



P E R S P E C T I V E S

by **Rinaldo S. Brutoco**

Rinaldo S. Brutoco is the Founding President and CEO of the Santa Barbara-based World Business Academy and co-founder of JUST Capital. He's a serial entrepreneur, executive, author, radio host, and futurist who's published on the role of business in relation to pressing moral, environmental, and social concerns for over 35 years.



The “Methane Accelerator”

Climate change is moving past the tipping point

The latest August 2021 report by the Intergovernmental Panel on Climate Change (IPCC) identifies methane as one of the worst greenhouse gases contributing to climate change. This IPCC report is one of many signs that climate change is accelerating, and already producing considerably graver impacts than has been forecasted by all the leading scientific consensus bodies analyzing the issue, *except* the World Business Academy which has been actively trumpeting the accelerating effects of climate change for 15 years, and of the connection to methane for more than a decade. The methane work culminated in the publication of the Academy's breakthrough “White Paper” entitled the “Methane Accelerator” in June 2019.

How grave is climate change? *Bloomberg Green* writes that “Federal officials ordered the first-ever water cuts on the Colorado River system that sustains 40 million people, the latest blow from a decades-long drought across the U.S. West that has shrunk reservoirs to historic lows, devastated farms and set the stage for deadly forest fires.”

In fact, the water level at Lake Powell has dropped to only 3,551 feet above sea level, or just 32 percent of capacity. Similarly, at Lake Mead, it has declined to 1,068 feet above sea level, or 35 percent of capacity.

This has already resulted in water use reductions in Arizona, New Mexico, and Mexico. Even more dramatic is the fact that both reservoirs are close to a point once considered unthinkable -- where the flow is so small that hydropower dams are forced to shut. Lake Powell's Glen Canyon Dam, for example, can't generate electricity if the water level drops below 3,491 feet. That will predictably happen in less than a year!

Middle East Running Out of Water

This concern is not limited to the U.S. West. A recent CNN news piece confirms that these problems are familiar in many parts of the Middle East -- where water is simply running out -- and some parts of the region are already “becoming uninhabitable.”

This CNN analysis states that “The region has witnessed persistent drought and temperatures so high that they are barely fit for human life. Add climate change to water mismanagement and overuse, and projections for the future of water here are grim.”

Unfortunately, the situation is even more grave in Africa.

ICPP's Belated Focus on Methane

Significantly, the IPCC's belated focus on methane explains the organization's consistent historical failure to accurately assess the severity of climate change impacts, which cannot be explained by traditional models that focus almost exclusively on carbon dioxide (CO₂) levels.

Going forward, future work must account for *all* contributory factors to fully appreciate the urgency of requisite actions that *will be far more extreme than* those adopted in the Paris Climate Agreement to avoid otherwise catastrophic consequences. In fact, the catastrophic consequences have already begun as is well understood by the victims of fires in the West and floods in an area that stretches from New Orleans to New York.

In its research over the last decade, the Academy reviewed the same data as other leading climate researchers (plus an ongoing analysis of ice core samples), but then went on to include the effects of methane in its climate change forecasts. That is the major reason the Academy has more accurately predicted the severity and speed of climate change events than the IPCC itself. Fortunately, as of two years ago, many leading climate scientists began to consider methane's cumulative effects as part of future climate change predictions. Get ready to be jolted: that new attention to methane means the public will be hearing that climate change is a) much more severe than previously thought, and b) that it is accelerating at a geometric (as opposed to an arithmetic) rate.

It turns out that massive amounts of methane are being released from ocean marine hydrates, and these are rapidly accelerating, and from the thawing permafrost due to atmospheric and ocean warming. The released methane is the "X Factor" in climate change, independently functioning as a powerful accelerant of greater atmospheric heating, faster ice melt, more severe weather disturbances, ocean acidification, and rising seas.

The Academy refers to this Vicious Feedback Loop as the "***Methane Accelerator.***"

The above referenced Methane Accelerator report describes the snowball effect, whereby increased atmospheric and oceanic warming causes the release of methane from vast undersea worldwide deposits, which in turn produces greater warming that results in the release of even more methane. A hard copy of the Methane Accelerator White Paper is available for free from the Academy, complete with its compelling logic, graphical data, and startling conclusions.

The Methane Accelerator: (i) describes why the methane phenomenon exists; (ii) provides irrefutable scientific references that support this assessment; and (iii) suggests the imminent catastrophic consequences from failing to consider the Methane Accelerator in making future forecasts, planning appropriate remedial actions, and estimating the time available to fund appropriate remedial actions.

In its most disturbing finding, the Academy concludes that, when the cumulative effects from the Methane Accelerator are fully considered, mankind is likely to have already passed the "tipping point" where merely reducing CO₂ emissions, *even to zero*, will not be sufficient to curtail the catastrophic effects of climate change.

Geologic records from two prior extinction events that respectively resulted in mass extinction of deep-sea organisms and in killing over 93 percent of all life forms on Earth, show compelling evidence linking these events to a rapid escape of methane from marine hydrate reservoirs on continental slopes. As ocean temperatures have risen over the past several decades, we have begun to see a dramatic increase in methane releases at increasing rates seeping into the atmosphere from hydrate reservoirs.

Accelerating methane releases are accelerating the effects of climate change so we can better predict how bad it will become, and how fast. That's helpful. And, be aware that a spontaneous "trigger" of a massive methane release *could occur once again at any time* resulting in another global mass extinction event. We simply must "wake up" to this threat immediately so we can begin to address a responsible geoengineering solution that would prevent such a catastrophe.

"Fore warned is fore armed."