

Climate change Insight: Key factors learned from the COVID- 19 pandemic

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Abstract

Long-term variations in temperature, rainfall, precipitation, or wind patterns are referred to as "Climate Change." Natural catastrophes are expected to become more frequent and intense as a result of climate change, with negative social, economic, and environmental implications. The majority of climate change in the contemporary era is due to anthropogenic activities. On the other hand, any human-caused climate change will be layered on top of a background of natural climatic variations that occur over a wide range of space and time ranges. The majority of people are unaware that plastics are made from fossil fuels. Plastic consumption accounts for around 6% of world oil consumption and is anticipated to rise to 20% by 2050. As a result of the energy-intensive operations necessary to extract and distill oil, plastic manufacturing produces massive amounts of greenhouse gas (GHG) emissions. This study reviews how the COVID-19 pandemic has temporarily reduced GHG emissions while increasing demand for single-use plastics, adding to the burden on an already out-of-control global plastic waste catastrophe. In the absence of effective treatment, governments around the world have mandated lockdown measures, as well as residents voluntarily limiting non-essential trips and activities. By early April 2020, daily global CO₂ emissions had fallen by -17 percent (-11 to -25 percent for 1) when compared to the mean 2019 levels, with changes in surface transportation accounting for slightly less than half of the decline. Individual countries' emissions declined by 26% on average when they were at their peak. The impact on 2020 yearly emissions is dependent on the length of confinement, with a low estimate of -4% (-2 to -7%) if pre-pandemic circumstances recover by mid-June and a high estimate of -7% (-3 to -13%) if some limitations stay in place globally until the end of 2020. The total global CO₂ reduction from January to April 2020 is expected to be more than 1749 Mt CO₂ (a 14.3% decrease), with transportation accounting for the majority (58%) of the reduction, next off coal power generation (29%), and industry (10%). The COVID-19 pandemic has raised demand for single-use plastics, putting to the pressure on a worldwide plastic waste crisis that is already unmanageable. This mismanaged plastic waste (MMPW) is subsequently released into the environment, with some of it ending up in the ocean. The MMPW generated by the pandemic will be 11 million tons, culminating in a global riverine discharge of 34,000 tons into the ocean. As of August 23rd 2021, 193 countries had produced 8.4 (+/-1.4) million tons of pandemic-related plastic waste, with 25.9 (+/-3.8) thousand tons dumped into the ocean, amounting to 1.5 percent (+/-0.2%) of global total riverine plastic discharge. Because of India's record-breaking confirmed cases, MMPW generation and discharge are projected to be more skewed toward Asia. As a result, transportation was identified as the primary source of more than half of the emissions reductions during the epidemic. This strongly suggests that changing typical working patterns, such as reducing commuting to work, working from home, and conducting online meetings or site visits, can have a real impact on GHG emissions. A considerable amount of the outflow is medical waste, which increases the risk to the environment and human health, or even the COVID-19 virus being spread. This demonstrates how waste management necessitates structural modifications. This review will aid individuals in comprehending the updating of the GHG management policy and use of plastic and its environmental repercussions in the event of a pandemic such as COVID-19.

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Biography

Kyaw Than Oo is from Myanmar Air Force who attending the PhD study at Nanjing University of Information Science and Technology. He has got Bachelor degree of Computer Science conducted by Defense Service Academy Myanmar (DSA). After served as a pilot 6 years in Myanmar Air Force (MAF), and promoted to Meteorology Department of MAF as a head of department since 2012. He already attended Basic to Highest Meteorology Courses in Myanmar at Department of Meteorology and Hydrology (MYANMAR) especially applied aviation meteorology. Also, he attended and passed some online technical course from various Universities, such as MACQUARIE University from Australia, University Corporation for Atmospheric Research from USA. He already published 4 articles about Meteorology research. Currently I am doing research about South East Asian Monsoon system and writing review paper about Covid-19 impact on Climate Change especially in plastic waste management system.

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