## **CLIMATE CHANGE – HOW FAST IT IS CHANGING**

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Intergovermental Panel on Climate Change (IPCC) warned that "unprecedented" changes were needed if global warming increases 1.5C beyond the preindustrial days. We are already reaching that threshold and the effort is now to contain it anyhow at 2.0C. The sun, stars pours out energy which falls on this planet where the atmosphere traps some of it. Because we have thickened the atmosphere by burning coal, oil and gas and thereby increasing CO2 and other greenhouse gases ,the Suns energy gets trapped in the earth's atmosphere. This causes rise in temperature which in turn causes grasslands to dry and with a little spark there starts wild fires all over the globe. Along with droughts, floods and massive storms the whole natural cycle is disturbed. It is affecting all living beings adversely.

The IPCC report recommends urgent work on many fronts – from how we produce food and to what use we put land (more forests) to how we generate and use energy (and the unsexy business of energy efficiency also matters). It describes four paths forward, three of which depend on carboncapturing technologies not yet realized, the fourth includes the most radical reductions in fossil-fuel use and planting a lot of trees. The future hasn't already been decided. That is, climate change is an inescapable present and future reality, but the point of the IPCC report is that there is still a chance to seize the best-case scenario rather than surrender to the worst.



Climate change is causing rise in temperatures, draught and wild fires are occurring frequently, rainfall pattern are shifting , glaciars and snow are melting and the global mean sea level is rising. The main causes of climate change in India are increase in greenhouse gases like chlorofluorocarbons [CFCs], methane[CH4], Nitrous oxide [N2O], Carbon dioxide[CO2], and Ozone[o3] in the atmosphere. Deforestation to develop human settlement and excessive use of fossil fuels. The global climate risk index called India the 7<sup>th</sup> most affected nation due to climate change. The most pressing environmental issue in India is air pollution. India is home to 63 most polluted cities out of 100 in the world.

India is gearing up to face this challenge by taking concrete and time bound actions. We are the third largest producer of solar power in the world. Our green energy mission is going on full steam with an aim to use hydrogen as fuel extensively. India has created 8 missions to combat climate change and has pledged greenhouse gases net zero by 2070.

Climate action is human rights, because climate change affects the most vulnerable first and hardest - it already has, with droughts, fires, floods, crop failures. It affects the myriad species and habitats that make this earth such an intricately beautiful place, from the coral reefs to the caribou herds. What we're deciding now is what life will be like for the kids born this year who will be 82 in 2100, and their grandchildren, and their grandchildren's grandchildren. They will curse the era that devastated the planet, and perhaps they'll bless the memory of those who tried to limit this destruction. The report says we need to drop fossil fuel consumption by 45% by 2030, when these kids will be 12. That's a difficult but not impossible proposition.

Taking action is the best way to live in conditions of crisis and violation, for your spirit and your conscience as well as for society. We don't know what technological breakthroughs, large-scale social changes, or catastrophic ecological feedback loops will shape the next 20 years. This future is as uncertain as it's ever been.

There have been countless encouraging developments in the global climate movement. The movement was small, fragmented, mild a dozen years ago, and the climate recommendations then were mostly polite, with too much change-yourlightbulbs focus on personal virtue. But personal virtue only matters if it scales up (and even individual acts depend on collective decisions - , for example, 100% renewable electricity for homes in some countries, and riding a bike because there are now bike lanes all over the cities). The other encouraging and even a little awe-inspiring thing is how profoundly the global energy landscape has already changed in this century. At the beginning of the 21<sup>st</sup> century, renewables were expensive, inefficient, infant technologies incapable of meeting our energy needs. In a revolution at least as profound as the industrial revolution, wind and solar engineering and manufacturing have changed everything; we now have the technological capacity to largely leave fossil fuel behind. It was not possible then; it is now. That is stunning and encouraging.

Five countries – Belize, Ireland, New Zealand, France and Costa Rica – are already working on bans on new exploration and extraction, and the World Bank sent shockwaves around the world last December when it announced that after 2019 it would no longer finance oil and gas extraction.

Given that the clean energy comes with lots of jobs – and jobs that don't give people black lung and don't poison surrounding communities – there's a lot of ancillary benefit. Fossil fuel is, even aside from the carbon it pumps into the atmosphere, literally poison, from the mercury that contaminates the air when coal is burned and the mountains of coal ash residue to the toxic emissions and water contamination of fracking and the sinister chemicals emitted by refineries to the smog from cars. "Giving up" is often how fossil fuel is talked about, as though it's pure loss, but renouncing poison doesn't have to be framed as sacrifice.

Part of the work we need to do is to imagine not only the devastation of climate change, and the immense difference between 2 or 3 degrees of warming and 1.5 degrees, but the benefits of making a transition from fossil fuel. The fading away of the of the oil companies would be a profound transformation, economically as well as ecologically.

We don't know exactly if or how we'll get to where we need to go, but I know that we must set out better options with all the passion, power and intelligence we have. A revolution is what we need, and we can begin by imagining and demanding it and doing what we can to try to realize it. Rather than waiting to see what happens, we can become part of solution.

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