rise of global greenhouse gasses and other anthropogenic activities which has led the world to a tipping point. National, regional and global organisations are engaged in formulating schemes and mechanisms to fight global warming but there has been no such satisfactory action taken as such. But the so called 'forced' lockdown that was imposed by the world governments to contain the outbreak of the pandemic drastically brought down the emission levels due to the diminished human activities. The paper seeks to understand this cause and effect situation between the pandemic and climate change and further establish the fact that like the pandemic crisis global warming too needs similar action in order to save an untimely demise of this planet.*

**Keywords:** pandemic, climate change, global warming, coronavirus, greenhouse gases

## 1. Introduction

Climate change (CC) is the most dangerous threat to human civilization which can be compared to a 'slow poison'. As per scientific experts and climatologist at the present rate the world might meet its demise by 2050 due to the destabilizing societal and environmental factors.<sup>1</sup> CC will impact on the sources of life sustenance like food and water systems that will lead to social breakdown and conflict. It has been successfully established that anthropogenic activities are the sole causes of the global warming due to the rise in the level of greenhouse gasses (GHGs) like CO<sub>2</sub>, SO<sub>2</sub>, aerosols, by burning of fossil fuels since the Industrial revolution. The situation at this juncture significantly demands a reduction in emissions in order to stabilize the climate so that the biodiversity is saved for the future generations. But as it has been evident that there has been no slowing down on the use of fossil fuels despite the seriousness of the situation (Sawhney and Perkins eds, 2015). The world this year faced one of the most unexpected and deadly threat in the form of the COVID19 pandemic which has shut down the entire global system for months. The resultant shutdown of all activities ranging from political, social and economic affairs due to the lockdown imposed by the governments of almost all the countries of the world has created a standstill situation which is both unpredictable and a crisis the human civilization wasn't prepared for. The countries of the world have adopted policies and measures related to health, social and political to tackle the situation and to lessen the loss sufferings. However this effectiveness of these measures which are taken has shown different results in different countries. For example 'South Korea has greatly controlled the rise of number of cases with extensive testing and social distancing. Their number of cases stands at 13, 244 with 285 deaths. While India is seeing rise in cases day by day the

lockdown imposed by the government somehow did not prove to be effective enough to contain the rise in the number of cases which happens to be about 746, 000 with 20, 683 deaths'<sup>2</sup>. The duration of the effects of this crisis is highly subjected to speculation with no concrete vision as to when or how the previous normalcy will return (Karabag, 2020). So as the global civilization came to a standstill with the lockdown imposed it exerted a direct impact on the climate. In order to grasp the true connection between this pandemic and CC one has to understand that the present human civilization is built over hundreds of years on a series of networks in layers. These developmental layers are the transportation, energy and economic network. In order to sustain these systems the earth's natural resources which are finite and mostly non-renewable are used up, resulting in the current crisis of CC. The crisis will set off aftershocks one after another as time passes by in the form of heat waves, floods, sea level rise and storms which will inflict structural damages. As such the correlation between the two kinds of crises are almost similar with the exception that the pandemic is like a flash flood while global warming is slowly damaging the environment away which have been repeatedly been warned about (Frank, 2020). The article therefore will try to focus on a two aspects. One, where does our civilization stand when it comes to dealing with crisis like COVID pandemic which was totally unpredicted and unprepared for and two, how does that fit into establishing a connection with the global warming that has been threatening the climate.

## 2. Methodology

The article used empirical approach in analysing the views, debates and discussions of various authors and experts on CC. All the materials used in this study are mostly from secondary sources ranging from journals, newspapers, online scientific sites and academic discussion forums.

<sup>1</sup>Spratt, David and Dunlop, Ian (2019), "Existential Climate-related security risk: A scenario approach", Policy Paper, Published by Breakthrough - National Centre for Climate Restoration, Melbourne, Australia, Link-[https://docs.wixstatic.com/ugd/148cb0\\_b2c0c79dc4344b279bcf2365336ff23b.pdf](https://docs.wixstatic.com/ugd/148cb0_b2c0c79dc4344b279bcf2365336ff23b.pdf)

<sup>2</sup>[www.worldometers.info/coronavirus](http://www.worldometers.info/coronavirus)

### 1) Climate Change and COVID19: Conceptual Framework

CC is a term that refers to major changes in temperature, rainfall, snow, or wind patterns lasting for decades or longer by taking the mean annual temperature pattern of a region. Both human-made and natural factors contribute to CC. Human causes include burning fossil fuels, deforestation, and developing land for farms, cities, and roads. These activities are termed as the anthropogenic causes, leads to the release of GHGS into the atmosphere. Natural causes which cause the climate to change are changes in the Earth's orbit, the sun's intensity, the circulation of the ocean and the atmosphere etc. The Earth has undergone this kind of change many times since its origin. But the kind of abrupt and rapid changes in weather patterns the Earth is experiencing today do not attribute to natural causes. Anthropogenic causes are the sole reason for the increasing amount of GHGs in the atmosphere affecting the Earth's equilibrium ([www.epa.gov/climatechange](http://www.epa.gov/climatechange)).

The following figure draws the changes in GHGs concentration over time and a projected rise in future at the present rate.

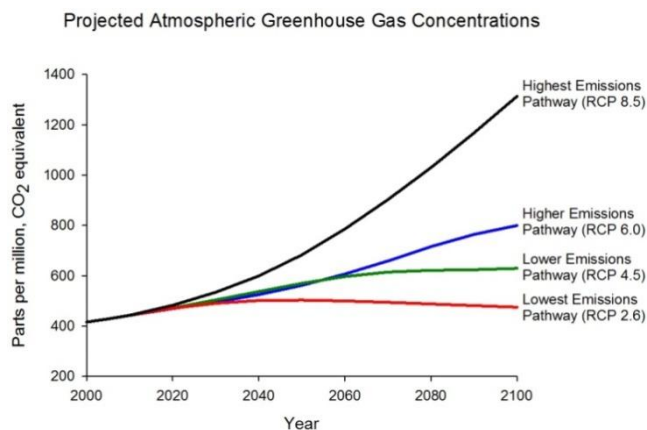


Figure 1

Source-

<https://19january2017snapshot.epa.gov/sites/production/files/2016-07/scenarioco2.jpg>

In order to deal with the growing implication of GHG concentration, the Intergovernmental Panel on Climate Change (IPCC) was set up by the World Meteorological Organization (WMO) and United Nations Environment to provide an objective source of scientific information in the year 1988 with its headquarters in Geneva, Switzerland. In the year 2013 the IPCC produced its Fifth Assessment Report<sup>3</sup> which elaborated the role of human activities on CC. It also has reports on the physical science basis of CC, the adaptation strategies and how climate mitigation is crucial to fight against global warming. In October 2018 the IPCC came out with a 'special report'<sup>4</sup> which focused on limiting the global warming temperature to 1.5°C instead of 2°C will lessen the risks involved in global warming. Now in order to do that the global community has to ensure adoption of changes in policy and implementation of mechanism rapidly in order to safeguard the society from untimely destruction

<sup>3</sup><https://www.ipcc.ch/assessment-report/ar5/>

<sup>4</sup>[www.ipcc.ch/2018/10](http://www.ipcc.ch/2018/10)

from CC. This report was specially brought out because the previous findings that were predicted would become the consequences if the global temperature rose to 2°C was proved to be wrong as those impacts started to even before that leading to the conclusion that it will come at the 1.5°C mark. Hence with this new finding, rapid and far-reaching transitions in land, energy, industry, buildings, transport, and cities are an immediate necessity. Also the global net anthropogenic emissions of carbon dioxide (CO<sub>2</sub>) would need to be decreased by about 45% from 2010 levels by 2030, in order to reach a 'net zero' around 2050. This means that any remaining emissions have to be eliminated from the air by bringing down the GHG levels (<https://www.un.org/en/sections/issues-depth/climate-change/>).

Now, with the above eminent threat from CC the world order is threatened by an unlikely entity in the form of the COVID19 virus (Novel Corona Virus) and the global pandemic made everything come to a halt. Coronaviruses are from a large family of viruses which are responsible to cause illness ranging from the common cold to more severe diseases. COVID-19 virus is a new strain of coronavirus which has not been identified before in humans. The COVID-19 is the cause of an outbreak of respiratory illness first detected in Wuhan, Hubei province, China making it ground zero. Since December 2019, cases have been identified in a growing number of countries (<https://coronavirus.dc.gov/page/what-covid-19>).

Total confirmed COVID-19 cases, Apr 29, 2020

The number of confirmed cases is lower than the number of total cases. The main reason for this is limited testing.

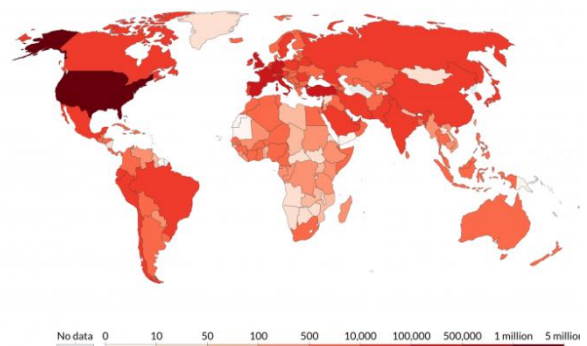


Figure 2

Source- <https://ourworldindata.org/uploads/2020/05/total-cases-covid-19-12-768x542.png>

The pandemic took a deadly turn around March, 2020 when the world started to see a surge of cases and with that the governments of the countries imposed total lockdown which involved every activity taking a step back to stop. With the diminished human activities due to the lockdown the emission of the GHGs reduced down to almost nil. Decrease in industrial, transportation, and business activity since the coronavirus outbreak had reduced levels of atmospheric GHG all over the world. The satellite images showed impressive changes, but the researchers are of the opinion that a measurable change pollutants does not necessarily mean air quality is suddenly healthy (Patel, 2020). The overall air quality from daily emissions of GHGs had dropped by 17% by early April as compared with 2019 levels with almost half of the reduction came from halting in

land transport systems. With this it can be seen that the pandemic will reduce the global emissions by between almost 4%-7% if the lockdown restrictions remain in place until the end of this year. But even a 7% drop would mean that the emissions for 2020 will roughly be the same as it was in 2011. Hence the long-term impact of the pandemic lockdown on CC solely depends on the policies the governments must take during the recovery of the as economies which will determine the path of global GHG emissions for decades from now (Kingham, 2020).

Coronavirus has gripped nearly 100 plus countries with cases over '12 million affected, 548 thousand deaths and 6.53 million recovered'.<sup>5</sup>The repercussions of the pandemic are unexampled setting in the form of racism, fear, political crises, geopolitical uncertainties, breakdown of supply chains, medicine shortages etc. This scenario has two conclusions. First is that the world has never been so interconnected; and second, the world systems are actually weak as it has been witnessed that they failed to successfully contain the spread and deaths.

## 2) The Connection between the Pandemic Lockdown and Climate Change

A total lockdown on every movement and activities across the world was called due to the spread of the COVID19 virus. This total lockdown seems to have an unintended benefit and that is a clean environment. The average number of "good quality air days" increased rapidly with no vehicles, aircrafts or industries emitting harmful greenhouse gases. Satellite images released by NASA and the European Space Agency<sup>6</sup> showed a dramatic reduction in GHG emissions which normally created a visible cloud of toxic gas hanging over major cities. As it is evident that the global community is now undergoing a time when the GHG drop in the atmosphere is at its minimum due to the lockdown. The moment the world will resume its usual normal the concentrations of GHGs will jump up. This way the global warming will raise a double fold let alone getting stabilized. The only way to reduce the emission is to reach a net-zero. In a few months, demand for energy globally has fallen off the cliff (McGrath, 2020). The following figure will show the projected increase after the COVID19 lockdown.

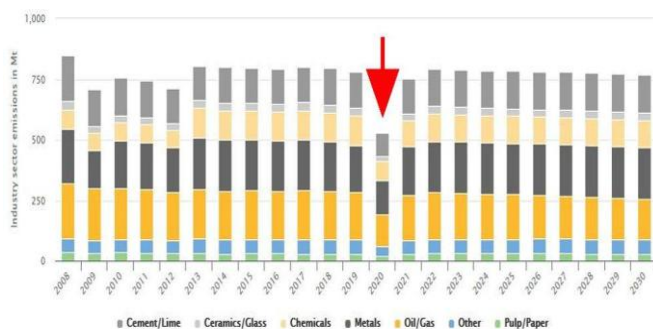


Figure 3

<sup>5</sup>www.worldometers.info/coronavirus

<sup>6</sup>Wright, Rebecca (2020), "There's an unlikely beneficiary of coronavirus: The planet", CNN, Link-<https://edition.cnn.com/2020/03/16/asia/china-pollution-coronavirus-hnk-intl/index.html>

Source- <https://specials-images.forbesimg.com/imageserve/5e80e53badc0d70006ccd5a/960x0.jpg?fit=scale>

The climate risk happens to be the mother of all systemic risks. The human civilization has become more developed and fuel consuming. It has led to increase in emission patterns which in turn affected the weather, food and water resources and our space of living. It's been far too long that the global community has showed acute inaction as far as climate risks on the security, civic structure and institutions are concerned. With the present Covid19 pandemic situation it's more like a risk similar to the CC only more rapid way. This has showed the global community how much it can lose control if the nature decides to go haywire. COVID's threat feels closer than the threat posed by CC. Hence the world acted swiftly to deal with it. All the political, social and economic systems adjusted to deal with this immediate crisis. Comparing to the climate crisis this was an emergency which was felt by the world community to deal with whatever means necessary. But here is the catch. A few months no one ever thought of the crisis that could potentially cripple all the existing systems. That is how the CC should be perceived. It may not seem aggressive enough to deal with the present climatic effects but the changes happening in the environment calls for immediate action itself. Because it might be slow but the impact will be beyond comprehension. For COVID it will be dealt with an antivirus and policies to recover the systems but with climatic destruction it will be irreversible. There are no putting planetary boundaries back once they shift to more energetic and dangerous states. There's no equivalent of social distancing to buy time, marshal resources and plan a counter-attack. That is why mechanisms to fight the crisis and to safeguard whatever has left of earth are as necessary as it has been to recover from the present pandemic situation (Rand, 2020). The most important thing is to shift investments in the energy networks away from fossil fuels and more towards renewable energy resources like, wind, tide, solar and hydro. The situation is graver than it looks with people who are aware of the lurking danger are coming to ignore the warnings and continue to live without any efforts to combat or to change their lifestyles that will help impacting the overall situation. But this pandemic seems to have awakened people from the slumber. It is letting us see the real consequences of denial. That may be its most important lesson, allowing us the insight, strength and compassion to build a resilient and robust future (Frank, 2020).

## 3) Effects of the COVID19 on the Future of Climate Change

Back in 'February, an analysis by the climate group Carbon Brief'<sup>7</sup> found that as the pandemic seized hold of China's economy and heavy industries shuttered, emissions from the country plummeted by an incredible 25 percent. Another analysis by Carbon Brief in early April estimated that globally this year; emissions could fall by 4-7 percent from

<sup>7</sup>Myllyvirta, Lauri (2020), "Analysis: Coronavirus temporarily reduced China's CO2 emissions by a quarter", Carbon Brief, Link-<https://www.carbonbrief.org/analysis-coronavirus-has-temporarily-reduced-chinas-co2-emissions-by-a-quarter>

2019 levels. That figure may seem low, given that fewer cars are on roads and industries have stalled, but with context, it nevertheless happened. Until now, emissions have been reliably increasing by a few percent year after year. That is the scenario even after world's nations have pledged to individually reduce their emissions as part of the Paris Agreement. The ultimate goal is to keep the global warming below 2 degrees Celsius (1.5 degrees according to IPCC Special Report, 2018) above pre-industrial global temperatures. According to Zeke Hausfather, the director of climate and energy at the Breakthrough Institute the economies will assume at full strength to make up for lost income. It was only during major recessions that large emission reductions happened globally in the past few decades. But even then, the effects are often smaller than it looks like with no systematic change as such (Miquelis, 2020). The COVID-19 lockdown, though, showed that in a national emergency people are capable of making abrupt lifestyle changes such as working more from home and fewer vacations that may actually match their aspirations for cleaner air and fewer cars, and assembly members embraced those changes. Climate scientists say the lifestyle changes forced by lockdowns around the world like no travel, eating in, working remotely, canceled events, idled factories led to cuts in global emissions that were roughly in line with what is needed every year over the next decade to keep average temperatures from rising to dangerous levels. The pandemic has also given the public a greater respect for and understanding of the scientific modeling of threats and of how our actions can shape outcomes as per Ajay Gambhir, an economist and climate researcher at Imperial College London. He further enumerated that there's more of an appetite for facts and figures, and the need for scientific models to see what the possible futures are (Montlake, 2020). Moreover, the Paris Climate process was thrown into frenzy. Threat turned to reality in April when the UNFCCC, postponed this year's scheduled climate talks, COP26, which were to have taken place in Glasgow in November. In fact, the Paris Climate process has been in a state of semi-limbo as the world awaits the outcome of the U.S. presidential election, which will likely to determine whether the U.S. exit from the agreement will be permanent. Yet in the midst of uncertainty and pandemic, work on the Paris process has continued, most recently through a series of virtual meetings aptly named the June Momentum for Climate Change. Despite the gravity of the pandemic, and the challenge of slowing the rate of climate warming below its current 3 degree trajectory, an atmosphere of hope prevailed (Stone, 2020).

### 3. Conclusion

The COVID-19 pandemic has called forth a global response which has been rather idle unlike anything that has been seen before. The government and business took on new roles to respond to the crisis by re-organising the global system. There is a risk that as the immediate crisis wanes and its economic consequences become clearer, longer-term aspirations are cast aside in pursuit of short-term easy fixes like rolling back environmental standards, stimulating the economy by subsidising fossil-fuel-heavy industries and focusing on making more things, rather than using them better. Alternatively, the global community could seize this

moment as a unique window of opportunity to re-build the society and economy as it is wanted. To avoid the worst consequences of CC this pandemic could offer an opportunity to fix the climate crisis before it's too late (Crawford, 2020). To keep the world on track to stay under 1.5°C this century, the world needs carbon cuts for the foreseeable future to keep this target in view. In order to achieve net-zero emissions by 2050 as targeted by the UNFCCC it is required to achieve 4-7% cut in carbon that COVID-19 pandemic lockdown has led to. But given the condition that human civilization has reached a statute that it cannot go back to its old times climate policies that lead to the deployment of clean technologies and reductions in demand for energy is required urgently. The big challenge is to ensure the recovery has a green focus. There might be a silver lining under the clouds only if the global community takes good lessons from this pandemic lockdown situation and its consequential offsets. The world needs technological knowhow and implementation on harnessing clean energy at the moment and not on space or fossil fuel driven schemes.

### 4. Acknowledgements

This work is based on the present COVID19 situation and its impact on the climate

### 5. Conflict of interests

The author declares that there are no competing interests exist.

### 6. Author's Contributions

There has been exclusive contribution of the author to the theoretical development, analysis, interpretation and writing of the manuscript.

### 7. Funding Information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

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