



ACTIVATION OF THE CLATRATE RIFLE IN 2025/30

By Roberto Guillermo Gomes

"The Clathrate Gun Hypothesis is a scientific theory that holds that rising sea temperatures can lead to a sudden release of methane from methane clathrate deposits located on the ocean floor. This would cause an alteration of the environment of the oceans and the terrestrial atmosphere similar to that which could have occurred in the Permian-Triassic mass extinction, and in the Paleocene-Eocene thermal maximum ". (Wikipedia)

Can this happen? Let's see the data:

CO2 concentration: The atmospheric CO2 concentration measured at NOAA's Mauna Loa Observatory in Hawaii increased during 2015 by

3.05 parts per million (ppm). The current increase is 200 times faster than prehistoric records. What is worse, the atmospheric CO₂ level is already (April 2020) at 416.21 ppm, with an average annual increase of 2.75 ppm. If this percentage is not increased further, by 2030 it will reach 445.25 ppm. But considering the carbon and methane escapes from permafrost and subsea clathrates, plus the overconsumption of fossil fuels, we will exceed 450 ppm by 2030 and cross the threshold of the dreaded 2 ° C global average temperature.

Reduction of the floating ice of the North Pole: The floating ice of the North Pole showed 8 million square kilometers in the period of greatest retreat (September). Today it has grown to contain 3-4 million square kilometers and half the thickness of ice. Thus, the summer ice has been reduced to a quarter of the volume it had in the seventies of the last century. There is practically no more multiannual ice, formed several years earlier with large ridges. Now almost all the ice forms during the current season and reaches an average thickness of 1.5 meters with small ridges. It is estimated that the ice that forms during a single winter will be able to completely melt in a single summer (2030). And immediately afterwards, the albedo effect will disappear and the oceanic waters of the sector will overheat by 5° C and may cause the release of the huge underwater methane gas hydrate deposits. This will accelerate the heating by 25 to 500% depending on the amount of gas release.

Permafrost Thawing: Arctic permafrost is rapidly thawing. Doing so produces cliff-shaped sinkholes the size of multi-story buildings collapsed into the ground, where methane escapes. In the background you can see bones of mammoths and other Pleistocene animals that remained frozen for thousands of years. According to some estimates, between 30% and 70% of permafrost can thaw before 2100. Only 10% of the carbon released amounts to 150,000 million tons. Bacteria and viruses of already disappeared diseases are also released. In addition, the United States Geological Survey estimates that there is a total of 1,656,000 tons of mercury trapped in polar ice and permafrost, which is beginning to be transferred to the food chain as a result of thawing.

The problem with permafrost is the rise in temperature in the Arctic. Three years ago the soil temperature was minus three degrees Celsius, after minus two, after minus one, now it is two positive degrees. With the aggravation that the permafrost now shows an active thawing process throughout the year. In the past, many believed that a maximum of 10% of permafrost would be lost in an 80-year period. But everything is accelerating when the active layer stops freezing in winter. The added heat allows microbes that consume soil organic matter to continue to act and emit carbon dioxide and methane year-round, winter heat is melting permafrost faster, and the entire process is accelerating at an unpredictable rate. Across the planet, permafrost is home to 1,600 gigatons of carbon, almost twice as much as is present in the atmosphere. Currently, permafrost covers a fifth of the earth's surface, mainly Greenland, Alaska, Canada and Russia. In total, the IPCC estimates that between 37% and 81% of current permafrost will be lost due to global warming.

Submarine Methane Gas Hydrates: The East Siberian Arctic Shelf (ESAS) is the largest and shallowest shelf in the world's ocean with an average depth of around 50m. With an area of 2,000,000 square kilometers, housing the largest deposit of permafrost and methane gas hydrates on the seabed. Doctors Shakhova and Semiletov study the sector and warn about its high instability. They indicate that when the permafrost layer is lost, the release of methane will begin. Natural warming added to anthropogenic, cause permafrost degradation processes at levels that have never been seen before. They explain that in some places in ESAS the underwater permafrost is reaching the thawing point, which can lead to increasing methane emissions, going from a linear trend to an exponential one, determining a turning point according to the level of warming reached. Once the cork-acting permaphrots have thawed, the submarine clathrate deposits will begin to release. Scientists indicate that 200,000 square kilometers within ESAS are currently critical, as methane emissions are already observed. The underwater permafrost of the Siberian Arctic has already been found to be losing 14 centimeters per year, a decrease

greater than the terrestrial permafrost. The feedbacks have already started. The Arctic permafrost accumulates almost 2 trillion tons of organic carbon, almost half of all the organic carbon stored in Earth's soils. Its release represents a major accelerating impact on global warming. If the temperature increases 2° C, 40% of the permafrost will thaw, releasing methane gas, which in turn will further increase the temperature and release more methane causing a positive feedback.

What explosive cocktail do we have then ?: On the one hand, the threshold of 450 ppm of CO₂ will be reached in 2030 and the global average temperature may reach 2°C, then the floating ice of the North Pole will be completely thawed during the summers. Ipso facto, since the albedo effect is no longer present, the waters of the Arctic Ocean will overheat and may increase up to 5° C, which is what is needed for the immense deposits of submarine clathrates to be abruptly released. This describes a chain reaction for 2030. But, taking into account that there is already an active thawing process of accelerating Arctic permafrost, with the release of methane gas, which contributes to atmospheric warming and has begun for a decade the release of methane gas hydrates, the turning point for a phase change in the entire global ecosystem, we could place it between 2025/27. This is due to the fact that the floating ice at the North Pole is reduced by 50 to 70%, allowing the Arctic waters to partially overheat by 5° C. Once the clathrate rifle has started, there is no human power to stop it. And the problems do not stop there, if the chain reaction is intense enough, the immense carbon deposits in all the ocean beds of the world can destabilize and the planet's global temperature rise ~ 6 / 8° C or more, initiating a warming process. runaway, with vaporization of seawater and a multiplied greenhouse effect, the ultimate consequence of which will be to push the surface temperature of the entire planet towards 100° C. The result ? : the extinction of all known forms of life. Move to a sterile planet Earth like Venus.

The facts: "In September 2008 scientists aboard a Russian ship claimed to have evidence that millions of tons of methane are escaping into the atmosphere from the Arctic seabed, by

discovering intense concentrations of methane in various areas that cover thousands of square kilometers of the Siberian continental shelf. " (Wikipedia). "The release of methane in these inaccessible regions seems to indicate that the permafrost layer is beginning to break down, allowing the gas to escape. We have found elevated levels of methane at the sea surface and even more at certain depths." Örjan Gustafsson, Head of the scientific team of the ship 'Jacob Smirnitskyi'.

The clathrate rifle hypothesis is not considered until today (November 2020) by the IPCC. Nor have hundreds of thousands of scientists sounded the alarm bell. In the article "Global Scientists Warning on a Climate Emergency" signed by 11,000 scientists, under the direction of William J. Ripple, it is stated that "Scientists have a moral obligation to clearly warn humanity of any catastrophic threat and to "tell things as they are." Peter Wadhams, Professor of Ocean Physics at Cambridge University on why the IPCC is not considering the issue, believes it is because "they don't want to cause panic."

In the past, many believed that a maximum of 10% of permafrost would be lost in an 80-year period. "Many of our hypotheses are falling apart," says Róisín Commane, an atmospheric chemist at Columbia University who tracks carbon emissions by airplanes. In total, the IPCC estimates that between 37% and 81% of current permafrost will be lost due to global warming.

This hypothesis of clathrate rifle for the period 2025/30 dislodges us as humanity. It leaves us with no time to act. The mitigation measures planned in the medium and long term no longer serve. Promises of solutions in 20, 40 and 60 years as announced by the Drawdown Project are obsolete. Measures are required to cut pollution effectively and drastically immediately.

What measures to implement ?: Ban individual combustion cars in all cities of the world, cut the electricity supply after 8:00 p.m., reduce the operation of thermoelectric plants, reduce 80% air flights, prohibit tourism, reduce consumption to a minimum, reduce meat intake and

replace it with vegetables, stop tree felling and move to planting 30 billion new trees per year, invest intensive capital in the development of fusion reactors, avoid travel , limit overpopulation by authorizing only one child per family. And in the face of the emergency, apply a comprehensive reengineering of the world's social, economic and political organization system, adding a coordinating supranational structure: the Planetary Eco Government, controlled by a system of Direct Digital Democracy, advised by a Council of Sciences, integrated by scientists from all continents. And above all, allocate sufficient funds of intensive capital to attend the global climate emergency in critical phase. Already the speeches of environmentalist politicians, of climate scientists with their graphics, have gone to hell, they have been devoured by the new reality of the catastrophe in process.

When to do it: In the immediate term, there is no more time to act preventively. Pollution must be stopped abruptly and at the same time implement medium and long-term measures that allow the future extraction of atmospheric CO₂ to stop its warming inertia. In addition, maintain the rhythm of the economic system working so that it does not decline.

How likely is this to actually happen ?: This hypothesis has a 5 to 50% probability of being fulfilled within the above time frame. Likewise, in the face of deniers, scientists must provide irrefutable empirical data that disproves this possibility. If not, support this warning, collaborate and help world society prepare for what is to come.

What is at stake ?: Given the imminence of the catastrophe, if drastic and emergency measures are not applied immediately, hundreds and even billions of lives could be lost, or that of all, because there is a risk that at the end of the climate phase change, the entire planet Earth becomes uninhabitable, hostile to all known forms of life.

Current scientific models for predicting global warming are linear. But the reality of the facts is that permafrost and clathrates are gradually thawing and this is pushing towards explosive exponential warming.

On the subject says Shani Cairns:

“Despite the pseudoscience controversy over when or even if a methane monster could be unleashed, at this point we know for a fact that man-made emissions are contributing to the warming that threatens to destabilize many environments, especially the Arctic. We can control man-made emissions. We simply lack the political will to do so. However, if we don't reduce our emissions, we can lose control of the natural world, and once we do, there will be no turning back. ”

“What happened to the dinosaurs could happen to us. We have entered a danger zone never before encountered by modern man. Unfortunately, we are currently caught in a deadly stalemate as world leaders have not consistently acted on this issue. As a global species, we are playing with fire while losing the ancient ice that is our planetary cooling mechanism. If we continue on this path, the current indisputable evidence puts us on a fast track to a hellish greenhouse Earth, similar to Venus. The choice is ours ”.

ANALYSIS ON THE ARTICLE: **"DISMISSED: THE METHANE MONSTER"** by Shani Cairns

<https://www.scientistswarning.org/2020/07/27/debunked-methane-monster/>

“Even though a couple of Russian scientists have fueled this fear of a methane 'burp' (or monster), is it a distraction from that country's massive methane emissions from natural gas production and pipelines? Or ours? The real methane we have to fear comes from the oil and gas industry, ”says Michael Dyonisius, lead author or co-author of these two new studies. - Alex Smith of Radio Ecoshock

Shani Cairns comments in his article that "the methane monster focuses on deep marine sediments."

It states that methane and carbon dioxide levels are increasing at a faster rate than in prehistoric times. Methane is a powerful greenhouse gas, with a potential 34 times greater than CO₂ over 100 years, according to IPCC AR5. In just a couple of decades, methane warms the planet 86 times more than CO₂, according to the IPCC. Methane in permafrost and shallow terrestrial areas "represents less than 1% of the global methane budget." In contrast, subsea methane stored at depths greater than 500 meters comprises the remainder of 99% of the methane budget.

"The Arctic's contribution to the global methane budget is estimated at a fraction of .0003 GTC / year or .03% of the total global methane budget" according to some estimates by experts like Dr. David Archer. There is also evidence of active methane leakage from the seabed in Antarctica, which the researchers say is "incredibly troubling."

Wetlands are another natural source of methane (less than 40%). If stored Arctic methane hydrates were released, they would double atmospheric methane concentrations. The constant warming of the oceans raises fears that the so-called "clathrate rifle" may be activated.

METHANE MONSTER THEORIES

The "clathrate rifle" hypothesis is based on the fact that the warming of the Arctic Ocean would act as a trigger to activate a positive climate feedback effect, releasing the underwater clathrate deposits and permafrost from the seabed, increasing the temperature even more and collaborating release more submarine methane abruptly. As a result, 50 gigatons of methane would be released, the global average temperature would rise several degrees Celsius in a few weeks or months, and more than 90% of species, including humans, would become extinct. Something that would have already happened with the Permian-Triassic mass extinction. Many scientists are skeptical of the

possibility of a "clathrate rifle" chain reaction, although they cannot rule out the possibility.

The article cites that according to some scientists the chain reaction scenario is "almost impossible" and that if it happened "it would take centuries." And that clathrates located on deep sea beds are unlikely to destabilize. (However, the high rate of human pollution is an unprecedented geological cause that can destabilize the entire Arctic ecosystem, CO₂ in the atmosphere is increasing at an unprecedented accelerating rate, 200 to 300 times more than in the paleoclimatic record, thus that the reactions of the global ecosystem are unknown).

"The bottom line is actually that anthropogenic CO₂ emissions are much, much more important in the atmosphere than methane, even though methane is a very powerful greenhouse gas." - Carolyn Ruppel, USGS

Says Cairns "Scientists say it is very difficult to predict what these hydrates will do in response to modern-day global warming. Furthermore, abrupt and non-linear changes are always possible and, by nature, unpredictable."

Despite the information presented and the citation of numerous scientific researchers, the article by Shani Cairns does not totally rule out the possibility of the "clathrate rifle". It confirms that due to the anthropogenic cause of the environmental problem, an "unknown" event horizon of very difficult precise scientific prediction opens.

What to do in the face of scientists who affirm the potential of the "clathrate rifle" and others who deny it?: Stick to the objective data of reality. Measure the thawing of Arctic continental permafrost and predict its evolution, based on the current rate of contamination; make projections about what year it will be when 450 ppm of CO₂ is reached in the atmosphere; calculate when all the floating ice from the North Pole will disappear in summers. Control temperature records in the Arctic, both on the surface and in the sea. All of these are concurrent factors for a potential activation of the "clathrate gun."

And let's repeat the key concept: anthropogenic pollution is 200/300 times more intense than all paleoclimatic records. As a consequence we must expect eventual positive feedbacks of an unknown magnitude, geologically unprecedented.

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