Opening Statement of Chairman Sheldon Whitehouse
Senate Committee on the Budget
Warming Seas, Cooling Economy: How the Climate Crisis Threatens Ocean Industries
January 24, 2024

These hearings on the economic and budgetary costs of climate change press the point that caring about debt and deficits requires caring about climate change. From creeping climate inflation to looming systemic risks, families, communities, and the federal government will bear—indeed, already are bearing—the costs of climate upheaval.

For our thirteenth hearing in this series, we highlight the threats of massive carbon pollution to our oceans, threats which in turn affect both coastal and inland communities. The threat to oceans is profound: they absorb 25% of all carbon dioxide emissions, which makes them more acidic, and they absorb more than 90% of the excess heat generated by these emissions, making them heat up.

The numbers are immense. Scientists measure how much fossil fuel emissions are heating up our oceans in zettajoules. A zettajoule is 1 joule with 21 zeros behind it. For a sense of scale: the total energy consumption of all humankind amounts to just one-half of a zettajoule per year. Today, our oceans are absorbing about 14 zettajoules of excess heat every year.

That's the equivalent of seven Hiroshima bombs detonating every second of every day. Seven atom bombs. Every second. Every day. Year after year.

Were it not for oceans absorbing all that excess CO2 and all that excess heat, the U.S. would likely be largely unlivable in many areas. Oceans have saved us.

But absorbing these emissions is not without consequence.

All that heat is raising the temperature of our oceans, causing sea levels to rise, both by thermal expansion of sea water and by runoff from melting glaciers and ice sheets.

As a result, a shadow looms over coastal communities and blue economies.

Today, 40 percent of Americans live along the coast. If American coastal counties were their own country, it would have the third-highest GDP in the world. In these communities—and for the entire U.S. economy—marine industries are an engine of economic growth. They employ nearly 2.3 million workers and contribute more than $430 billion to overall GDP.

Ocean economies face particular risk from climate changes.

In 2021, commercial and recreational fishing contributed almost $140 billion to the U.S. economy, but fisheries are being harmed by warming ocean temperatures. Fish populations are relocating away to cooler waters, and economists estimate that direct economic losses could reach almost $1 billion annually by 2100. Downstream effects—in fish processing and fisheries-based tourism—will make it worse. Impacts to Alaskan snow crab fisheries have caused one town's revenues to drop over 90%.

Ocean-based tourism and recreation add $275 billion each year to the U.S. economy. Yet huge swaths of beaches are likely to disappear in the not-too-distant future. And SCUBA diving, snorkeling, and ecotours businesses struggle as local wildlife face existential threats from climate change. Coral reefs are bleaching and dying, and oceans are acidifying, and not many people want to see a bleached and crumbling dead reef.

In Florida, water temperatures reached hot-tub-level this past summer: 101 degrees. Not great for sea life.

Rising ocean temperatures also cause more intense storms, that are causing enormous—and enormously costly—damage, particularly to storm-hit communities. On top of the physical damage, the storms shut down travel and tourism until storm-hit communities rebuild. Infrastructure—roads, bridges, military bases, and ports—will be in increased jeopardy. When critical infrastructure is lost, local economies suffer, and the federal government often has to foot the repair bill.

Here we connect to our insurance hearings, and the testimony that sea level rise has the potential to trigger cascading economy-wide catastrophes.

One of our witnesses will testify that sea level rise projections will prove to be substantial underestimates if we trigger destabilization and collapse of the Greenland or West Antarctic ice sheets. Cross these tipping points, and the danger dramatically increases. The added sea level rise will inundate hundreds of billions of dollars of additional real estate. That makes such properties hard to insure. What you can't insure you can't mortgage, and that can trigger a crash in coastal property values.

The market will have to adjust abruptly to a new realization that the useful life of billions of dollars in property will end way sooner than expected, setting off dangerous economic cascades. We saw in 2008 how trouble in the mortgage market cascaded out into the broader economy; the writing is on the wall for a climate-fueled repeat. We are seeing the early stages of such a trajectory in the Florida insurance market. The thing about economic crises is that they come on slowly, until they come on fast.

You've heard the warnings. You saw the witnesses. They were serious grown-ups, expert in their fields. The early evidence of their warnings coming true is already visible. It's time to wake up.