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Opinion

How Canada can fix the single greatest miscalculation in climate policy

A Canadian-led North Atlantic Ocean Carbon Observatory could be Canada's most important contribution to the fight against climate change.

BY ANYA WAITE

On Oct. 1, in a virtual room filled with government leaders, philanthropic organizations and preeminent climate policy experts from across the G7, Mark Carney issued a warning: leaving the ocean out of our calculations to achieve net zero globally is a mistake we cannot afford to make.

The fact is, if we leave COP26 without a plan to better understand how the biggest climate sink on the planet is functioning, we will have failed in our most fundamental duty: to help the world avoid a worst-case climate scenario.

To understand why, it is important to first understand that the ocean contains 50 times more carbon than our atmosphere, and soaks up more carbon than all the world's rainforests combined.

As humans have done for many natural systems, we've taken the ocean's capacity for carbon absorption for granted. We've treated it as a constant in our balance sheet of emissions reductions necessary to achieve net zero by mid-century.

But what if the constant is actually a variable? And what if the ocean, or parts of it, belong on the plus side of our carbon ledger, not the minus side? There is compelling evidence that this may be the case.

This we know for sure: the complex biogeochemical processes that enable the ocean to absorb carbon are changing. What those changes mean in terms of the ocean's fluctuating capacity to continue to absorb carbon, we don't know. Why? Because we aren't measuring it effectively enough.

It's something that Canada's minister of environment and climate change, Jonathan Wilkinson, reinforced at the international workshop, calling for improved data so governments can make more informed policy choices on the climate crisis.

What we have been able to discern, using advanced technology that observes stretches of the ocean where humans rarely go, is that places we thought were carbon "sinks" are in fact becoming carbon "emitters." Think of it like a switch on a giant vacuum. Instead of sucking carbon in, the ocean—in places—is starting to blow it out. There is a growing concern amongst the scientific community that the biggest carbon sink on the planet, the North Atlantic, will fail because of climatic changes impacting the Gulf Stream.

Former Bank of Canada governor Mark Carney, pictured in 2012. Mr. Carney warned earlier this month that any calculation of global carbon dioxide emissions must take into account changes in the ocean. *The Hill Times photograph by Andrew Meade*

Let's imagine a near future in which our oceans are emitting more carbon than they are storing. Our boldest efforts to reduce greenhouse gas emissions from energy, transportation, manufacturing, agriculture would amount to nothing in a world where our oceans have become our greatest source of carbon emissions. Hard to swallow? Yes. Implausible? No.

Indeed, though it is highly likely that this shift is already in motion, it is unaccounted for in any nation's net zero climate target—those are land-based. As a global community, we are woefully unprepared for the implications of this challenge. But this need not be the case.

First, if we understood the extent and speed of the changes taking place within our oceans, it would inform how and where we "balance the books" in our overall carbon budgets. Second, capturing and sequestering ocean-stored and emitted carbon is within the realm of human innovation; the early-stage technology already exists. Having the baseline data to prove the efficacy of these burgeoning technologies would help unleash the entrepreneurialism and the investment required to scale them. For Canada, the global hub of ocean super-tech, this is a massive clean innovation opportunity on the same scale as hydrogen and the electric vehicle mineral supply chain.

However, we cannot begin to solve a problem that we do not fully understand. That is where we need to start—with a robust initiative to monitor, measure, track, and report the evolving carbon capacity of our oceans. The good news is, we can get started right now, right here in Canada.

Mark Carney agrees. "What gets measured gets managed and our net zero ambitions will not be realized unless the impact of ocean carbon is taken into account," Mr. Carney said. "It's time to seize the opportunity to complete the carbon budget equation with a Canadian lead G7 North Atlantic Carbon Observatory."

We have the unique opportunity to develop a North Atlantic Ocean Carbon Observatory that would bring together international experts to fill the data gaps that we can no longer afford to ignore. Of all the contributions Canada can bring to help humanity rise to the existential challenge of climate change, there may be none as impactful as this—an ocean of data, delivered and packaged as information—and accessible to all.

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