

Climate Change and Mitigation Technologies To Save Mankind

Something is changing rapidly—our world. Recently, the concept of global warming has greatly impacted the world and its people. Global warming is a threat faced by climate change. Climate change is the process where there are long-term shifts in temperatures and weather patterns. These changes are natural through variations in the solar cycle. The primary reason that causes climate change is burning fossil fuels like oil and natural gas. According to the IIASA energy substitution model, 50 percent is due to combustion-sourced carbon dioxide emissions, including deforestation. Another 15 percent has its origins in methane emissions from natural losses and pipeline losses. The remaining 35 percent is thought to be caused by CFCs and other components.

There are many uncertainties concerning the global cycling of carbon especially the size since the carbon flows involved are small in comparison to the seas, soil, and plants. Measurements of such flows and quantities are particularly difficult because of the range of equilibria involved. Combustion of such products releases greenhouse gas emissions that act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures. Some examples of greenhouse gas emissions include carbon monoxide, carbon dioxide, and methane. Clearing land and forests can also release carbon dioxide. Energy Industries, transport buildings, agriculture, and land use are among certain emitters. Greenhouse gas concentrations are at their highest levels in over two million years. Emissions continue to rise. The Earth gets 1.1 degrees centigrade warmer than it was in the late 1800s. The last decade (2011-2020) was warmest on the record. It is all not just about rising in temperature. This planet is an ecosystem. Change in one area impacts all the other areas. Consequences include intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms, and declining biodiversity.

People are experiencing climate change in different ways. Climate change has taken a toll on people's health, ability to grow food, housing, safety, and work. Conditions like sea levels rising to a point where people have to migrate. There are a lot of cities that are even expected to disappear and the number of climate refugees to rise.

The world population has doubled since 1960. It may double in the next 50 years. Current energy demand is estimated to be in the range of $340 \times (10^8)$ to $370 \times (10^8)$ joules. The world energy rise is equivalent to 10^{10} tonnes of coal per year to $5.5 \times (10^{10})$ barrels of oil. It is apparent that traditional energy use per capita was more or less constant. Conversely, industrial

energy use which includes coal, oil, natural gas hydroelectric, or nuclear power has shown the strongest increase. for Scientists and government viewers to agree that limiting global temperature rise to no more than 1.5 degrees centigrade would help in avoiding the consequences. Yet, the policies place in point to a 28-degree centigrade rise in temperature. Some countries produce more emissions than others. Hundred of least-emitting countries produce three percent of total emissions. Ten countries with the largest emissions contribute 68 percent. Countries with more problems have to take greater responsibility.

Simply introducing fuel cells in the automotive industry will not solve the emissions problem because, as mentioned earlier, the entire planet is an ecosystem.

There are broad categories of action, including reducing emissions, adapting to climate impacts, and financing needed adjustments.

Switching from energy systems like fossil fuels to renewables like solar and wind will reduce emissions driving climate change. While a growing coalition of countries is committing to net zero emissions by 2050, about half of emissions cuts in place by 2030 To keep warming below 1.5 degrees centigrade. Fossil fuel production must decline between 2020 and 2030. Climate action requires significant financial investments by governments and businesses. Climate inaction is vastly more expensive. Companies need 100 billion dollars a year to provide and adapt toward greener economies.

Various sectors and companies have taken initiatives to fight climate change. It is well known that a plethora of electric vehicle companies are booming and sustainable infrastructure projects are on the run. SIDS is a union of Thirty-six small island developing states and partners Who share strategies and galvanize momentum in the transition to renewable and resilient energy systems. The roadmap for regional strategies for climate action puts people's jobs and well-being at the heart of the transition to a greener economy. Cool coalition delivers efficient climate-friendly cooling solutions for all through enhanced climate plans. Coalition promises innovations such as cooling paper that keeps temperatures down in buildings. Three per-cent club is a coalition of government, corporate, and non-governmental leaders, and alliance champions who accelerated energy efficiency, helping individual countries prepare roadmaps to boost efficiency. Three percent club sets an annual target of a three percent improvement in energy efficiency. A coalition of hundred organizations forged to dedicate all forms of transport to zero emissions. It researches issues like rural access and making the economics of

decarbonization work. A powerful alliance of 150 maritime, energy, infrastructure, and finance companies has a moonshot ambition of commercially viable deep-sea zero-emission vessels.