

## **BP'S METHANE MONSTER: FROM THE GULF TO THE GLOBE<sup>1</sup>**

**Craig Collins, PhD<sup>2</sup>**

We hear a lot of talk about carbon dioxide as the most dangerous climate culprit. And we should. So far, loading the atmosphere with CO<sub>2</sub> is the single biggest cause of climate disruption. But, in the final analysis, methane may prove to be the most deadly of all greenhouse gases. Unlike CO<sub>2</sub>, methane is flammable. BP's Deepwater Horizon blowout in the Gulf was triggered by a bubble of methane gas that escaped from the well and shot up the drill column, expanding quickly as it burst through several seals and barriers before exploding. The fiery blast killed 11 workers and sank the platform. Since then, an estimated 100,000 barrels of oil has spewed into the Gulf every day, making it the biggest oil spill in US history.

Methane is a menace to coal mining. Mines use giant fans to keep this colorless, odorless gas below dangerous concentrations. But if this fails, the tiniest spark can set off a deadly blast. Methane explosions killed 29 miners in the Massey coal mine disaster last month and claimed 12 miners in the Sago mine disaster back in 2006.

However, methane's explosive properties are a miniature menace compared to its heat-trapping capacity. As a greenhouse gas, methane is about 25 times more potent, molecule for molecule, than CO<sub>2</sub>. Today, the amount of methane in our atmosphere is spiking at an alarming rate. Scientists studying this situation call methane "a ticking time bomb," and warn that vast stores could be released from frozen deposits on land and under the ocean in the coming decades.

Over the last few years, research ships in Arctic seas have found methane bubbling and foaming on the surface. These "methane chimneys" are caused by 10-degree jumps in temperature over eastern Siberia. Warmer temperatures cause methane to be released from thawing tundra and from melting methane deposits beneath the ocean. "These deposits rival fossil fuels in terms of their size. It's like having a whole additional supply of coal, oil and natural gas out there that we can't control," says James White, a geochemist at the University of Colorado.

The Siberian Shelf alone harbors an estimated 1,400 billion tons of methane - about twice as much carbon as is contained in all the trees, grasses and flowers on the planet. If just one percent of this escaped into the atmosphere within a few decades, it would be enough to cause catastrophic, uncontrollable climate change. This process could initiate a self-reinforcing feedback loop that would spiral out of control even if we cut our greenhouse emissions to zero. Scientists have no idea how close we are to crossing this point of no return, but the signs that we're approaching this tipping point are growing every day.

---

<sup>1</sup> Cross posted from Truthout: <http://www.truth-out.org/bps-methane-monster-from-gulf-globe60623>. Thursday, 1 July 2010, 4:00 pm

<sup>2</sup> Craig Collins, Ph.D. is an environmental policy instructor, CSU East Bay Author of the recently released book "Toxic Loopholes" (Cambridge University Press).