

Code Red for Humanity and the Climate Crisis

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https://www.greenenergytimes.org/wp-content/uploads/2021/10/GET_Oct-2021_p.1-40_final.pdf

The climate crisis from the burning of the fossil fuels is bringing disaster after disaster this year. We have known for decades this was coming, but mostly societies have made promises but delayed action.

The Intergovernmental Panel on Climate Change (IPCC) was established in December 1988 by the UN General Assembly to provide policymakers with regular scientific assessments on the current state of knowledge about climate change. The first IPCC report was released in 1992. The Fifth Assessment report (AR5) in 2014 was the basis for the Paris Agreement the following year, when 190 nations made voluntary commitments to make a determined effort to reduce the warming of the Earth to <2°C, and preferably <1.5°C. The first part of the Sixth Assessment Report was released in draft form in August 2021. It was described by the UN Secretary-General António Guterres as nothing less than "a code red for humanity. The alarm bells are deafening, and the evidence is irrefutable". **It is clear that climate change from the warming of the planet is now at a crisis point for humanity and life on earth, as nations have not followed through on their 2015 Paris commitments, and CO₂ keeps rising.**

The next meeting of the UN Council of Parties, COP 26, starts 31 October 2021 in Glasgow, Scotland to review progress since the 2015 Paris Agreement. These international meetings search for agreement. Trump had canceled the US commitment to the Paris Agreement and discouraged global progress, but Biden rejoined and promised leadership on his first day in office. But we are so far behind in taking action. Activist Greta Thunberg is expected to come and once again say: "Why are you relying on a teenager and my generation to save the Earth when you are unwilling to keep your promises". Extinction Rebellion will also be there to promote with compassion the voices of all those who are suffering from climate change across the globe.

An ongoing issue is that governments and the media refuse to discuss the real truth that the rich and powerful fossil fuel companies have controlled policy for decades. The Exxon senior scientist James Black identified and modeled correctly the impact of doubling CO₂ on global climate in 1978, more than 40 years ago. He gave the company 5-10 years to change direction. Exxon suppressed his report and started insidious campaigns of deceit to confuse the public and politicians that are still ongoing. I have called this lying group of fossil fuel companies and their business colleagues the "Fossil Empire". They pretend that it is the responsibility of the government to deal with climate change. However in the US Congress it cost the Fossil Empire a mere \$61 million to bribe 139 Republicans to publicly lie and deny climate change. So we have the catastrophe that the Fossil Empire is being allowed to destroy much of life on Earth to protect its vast annual profits.

Let us review the science very briefly. CO₂ in the atmosphere has increased by 40% in less than a century. This reduces the cooling of the Earth to space and the energy imbalance warms the oceans. More water evaporates and its greenhouse effect is a large positive feedback that triples the warming from CO₂ alone. Many complex changes follow in the forests and vegetation over land, the ocean currents and the polar and high mountain snow and ice-sheets. For example, the reflective Arctic sea ice is melting, so the Arctic is warming twice as fast as the tropics. The jet stream wave patterns in the westerlies are slowing down and getting larger in amplitude as the south-to-north temperature gradient decreases. We cannot forecast these quasi-stationary patterns that drive extremes a month or two ahead.

Since evaporation goes up steeply with temperature, rainfall rates are also going up steeply. With slower moving weather systems globally, this means that heavy rain periods can now last much longer and drive extreme flooding. The extreme mid-July floods in Europe and China stunned people and many were drowned. On August 21 as Tropical Storm Henri approached, Central Park in Manhattan saw a new record rainfall rate of 1.94 ins/hr and a new daily record total of 4.45 ins; only to see this record shattered 10 days later on September 1 as the remnants of Hurricane Ida crossed the northeast. The new Central Park record is 3.15 ins/hr with an event total of 8 ins. Many died in the massive flooding of NYC and New Jersey. Despite the warning of Hurricane Sandy in 2012, the unprotected subways again flooded, and people drowned in cars and basement apartments.

Some forecasts a week ahead have been simply hard to believe. Oregon, Washington and British Columbia have typical summer high temperatures in the 70's or 80's, but in late June 2021 extreme temperatures as high as 110°F occurred with a stationary ridge of high pressure. The small town of Lytton in southwest BC was warmer three days in a row (by > 2°F) till it reached 121 °F. Imagine Death Valley temps in a northern forest. On the 4th day it simply caught fire and burnt down. This extreme broke the all-Canadian temperature records, set during a drought in southern Saskatchewan 80 years ago, by an unimaginable 8 °F (4.6 °C). By August this year, carbon emissions from the Siberian fires (larger than all the fires in the world combined), exceeded the annual carbon emissions from Germany. Two massive California wildfires the Caldor and Dixie Fires have burnt across the Sierra Nevada mountain range as the mountain snowpack shrinks and the soil dries.

The truth is that the living Earth system is clearly in charge not human power and greed. If we do not choose the Earth over the Fossil Empire, global climate change will destroy many industrial societies.