

## Bearing Witness to Climate Change November 2020

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The day after the US election on Nov. 3, with results still not settled, the [US officially became the only country of 189 to officially leave the 2015 Paris Climate Agreement](#) fulfilling a threat President Trump made nearly four years ago. What a tragedy that makes the US, the second largest carbon emitter, not just an outlier but perhaps guilty in a crime against future generations, humanity, and the planet. Yet, the [rest of the world moves forward without us](#), along with many states and cities within the US. In the past few months the EU, China, South Korea, and Japan have all announced their goals to become carbon net zero ranging from 2030-2050.

A few weeks later in a virtual meeting of the G-20, President Trump slammed the Paris Agreement saying it would cripple the US economy and still not save the planet. During the G-20 meeting it was China's President Xi Jinping that took over global climate leadership as the largest economy now fully supporting the Paris accord.

However, there is hope and much good news this month. With the election win of former Vice President and Senator Joe Biden, the new President-elect has announced that on day one he will issue a number of executive orders. Priority number one will be reentering the Paris accord. Biden has previously supported [setting a goal of net-zero carbon emissions](#) for the US by 2050. It was also reported that Biden discussed climate change with every European leader who called to congratulate him on his victory. Wow, what a relief!

Recommitting to the Paris accord is just one of [10 climate-related executive actions](#) that Biden could make as part of his agenda which include: putting limits on methane production, restricting drilling for

fossil fuels on public lands and offshore, protecting the Arctic, and reinstating fuel economy standards. These were just a few of the over 100 executive actions, agency directives, and legislative rollbacks on the environment from the Trump administration.

Former Obama-era officials shared with the Biden transition team recommendations from the [Climate 21 Project which outlines how the new administration can tackle climate change](#) and make up for the retrograde rollbacks during the Trump presidency. When President Trump was elected in 2016, CO2 levels first hit 400 ppm. This year they have already surpassed 415 ppm being measured. Scientists worry that the time for incremental changes is past us as we are now into a climate emergency, due in part to the [years lost and damage done under Trump](#).

More good news came with [President-elect Biden's appointment of former Senator and Secretary of State John Kerry as special climate envoy](#). There are few statesmen as qualified as Kerry to repair the US's reputation and reliability as an international partner in the fight against climate change. Kerry had been instrumental in negotiating the Paris Climate Accord during the Obama administration. With this announcement, Kerry will also have a seat on the National Security Council where the threat of a changing climate will once again be taken seriously, unlike the Trump administration which dismissed it.

One proposal gaining favor in the president-elect's plan is setting aside 30% of the country's land and ocean waters for protecting wildlife and [dedicating grasslands and forests to serve as carbon sinks](#). Estimates are that Biden's plan to slow global warming will rise to an impressive \$2T of investment, creating many American jobs in the process of saving the planet from many more trillions of dollars of damages.

A new study published in the journal Nature finds that [hurricanes are staying stronger longer with a changing climate](#). Scientists say that warmer ocean waters give tropical storms more fuel and moisture that takes longer to burn off even after they make landfall. It is taking nearly twice as long for storms to reduce their winds by two-thirds. This has significant impact on damage done inland as well as changes to building codes and insurance rates that will likely follow.

Hurricane Eta, the 28th named storm of 2020, is one such example. The storm, which was the second most intense November Atlantic storm, [terrorized the Atlantic and Caribbean for a staggering two-week period](#) making landfall numerous times across the Caribbean, Central America, Cuba, and Florida.

In more good news from the US, the head of the Federal Reserve Central Bank, Jerome Powell, said this month that the [US will cooperate with other central banks to incorporate the risk and costs of climate change](#) into all they do that will contribute to the greening of the global financial system.

The world's richest man, [Jeff Bezos, announced nearly \\$800M of grants to organizations fighting climate change](#). Bezos has established a \$10B Earth Fund. How great it is to see business leaders picking up the gap from a lack of not just leadership but participation from the federal government under Trump.

And the good news continues with the BloombergNEF research organization predicting that [greenhouse gas emissions from the US economy will decrease by 9.2% this year](#) to a level not seen since the 1980s. However, the reason is not so good as it is due to the pandemic recession that saw the US GDP fall by almost 30% in the 2Q alone. The emissions will fall to that last seen in the early 1980s. By accident the country is back on track to meet the commitments made by Obama under the Paris climate accord.

Britain [Prime Minister Boris Johnson announced plans to end the sale of new gas and diesel automobiles](#) by 2030. To help the transition to electric and hydrogen powered vehicles, the country will spend \$1.7B to help consumers buy and power their vehicles. This comes some five years after the country had decided to phase out the use of coal for power generation and set a goal of being net zero carbon by 2050.

A joint European US satellite was launched this month to help [track the rise in sea levels due to global warming](#). Some models predict that sea levels will rise by over 2 feet by the end of the century, within the lifespan of a child born today. Ocean levels are said to be rising by .2 inches per year due to glacier ice melts and the expansion effects of warmer water.

The Canadian company GHGsat is proving success at [using satellites to find and measure small methane leaks](#) that were previously hard to detect from the land, air, or space. While methane emissions are much smaller than carbon dioxide they are still important because it is so much more potent at trapping heat in the atmosphere. The good news is that methane dissipates quickly in the atmosphere, so reducing methane levels can have a quicker impact on climate change compared to the decades it takes CO2 to dissipate.

One of the maddening aspects of energy production in the US is that without federal mandates the source of electricity varies a great deal from one state to another. Some states like Washington and Oregon generate the majority of their electricity from green sources such as hydroelectric and wind. However, other states like West Virginia, Wyoming, and Missouri rely largely on coal-fired power plants. [Overall across the US, the total production in 2019 was said to be natural gas \(38%\), coal \(23%\), nuclear \(19%\), wind \(7%\), hydroelectric \(7%\), and solar \(2%\)](#). The good news is that coal continues to fall as a source, although that is mostly due to the availability of far cheaper natural gas which at least produces less carbon into the atmosphere.

The journal Science has published a study that says we must also [change what we eat and how we produce food to arrest climate change](#). It has been reported that the current world food system is responsible for about 30% of current emissions and is projected to emit nearly 1.5 trillion tons of GHG by 2100. This alone could raise temperatures above the 1.5 degree Celsius target set by the Paris climate accord. The changes needed include eating less meat and more plants, reducing caloric intakes, reforming how we farm and use land, increase yields, and waste less food in production, distribution, and consumption.

The country of Norway leads the world by example in that its Constitution was amended in 2014 to declare all citizens have a right to a healthy environment. Now environmental groups are using that to [sue the government to block the issuances of licenses for oil exploration and drilling](#) by Norwegian firms in the Arctic. The litigants are arguing on behalf of the human rights of children and for future generations, one of the first cases to use this approach. If the case prevails in a country where so much of its economy depends on oil drilling, it would send a powerful signal all around the globe. Climate scientists say that to avoid tipping points we must not only drastically reduce GHG emissions but leave all new carbon deposits underground, which means not exploring for or finding them in the first place.