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Energy and environmental policy expert

Why Voluntary Pledges Won't Save the Climate

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The world must have an enforceable mandatory global climate agreement instead of relying on voluntary greenhouse gas emissions (GHG) pledges and a patchwork of bilateral agreements.*

Global GHG emissions are rising ever more rapidly today, and carbon dioxide concentrations are already at their highest levels in millions of years, far above any ever encountered in human history.

The atmosphere's capacity to safely absorb additional emissions is well-nigh exhausted. Moreover, a significant portion of these emissions remain in the atmosphere for thousands of years.

The oceans, too, are overloaded with GHG emissions absorbed from the air. The seas are warming, increasing in acidity, and plankton abundance at the base of the ocean food web is decreasing. Ocean acidity may increase 170 percent by 2100 (*The Geographical*, January, 2014).

This is a dire situation. We cannot dillydally with voluntary commitments any longer.

Voluntary Commitments Waffle; Physics Does Not

The laws of atmospheric physics are immutable. They dictate the planet's response to global heating. That response has proven even more powerful than expected, with extinctions soaring, ice melting, and seas rising faster than projected. (The later process would continue for centuries even after all GHG emissions ceased entirely.)

Extreme weather events, too, are becoming alarmingly more common. Yet all this is occurring at a global average temperature increase of less than 1°C.

The higher the world's temperature gets, the greater the risks of passing a climate "tipping point."

Methane, the primary ingredient in natural gas, is a simple compound of carbon and hydrogen. Yet it is 82 times more potent in heating the atmosphere over a 20-year period than carbon dioxide, and methane is the villain in a particularly terrifying "tipping point" scenario.

A staggering quantity of organic matter that will decompose to methane if it is thawed is still frozen in Arctic permafrost. Enormous amounts of methane ice lie frozen in ocean sediments. Trillions of tons of carbon are in these seabed and permafrost storage lockers, but the locks are being broken.

Permafrost is beginning to thaw in the warming Arctic, causing lake surfaces to boil with escaping GHGs, and methane ice in some shallow Siberian seas is beginning to bubble to the surface by the millions of tons.

As the world's average temperature rises, however, the Arctic and its carbon stores will be at high risk of thawing on a much larger scale. That's because, due to its high northern latitude, the Arctic is warming two to three times as much as the global average.

Should this carbon and methane ever escape to the atmosphere in sufficient volume, they will trigger an uncontrollable, self-amplifying global heating that humans will be completely powerless to stop. That truly means "game over" for the climate and for civilization as we know it.

Climate Peril: The Intelligent Reader's Guide to Understanding the Climate Crisis (Northbrae Books, 2014) explains how close we may be to triggering such a cataclysmic methane release; how much we don't know about the risks; and the extent to which these deposits have already begun melting and leaking from their ancient repositories.

Their release needs to be avoided, literally at all costs, not at the voluntary discretion of idiosyncratic nations. As if this situation were not grave enough, most nations are still increasing their energy and natural resource consumption. (See John J. Berger, "The Turbulent Lima Climate Talks--Voluntarism Won't Save the Climate" *Huffington Post*).

Developing countries in particular are striving to emulate the overall resource consumption levels of the developed world, a goal that would take multiple Earths to gratify.

Even if only the developing nations' energy demands are met by ever more fossil fuel combustion and the developed nations restrain their emissions, the climate crisis will still become intractable.

Moreover, some two billion additional people are expected on the planet by 2050--most in developing nations. They will each require energy, land, water, food, fiber, fish, and mineral resources. And they will all inevitably add greenhouse gas emissions to an already overloaded atmosphere.

The current growth path of our already swollen GHG emissions points toward total annual GHG emissions of 87 gigatons by 2050, according to the UN Environment Programme.

Climate scientists warn, however, that global emissions must instead be cut deeply to single digits by 2050 to avoid an irreparable climate crisis. How can emissions be cut 80 or 90 percent? This will not happen fortuitously by lax and convenient, ad hoc voluntary agreements.

Rather, a maximum global carbon budget must be established for the planet by international treaty. It must include the toughest possible enforcement sanctions.

Like it or not, all nations must be compelled to adhere to it if we are to avert the climate chaos toward which the world is now hurtling.

*See John J. Berger, "U.S. - China Bilateral Climate Agreement--Troubling Aspects," *Huffington Post*.

John J. Berger, PhD. (www.johnberger.com) is an energy and environmental policy specialist who has produced ten books on climate, energy, and natural resource topics. He is the author of *Climate Peril: The Intelligent Reader's Guide to Understanding the Climate Crisis* and *Climate Myths: The Campaign Against Climate Science*.

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