



## Evolving Climate Change Considerations 2024

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António Guterres, the Secretary-General of the United Nations, recently declared, "We are playing Russian roulette with our planet. We need an exit ramp off the highway to climate hell, and the truth is we have control of the wheel." Guterres chose to deliver this message in the iconic *Family Hall of Ocean Life* at the American Museum of Natural History in New York on June 5, 2024.

He gave an impassioned plea to grasp the solutions at hand, warning that "we stand at a moment of truth." He provocatively stated, "In the case of climate, we are not the dinosaurs. We are the meteor. We are not only *in danger*, we are the danger. But, we are also the solution."

"Citing the latest European Commission Copernicus Climate Change Service report showing last month was the hottest May in history, the UN chief said global emissions need to fall nine percent every year just to keep the 1.5 degree C temperature rise limit above pre-industrial levels alive." Unfortunately, "Last year, they went UP by one per cent."

"The UN World Meteorological Organization also recently reported that there is an 80% chance the 1.5 degree C limit -- the target established in the Paris Agreement in 2015 -- will be passed in one of the next five years."

The last climate report from the UN Intergovernmental Panel on Climate Change, released in April 2022, indicated that humankind is "firmly on track toward an unlivable world". This will remain true unless people in countries around the world cut greenhouse gas emissions faster than most countries are achieving and have committed to.

The report stated in stark terms what we already know: this is our "now or never moment" to act on climate change. The U.N. called the window for action to stabilize the climate "vanishingly small", yet stressed that nations can still preserve a livable planet if we act boldly now, especially if we rapidly expand clean renewable energy as the core driver of climate solutions.

Authors of the IPCC report, according to the New York Times, made it clear that "The dangers of climate change are mounting so rapidly that they could soon overwhelm the ability of both nature and humanity to adapt, unless greenhouse gas emissions are quickly reduced." Region by region, this IPCC analysis describes "widespread, pervasive impacts" to ecosystems, people, settlements, and infrastructure.

Scientists who wrote the report assert that it is still possible to prevent disastrous extremes of global warming and climate destabilization, "but only if the world, specifically the world's largest polluters, reduces carbon emissions by more than 40 percent by 2030 and halts all carbon pollution by the early 2050s. Alarmingly, the report found that the current policies of the world's largest polluters will only marginally reduce carbon emissions by the end of the decade, despite the science confirming this will lock us into" a dangerous degree of warming (more than 1.5 degrees Centigrade of warming).

This is an ultimate existential conundrum, for our aggregate human drives and activities seem to be seriously at odds with the prospects for us to ensure our own long-term survival.

Pope Francis at a meeting promoted by the Foundation for Sustainable Development, Sept. 11, 2015: "We must not forget the grave social consequences of climate change. It is the poorest who suffer the worst consequences.

Therefore ... the issue of climate change is a matter of justice; it is also a question of solidarity, that must never be separated from justice. ... Science and technology place an unprecedented power in our hands: it is our duty to humanity as a whole, and in particular the poorest and future generations, to use it for the common good."

"Will our generation be remembered for having generously shouldered its grave responsibilities? Amid the many contradictions of our time, we have good enough reason to nurture the hope of being able to do so. And we should let ourselves be guided by this hope."

It is desperately late to take action at the speed and scale required, but there is hope if we can act more quickly. In the report, scientists list ways that governments can immediately begin to more deeply cut emissions, such as rapidly shifting to renewable energy, investing in the electrification of transportation, and supporting poorer nations to adopt similar policies.

Cherelle Blazer, Senior Director of the Sierra Club's International Climate and Policy Campaign, issued the following statement after the release of the 2022 report: "The IPCC report makes it clear that the time to take decisive and unprecedented action to halt climate catastrophe is now or it will be too late. There is little time and no justification to continue burning fossil fuels and subsidizing corporate polluters at the expense of frontline communities, communities of color, and the future of our planet. The world has only a small window of time left before it will be too late; by that point, no amount of mitigation, adaptation, or financing will be able to salvage the climate."

### Speed and Scale

Many smart actions are set forth in the excellent book *Speed and Scale: An Action Plan for Solving Our Climate Crisis Now*. This book, published in November 2021 by venture capitalist John Doerr, includes wide-ranging ideas from Al Gore, Jeff Bezos, Bill Gates, "and other intrepid policy leaders, entrepreneurs and activists."

"In 2006, John Doerr was moved by Al Gore's *An Inconvenient Truth* and a challenge from his teenage daughter: 'Dad, your generation created this problem. You better fix it.' Since then, Doerr has searched for solutions to this existential problem -- as an investor, an advocate, and a philanthropist. Fifteen years later, despite breakthroughs in batteries, electric vehicles, plant-based proteins, and solar and wind power, global warming continues to get worse. Its impact is all around us: droughts, floods, wildfires, the melting of the polar ice caps. Our world is squarely in a climate crisis and on the brink of a climate disaster."

"Yet despite our state of emergency, climate change has yet to be tackled with the urgency and ambition it demands. More than ever, we need a clear course of action."

"What if the goal-setting techniques that powered the rise of today's most innovative organizations were brought to bear on humanity's greatest challenge? Fueled by a powerful tool called Objectives and Key Results (OKRs), *SPEED & SCALE* offers an unprecedented global plan to cut greenhouse gas emissions before it's too late. Used by Google, Bono's ONE foundation, and thousands of startups the world over, OKRs have scaled ideas into achievements that changed the world. With clear-eyed realism and an engineer's precision, Doerr identifies the measurable OKRs we need to reduce emissions across the board and to arrive by 2050 at net zero -- the point where we are no longer adding to the heat-trapping carbon in the atmosphere."

"With a definitive action plan, the latest science, and a rising climate movement on our side, we can still reach net zero before it is too late. But as Doerr reminds us, there is no more time to waste."

In March 2022, temperatures in both the North Pole and the South Pole soared to at least 50 degrees higher than usual. "You don't have to be a scientist to be alarmed. This is another stark impact of the climate crisis and the latest reminder of how little time our movement has to pull our climate system back from the brink."

We must invest now in a safer and more stable future, and one that is sustainable farther into the future.

### Climate-Exacerbated Disasters

Countries aren't doing nearly enough to protect against the disasters to come as the planet continues to heat up. And these disasters will be much more widespread and much more negative than expected.

As average global temperatures inexorably increase due to growing concentrations of greenhouse gases like carbon dioxide and methane in Earth's atmosphere, there will be disastrous increases in the number of calamities afflicting people worldwide.

In an Associated Press story published near the end of April 2022, titled *WEARY OF MANY DISASTERS? UN SAYS WORSE TO COME*, this illuminating understanding is conveyed: "A United Nations report issued on April 25, 2022 says, 'A disaster-weary globe will be hit harder in the coming years by even more catastrophes in an interconnected world.'"

"If current trends continue the world will go from around 400 disasters per year in 2015 to an onslaught of about 560 catastrophes a year by 2030, the scientific report by the UN Office for Disaster Reduction said. By comparison from 1970 to 2000, the world suffered just 90 to 100 medium to large scale disasters a year, the report said. The number of extreme heat waves in 2030 will be three times what it was in 2001 and there will be 30% more droughts, the report predicted. It's not just natural disasters amplified by climate change, it's COVID-19 economic meltdowns and food shortages. Climate change has a huge footprint in the number of disasters."

"People have not grasped how much disasters already cost today, said Mami Mizutori, chief of the UN Office of Disaster Risk Reduction." Climate disasters already are wreaking hardships and high costs in the world today, and "If we don't get ahead of the curve it will reach a point where we cannot manage the consequences of disaster. We're just in this vicious cycle. That means society needs to rethink how it finances, handles and talks about the risk of disasters and what it values the most. About 90% of the spending on disaster currently is emergency relief with only 6% on reconstruction and 4% on prevention."

"Not every hurricane or earthquake has to turn into a disaster. A lot of damage is avoided with planning and prevention. In 1990, disasters cost the world about \$70 billion a year. Now they cost more than \$170 billion a year, and that's after adjusting for inflation. Nor does that include indirect costs we seldom think about that add up." And deaths due to disasters are 'way more' in the last five years than in the previous five years. That's because both Covid-19 and climate change disasters have come to places that didn't used to get them, like tropical cyclones hitting Mozambique, Mizutori said."

"For years disaster deaths were steadily decreasing because of better warnings and prevention, Mizutori said. But in the last five years, disaster deaths are 'way more' than in the previous five years, said report co-author Roger Pulwarty, a U.S. National Oceanic and Atmospheric Administration climate and social scientist. "And disasters tend to compound, like wildfires occurring during intense heat waves or accompanied by strong blowtorch-like winds, or a Russian war in Ukraine contributing to food and fuel shortages."

"Pulwarty said if society changes the way it thinks about risk and prepares for disasters, then the recent increase in yearly disaster deaths could be temporary, otherwise, it's probably 'the new abnormal.'" And he added, "The sheer onslaught of disasters just add up, like little illnesses attacking and weakening the body's immune system."

"Disasters are hitting poorer countries harder than richer ones, with recovery costs taking a bigger chunk out of the economy in nations that can't afford it, co-author Markus Enenkel of the Harvard Humanitarian Initiative said. These are the events that can wipe out hard-earned development gains, leading already vulnerable communities or entire regions into a downward spiral."

"The report calls for an overhaul in how we speak about risk. For example, instead of asking about the chances of a disaster happening this year, say 5 per cent, officials should think about the chances over a 25-year period, which makes it quite likely. Talking about 100-year floods or chances of something happening a couple times in 100 years makes it seem distant, Mizutori said."

"In a world of distrust and misinformation, this is a key to moving forward," said University of South Carolina Hazards Vulnerability and Resilience Institute Co-Director Susan Cutter, who wasn't part of the report. "We can move forward to reduce the underlying drivers of risk: Inequality, poverty and most significantly climate change."

### The Overarching Necessity of Leaving a Legacy of a Habitable Planet

The April 2022 IPCC report on climate change conveyed the stark findings that, unless greenhouse gas emissions

fall at rates faster than most countries have committed to, we are "firmly on track toward an unlivable world."

We must begin acting in ways that will be more likely to leave our descendants a habitable earth and a sustainable home planet. Stronger incentives and disincentives should be put in place to help achieve this goal.

Humans are "apex predators" -- forms of life high in the food chain -- and our cumulative activities are destroying biotic habitats and destabilizing the global climate, thereby drastically diminishing the carrying capacity of our home planet for humankind. At the same time that our population is continuing unsustainably increasing, per capita demands on ecosystem services and natural resources continue to burgeon beyond rational measure, and pushers of anti-choice policies are doubling down on preventing women from choosing not to have (more) children.

Greta Thunberg solemnly conveys an existentially important understanding, seen holding a sign:

THERE IS NO PLANET B

Thank you, Greta, for your service to the world in your communications and actions. In a message to world leaders, the admirable Greta Thunberg wrote: "Betrayal." That's how young people around the world describe our governments' failure to cut carbon emissions. And it's no surprise. We are catastrophically far from achieving the crucial goal of limiting global warming to 1.5°C, and governments everywhere are still accelerating the crisis, giving huge subsidies to influence-abusing fossil fuel corporations.

"This is not a drill. It's code red for the Earth. Millions will suffer as our planet is devastated -- a terrifying future that will be created, or avoided, by the decisions you make. You have the power to decide. As citizens across the planet, we urge you to face up to the climate emergency. Not next year. Not next month. Now!"

We must make "immediate, drastic, annual emission reductions unlike anything the world has ever seen; End all fossil fuel investments, subsidies, and new projects immediately, and stop new exploration and extraction; End 'creative' carbon accounting by publishing total emissions for all consumption indices, supply chains, international aviation and shipping, and the burning of biomass; Deliver the \$100 billion promised to the most vulnerable countries, with additional funds for climate disasters; and enact climate policies to protect workers and the most vulnerable, and reduce all forms of inequality."

We can still do this. There is still time to avoid the worst consequences if we are prepared to change. It will take determined, visionary leadership. "And it will take immense courage."

The UN climate science report underscored exactly what's at stake. Each degree of warming leads to compounding extremes, with billions of people vulnerable to multiple climate hazards at the same time. From extreme heat to more frequent and severe storms and sea-level rise, climate change is the ultimate threat multiplier, and it's happening everywhere.

"These findings are a stark reminder of how urgently we must mobilize to save nature -- and humanity -- from irreparable harm. We cannot afford to be silent."

### The Population Connection

In my long earlier essay *Climate Change Considerations, Carrying Capacity and Population Overshoot*, I evaluate many important ideas that are included herein by this reference. Let me emphasize here that, among many other considerations, renewed efforts to force women to bear children against their will are drastically contrary to sensible family planning and the dignity of women affected, and are stupidly ignorant of the ominous impacts for our kind caused by mindless policies that contribute to overpopulation and unsustainable ecological overreach.

One million species of plants and animals are threatened by extinction, many within decades, due to habitat destruction, human population pressures, overconsumption and the destabilization of the global climate caused by global warming. This biodiversity crisis endangers more life forms than ever before in human history. We must fairly address these big problems.

### Katherine Hayhoe, an Evangelical Christian and Climate Scientist

Katharine Hayhoe, the Nature Conservancy's chief scientist since 2021, shared why she cares about climate change

and her fears about who will be hit hardest. She made apt arguments about what she calls "global weirding" in *A Climate for All of Us* (November 11, 2021):

"Climate change was no longer a distant issue. Already, in the 1990s, its impacts were evident around the world, and the need for action was urgent. Even worse, I learned that climate change disproportionately impacts the poor, marginalized, and vulnerable -- those who have done the least to contribute to the problem."

"Given the urgent need for action and the injustice of climate impacts, I thought, how could I not step up to help? That's when I decided to become a climate scientist."

"Global warming -- an increase in the average temperature of the planet -- isn't something we notice directly in our daily lives. What we do notice, though, is global *weirding*."

"This 'global weirding' of the world's weather is resulting from our collective inability to reduce emissions of greenhouse gases into the atmosphere. It is an ominous portent of disastrous outcomes to come that will harm billions of people as the years slide past."

"Simply put, climate change is loading the extreme weather dice against us. We always have had a chance of rolling a double six -- a record-breaking hurricane, heat wave, flood or the like. But over time, climate change has been switching out some of the numbers on our dice to increase the odds that we roll those double sixes."

"Climate change is the reason why unprecedented heat waves are baking the Pacific Northwest and thawing permafrost in the Arctic and Siberia. It's also why heavy precipitation events are increasing in frequency and severity, dumping record-setting levels of rainfall from Texas to Germany. As the oceans warm, tropical storms like hurricanes, cyclones and typhoons are becoming stronger and intensifying faster, wreaking greater havoc around the world. Rising sea levels are inundating low-lying coastal areas from Bangladesh to the South Pacific to Miami. Longer, stronger droughts are ravaging East Africa and much of the western United States, and more intense wildfires are burning greater areas in places like Australia, British Columbia and California."

The Science is Clear. Katharine Hayhoe continues: "Throughout the history of human civilization, the average temperature of the Earth has varied by no more than a few tenths of a degree. We've taken this stability for granted. Today, however, that assumption no longer stands. The Earth is now running a fever, with global temperature rising faster than any time in human history. Scientists agree: This global temperature increase is entirely human caused."

"Since the dawn of the Industrial Revolution, humans have been burning more and more coal, gas and oil. Those emissions are responsible for 75% of our climate problem. We've also been deforesting large swaths of the planet and raising vast herds of methane-belching livestock, and that's the source of the other 25% of our massive emissions of carbon dioxide and methane, powerful heat-trapping gases. As they have built up in the atmosphere, they have essentially wrapped an extra blanket around the planet, causing it to warm."

"Carbon dioxide levels in the atmosphere are now 50% higher than in pre-industrial times, and methane levels have more than doubled. Altogether, human emissions have already increased the average temperature of the planet by about 1.1 degrees Celsius (2 degrees F), and that rise is accelerating. The monthly average concentration of carbon dioxide in the atmosphere measured at the Mauna Loa Observatory on Hawaii's Big Island was 4.7 ppm higher in March 2024 than that recorded in March 2023. This set a new record increase, and reveals the accelerating pace of carbon dioxide addition to the atmosphere caused by human activities.

"These extreme events, amplified by climate change, affect our food production, our water quality and supply, the safety of our homes and even our health. That's why climate change is a global threat, perhaps the greatest we have ever faced as a species. No matter where we live or what we care about, we are all vulnerable to the devastating impacts of a warming planet."

"Climate change doesn't affect all of us equally, though. No matter where we live, it's the poor and marginalized who are most vulnerable to extreme weather events, even though they've contributed least to the problem. From 1990 to 2015, for example, it's estimated that the richest 1% of the world produced 15% of global emissions -- that's twice as many emissions as the poorest 50% produced over that period."

Research shows that the poor -- those least responsible for contributing to global carbon emissions -- are the most vulnerable to the growing impacts of disasters exacerbated by climate change, such as heat waves, floods, storms and wildfires."

"What's more, people with the fewest resources -- migrants, refugees and residents of low-income communities -- are suffering the greatest consequences. The World Bank estimates that by 2030, climate change could force an additional 132 million people into extreme poverty, living on less than \$1.90 a day. This makes climate change not only a scientific, an environmental and a human issue, it makes it an urgent moral one."

"Who are those most affected by climate change? They include subsistence farmers in low-income countries, who watch as droughts wither their crops and dry up their wells. Or some Indigenous peoples fighting to maintain their traditional livelihoods as once-stable ecosystems shift around them. Or the homeless, outdoor laborers and anyone who lives without air conditioning in hot climates subject to heat waves. The list includes many others."

"In the U.S., climate change is unavoidably an issue of socioeconomic and racial justice. Diverse coastal communities in the South are disproportionately at risk from rising sea levels, stronger hurricanes and flooding. Across the country, neighborhoods shaped by the legacy of "redlining" -- a racist 20th-century federal housing policy that made it impossible for minority communities to get access to loans, mortgages or even insurance -- can be up to 20 degrees Fahrenheit hotter in the summer than richer areas in the same city. That's because these areas have fewer trees and more concrete, which in turn means higher air-conditioning bills and more heat stress for the people who live there. Once again, those who have done the least to contribute to the problem are bearing the brunt of its impacts."

"The majority of carbon emissions between 1990 and 2015 were generated by the wealthiest people around the world. A single seat on a long-haul airline flight, for example, generates more CO<sub>2</sub> than the average citizen's annual carbon output in dozens of countries."

"Together We Can Tackle Climate Change. Here's the good news. Just as climate impacts disproportionately fall on those who have the least, many climate solutions benefit those very communities. These include efforts to develop clean energy, to restore ecosystems and to build climate resilience and adaptation in urban centers."

"The transition to clean energy is already underway. More than 90% of new electricity sources installed around the world in 2020 were clean energy, including solar and wind power. Even in Texas, where I live, the heartland of the U.S. oil and gas industry, 23% of electricity in 2020 came from wind energy -- more than any other state."

"Ecosystem management also has an important role to play. Arctic peat lands are incredibly rich in carbon: It's estimated they contain four times more carbon than humans have emitted since the beginning of the Industrial Revolution. Conserving and protecting Arctic land keeps that carbon in the ground and allows the land to draw down and store even more carbon. In the Northwest Territories of my home country of Canada, the Nature Conservancy's Canadian affiliate, Nature United, helped the Łutsël K'édé First Nation conserve and assert their ownership over 6.5 million acres. This area, called Thaidene Nëné, stores 379 million tons of carbon -- equivalent to half a year's worth of Canada's national emissions."

"In the U.S., the Green Heart Project has been building climate resilience in Louisville, Kentucky since 2017. A partnership between TNC and local organizations, it's the first controlled experiment to test the health effects of tree cover, which reduces temperatures and filters pollution, in urban neighborhoods. The presence of trees has been shown to reduce stress, obesity and rates of asthma and cardiac disease. The project, which has planted thousands of urban trees, monitors improvements in residents' health as their neighborhoods become increasingly green."

To ensure healthy people and a healthy planet, according to Katharine Hayhoe, we must cut our carbon emissions as much as possible and as soon as possible, and build resilience to the impacts we can no longer avoid, and conserve the lands and waters on which all life depends. "These are TNC's goals, and they're mine, too."

"But you might be thinking: Where do I come in? What more can I do to help? You can do a lot. In fact, you are vital to accomplishing these goals; all of us are. Our small personal actions -- reducing our food waste and energy consumption, trying more veggie recipes, switching to clean energy -- send a market signal. Talking about your goals can inspire others to start making changes by altering our social norms. And our power multiplies exponentially when



we advocate for climate solutions in our place of work or worship, our school, or our city or state."

"The world has changed before, and usually not because world leaders sat down and decided it had to. It's changed because ordinary people pushed for change. U.K. researcher Finlay Green compares the challenge we face of halting climate change to the challenges facing huge social movements of the past, such as ending slavery. Yet by being 'small cogs in a very large machine,' he says, 'they were able to make a difference.'"

"And how did it happen? When people -- like you and me, and Finlay Green and my science teacher dad, and all the people who care about the injustices -- rallied together to call for change. That's why, as I share in my new book, *Saving Us*, I'm convinced that the most important thing every one of us can do is this: Use your voice to share why climate change matters, and how action benefits us all."

### The Great Goals of the Nature Conservancy in Trying to Save Us

The Nature Conservancy has also cogently observed: "America's landscapes are unlike anything in the world. The nation's mountains, rivers, forests, coasts, farms and more are central to our identity and a backbone of our economy, our communities and our very lives. But the twin crises of climate change and global biodiversity loss present an existential threat to these places and our future. If we do not act, we risk losing more of our natural world forever."

An *America the Beautiful* initiative was launched in 2021 in the U.S. in response to this threat. It proposes "an ambitious but achievable goal to conserve, connect and restore 30 percent of our lands and waters by 2030."

"For over 70 years, The Nature Conservancy has worked to conserve the lands and waters on which all life depends, and many of the same principles and strategies we apply in our work will be critical to meeting this goal as well."

"We recently submitted our recommendations to the federal government as it develops an 'atlas' to guide and measure the progress toward this goal, including requirements and benchmarks for what counts. In our comments, we said *America the Beautiful* can only be successful if it is guided by five key principles:"

- Representation and Resilience. This effort must look at the diversity and quality of ecosystems represented, as well as the connectivity between and within ecosystems -- not just a simple percentage of conserved lands and waters.

- Equity and Inclusion. The *America the Beautiful* goal can only be achieved through strong, transparent and collaborative engagement with all stakeholders. It must also include attention to diversity, equity, inclusion and justice.

- Durability. To last, conservation actions need support from local stakeholders. It is critical to represent a community's needs and perspectives.

- Effective Management. Long-term conservation must include transparent management goals along with specific measures of success and sufficient capacity -- including workforce, policies and incentives -- to do the work.

- Assuring Adequate Funding. To successfully implement these conservation practices, management and restoration efforts must receive funding at a scale that can meet the need.

### Perspectives on the Latest IPCC Report

Daily Kos provided an article on April 4, 2022, titled *Climate mitigation takes center stage in latest IPCC report that warns against the status quo*. It reported: "If you were to tune into the Intergovernmental Panel on Climate Change's latest presser for its third report -- this time focused on climate change mitigation -- the words of U.N. Secretary-General António Guterres would shock you. 'The jury has reached a verdict and it is damning,' Guterres began in a video message. 'This report of the IPCC is a litany of broken climate promises. It is a file of shame cataloging the empty pledges that put us firmly on track towards an unlivable world.' Guterres lists some of the consequences of staying the course and calls out governments and major industries still toeing the fossil fuel line."

"It doesn't have to be this way," Guterres said. "This report is factored on mitigation, cutting emissions. It sets

out viable, financially sound options in every sector." There is a point of no return, of course, but there's still time to implement some of the mitigation techniques listed in the report that do the most to reduce emissions, such as major transfers towards renewables and adopting circular manufacturing procedures, some of which are already past the stage of initial development and that the IPCC has a high level of confidence could prove game-changing for high pollution sectors like building materials and metals."

"The IPCC report lays out many solutions to the problems of our own creation. It's honest about the roles of Europe and North America in pumping out nearly half of all emissions generated since the beginning of the industrial revolution, as well as the role East Asian countries now play in the high generation of greenhouse gas emissions, with China overtaking the U.S. as the planet's top emitter in 2006. The countries with lesser developed economies that are heavily reliant on fossil fuels are the ones top emitters must help transition towards greener means of production and power, both as a means of environmental justice and to reach the goals first established in the Paris Agreement."

"Addressing the damage already done is also a key component of the report, with some scientists calling the plugging of orphaned and abandoned wells 'low-hanging fruit' that can be easily achieved. The U.S. is already setting out to award funding to states looking to plug and remediate orphaned wells." The goal of that initiative would be to reduce highly volatile methane emissions into the atmosphere.

The Daily Kos article continues: "Accountability is key in addressing this crisis, as it is in holding those issuing its guidance to the same high standard they hope for the world. Reports indicated that the finalization of IPCC reports came down to the wire and that countries like Saudi Arabia had a direct hand in weakening fossil fuel phase-out language, with the report ultimately pushing carbon capture and storage as a potential way to better reduce emissions."

"Such technologies frequently pose risks to vulnerable communities, and are prohibitively expensive, given their unimpressive returns. And they keep countries more reliant on fossil fuels than they rightfully should be. It's net-zero, not net-smidgen. Though the world still needs a way to remove greenhouse gases from the atmosphere, reforestation and stewardship remain critical ways to both work towards a more equitable future and reach at least livable goals when it comes to rising temperatures. A worldwide investment of \$400 billion must be allocated to addressing forest management, and investment in better technologies that capture greenhouse gases without harming the communities must be taken into consideration."

"As IPCC Chair Hoesung Lee said during a press conference, 'We are at a crossroads ... This is the time for action. We have the tools and knowhow to limit warming and secure a livable future.'"

This is an overarching challenge facing us all. We live in a moment where we need transformative change -- *Speed and Scale* -- yet, the fact is that human nature stands athwart good solutions due to our habits and behaviors in aggregate, and our indulgences, social status seeking, consumerist drives and various compulsions (needs and greed). In our world of more than 8 billion people, most of them with expanding per capita desires, we are confronted with what seem like much more urgent problems than existential challenges of greenhouse gas-driven climate change and assaults against biodiversity; these include the urgencies of wars, global pandemic, economic disruptions, inflation, proliferating natural disasters, desperate immigration, deep structural inequities and growing disparities of wealth and power between the Few and the Many. And these things all exist within a pervasive context of machinations of divide-to-conquer political factions, reactionary opposition to reforms, deeply entrenched political corruption and egomaniacal authority-abusing rulers, all within the dominating influence of a corporatocracy that is prepossessed with making bigger profits by foisting costs onto the populace.

### A Big Part of the Problem

One main obstacle stands in the path of climate action and ecological sanity, and that is the staunch opposition by 50 Republican politicians in the U.S. Senate, plus West Virginia's Democratic Senator Joe Manchin. All of these conniving politicians are influence peddlers who get big sums of money contributed to their campaigns from oil, gas and coal interests. And Joe Manchin has especially deep conflicts of interest in climate matters because of his long and highly profitable ties to the coal industry.



Manchin, whose vote is crucial to passage of President Joe Biden's domestic policy priorities in an evenly divided 50-50 Senate, had holdings in 2021 valued at between \$1 million and \$5 million in Enersystems, Inc., the coal brokerage business he founded.

"According to his financial disclosure forms, Senator Joe Manchin of West Virginia earns about half a million dollars a year from a coal brokerage that he and others own. In 2021, he made more than \$536,000 from his Enersystems holdings," according to his filings. "That's more than three times his \$174,000 annual Senate salary."

"At every step of his political career, Senator Joe Manchin III has helped a West Virginia power plant that is the sole customer of his private coal business, including by blocking ambitious climate action."

"The debate over Manchin's coal interests highlights what critics say are lax congressional ethics rules that give federal lawmakers broad leeway to regulate industries in which they have financial interests. In addition to his pivotal role on the domestic policy bill, Manchin helps set US energy policy as chairman of the Senate's Energy and Natural Resources Committee.

And, "The appearance of impropriety is just as bad as the real thing", because that drives the way people feel about politics and government."

### The Role of Capitalism in Climate Action and Inaction

Our capitalist system is largely driven by lavish consumerism, and is thus drastically pitted against the conservation of resources. Many people basically regard sustainability as "not penciling out." This calculus must change!

One of the existentially worst aspects of capitalism is how crazy it is that corporate management and shareholders are focused on maximizing profits while externalizing enormous amounts of costs onto others and conspiring to oppressively exploit working people, even at the expense of their health and safety.

"Jobs, jobs, jobs" goes a rationalizing refrain for extractive industries and policies designed to take advantage of workers and concentrate wealth in the hands of the few. "Profits, profits, profits" is the true driving motive.

The IPCC report makes it clear how urgently crucial it is to act to prevent the worst disastrous consequences, yet there are two overarching behavioral circumstances that are making it extremely challenging for us, in aggregate, to do what needs to be done. First, human beings are naturally self-centered, doing what they want to do and enjoying life and consuming things and buying stuff they don't need. And second, we live in a capitalist world in which the profit motive drives resource exploitation and wasteful materialistic consumerism, with advertising and marketing and product promotion powerfully urging people to eat, drink and be merry, as if there will be no tomorrow, and to gain social status by profligately buying and owning things and going places.

Many companies engage in greenwashing to try to improve their corporate images. Team 350 writes in *Exxon Pledges to Reduce Carbon Emissions From Operations to 'Net Zero'*, which concerns a commitment by oil behemoth Exxon to cut greenhouse gas emissions: "At first glance, this might sound great -- hasn't the climate movement been fighting to limit carbon emissions? But here's the thing. This new plan does nothing to limit Exxon's largest contribution to the climate crisis -- making it nearly meaningless. You can't reduce carbon emissions while burning fossil fuels."

"We're not falling for this latest instance of greenwashing -- not when we know that fossil fuel companies have been lying to the general public for *decades*. And not when Big Oil spends *millions of dollars* every year to lobby Congress against passing meaningful climate legislation." And not when candidate Trump demands that Big Oil executives give a colossal \$1 billion to his campaign, and promises to reward those giving him the bribe by cutting their taxes and gutting regulations.

Excessive profiteering is particularly irresponsible and horrible when it causes negative outcomes for the vast majority of people.

Activities that generate excess profits have the undesirable impact of causing excess stress to working people in our societies. To reduce such stresses in the world, we should make taxation fairer and more progressive, so that improvements to the general welfare and the common good are increasingly financed by the top 10% of income

earners and the wealthy, and the social safety net is strengthened, and larger investments are available to deal with problems like climate change.

### Local Jurisdiction and State Governments Lead the Way

Many cities and counties around the country are developing visionary Climate Action Plans to help cope with the climate emergency. But at the national level, needed action is being constrained by Republican politicians that are against remedial actions. Conservatives, wealthy people and giant corporations oppose remedies that would reduce their gargantuan profits.

"As the planet warms and inaction on climate leads to worsening risks and impacts, American cities are taking matters into their own hands. Cities are not only pledging to slash carbon emissions in the coming decades, they are also figuring out how to be more resilient. As part of our 2022 ParkScore® index, we asked parks departments in the 100 most populous U.S. cities what they're doing around climate. Bottom line: many are doing a great deal. But cities are not taking action in a vacuum."

"Our panel will share the many ways neighborhood associations, climate-justice groups, arts organizations, and environmental activists are working alongside municipalities to aggressively implement climate resilience measures nationwide, as well as advice for communities looking to adopt these models in their own regions." They are adopting seemingly simple remedies such as planting trees and designing parks with natural basins that capture storm water, understanding the power of green infrastructure to combat climate change.

### Shall We Try Harder to Stop Climate Change?

In a New York Times article, *Stopping Climate Change Is Doable, but Time Is Short, U.N. Panel Warns*, it is pointed out that, "Nations need to move away much faster from fossil fuels to retain any hope of preventing a perilous future on an overheated planet."

A positive indicator is that much progress has been made due to costs of solar power and other clean energy rapidly falling.

"The report by the Intergovernmental Panel on Climate Change warns that unless countries drastically accelerate efforts over the next few years to slash their emissions from coal, oil and natural gas, the goal of limiting global warming to 1.5 degrees Celsius, or 2.7 degrees Fahrenheit, will likely be out of reach by the end of this decade. That's the threshold beyond which scientists say the dangers of global warming -- including worsening floods, droughts, wildfires and ecosystem collapse -- grow considerably."

"But the task is daunting: Holding warming to just 1.5 degrees Celsius would require nations to collectively reduce their planet-warming emissions roughly 43 percent by 2030 and to stop adding carbon dioxide to the atmosphere altogether by the early 2050s, the report found. By contrast, current policies by governments are only expected to reduce global emissions by a few percentage points this decade. Last year (in 2021), fossil fuel emissions worldwide rebounded to near-record highs after a brief dip as a result of the coronavirus pandemic."

"The IPCC report, which was approved by 195 governments and lays out strategies that countries could pursue to halt global warming, comes as Russia's invasion of Ukraine has caused oil and gas prices to skyrocket, diverting political attention from climate change. In the United States and Europe, leaders are focused on shoring up domestic fossil fuel supplies to avoid painful price spikes and energy shortages, even if that means increasing emissions in the short term."

"Yet climate scientists say there is little margin for delay if the world wants to hold global warming to relatively tolerable levels. Every year that you let pass without going for these urgent emissions reductions makes it more and more difficult," said Jim Skea, an energy researcher at Imperial College London who helped lead the report, which was compiled by 278 experts from 65 countries. "Unless we really do it immediately, it will not be possible to limit warming to 1.5 degrees."

"But even if that goal becomes unattainable, scientists said, it will still be worthwhile for countries to slash emissions as quickly as possible to prevent as much warming as they can. Every additional rise in global temperatures increases the perils that people face around the world, such as water scarcity, malnutrition and life-

threatening heat waves, the U.N. panel has found.”

“The new report contains glimmers of optimism. Over the past decade, many nations have adopted more ambitious climate policies, scaled back plans for new coal plants and expanded their use of renewable energy through subsidies and regulations. Although emissions from fossil fuels are still growing worldwide, the rate of growth slowed in the 2010s, compared with the 2000s, the report said, and humanity now has a much better shot at avoiding some of the worst-case global warming scenarios once widely feared by scientists.”

“Clean energy technology has advanced far more quickly than expected, the report said. Since 2010, the costs of solar panels and lithium-ion batteries for electric vehicles have plunged by 85 percent, while the cost of wind turbines has fallen by more than half.”

“Rapidly shifting away from the fossil fuels that have underpinned economies for more than a century will require nations to do much more, however. Over the next decade, governments and companies would need to invest three to six times the roughly \$600 billion they currently spend annually on encouraging clean energy and cutting emissions, the report said.”

“But the cost of inaction is also substantial, in terms of deaths, displacement and damage. In the United States in 2021, damages from floods, wildfires, drought and other disasters related to weather and climate totaled approximately \$145 billion, according to the National Oceanic and Atmospheric Administration. The agency said that ‘extremely high’ levels of disasters were becoming ‘the new normal.’”

“Reducing emissions substantially is much less painful than you would think, and probably beneficial in the short term,” said Glen Peters of the Center for International Climate Research in Oslo, Norway, who contributed to the report.

“The new report examines dozens of strategies proposed by scientists and energy experts to help nations make the transition. First, countries would need to clean up virtually all of the power plants worldwide that generate electricity for homes and factories. That means relying more on energy sources such as wind, solar, nuclear, geothermal or hydropower. Most of the world’s coal and natural gas plants would either need to shut down or install carbon capture technology that can trap emissions and bury them underground. Such technology has been slow to take off because of its high costs.”

### Team 350 on Net Zero

Any policy that doesn’t include phasing out fossil fuels is not a real climate plan. “Net zero” pledges are not going to get the job done, we need real zero.

Even though it may sound similar, the phrase “net zero emissions” does NOT mean “zero emissions.” In many cases, it means the exact opposite and is instead used as a polluter-driven greenwashing scheme.

Most “net zero” targets involve vaguely-written plans with loopholes that allow emissions to continue rising based on the assumption that in the future, new (risky, unproven, and harmful) technologies will be able to remove carbon dioxide from the atmosphere and compensate for those emissions.

We won’t fall for it. Instead of relying on unproven future technologies, we demand climate plans that radically reduce emissions to zero.

Despite what polluters want us to believe, there are real solutions that exist and can be implemented at scale. There’s simply no excuse for propping up the fossil fuel industry that already reaps windfall profits at the expense of our future.

### Steve Newman's Earthweek

A hopeful story about carbon capture is told by Steve Newman in his *Earthweek* column. “Pulverized rock dust spread on farmland has the potential to remove vast amounts of carbon dioxide from the atmosphere, helping countries meet their net-zero carbon target by 2050, experts say.” This involves “enhanced rock weathering” in which basalt and other rocks are ground up, increasing their surface area to better absorb carbon from the atmosphere. “It is far more practical and cheaper than other forms of direct air capture and storage under

development.”

The next step would be to reconfigure transportation, industry and other segments of the global economy to run on clean electricity rather than fossil fuels. Cars powered by gasoline could be replaced with electric vehicles charged by low-carbon grids. Gas-burning furnaces in homes could be swapped out for electric heat pumps. Instead of burning coal, steel mills could shift to electric furnaces that melt scrap.

At the same time, nations could take steps to reduce their total energy demand. That could entail expanding public transit, upgrading insulation so homes consume less energy, recycling more raw materials and making factories more energy efficient. At the high end, such demand-side policies could help cut emissions in key sectors as much as 40 to 70 percent by 2050, the report notes.

But many economic activities can't be easily electrified. Batteries are still too heavy for most airplanes. Many industries, like cement and glass, require extreme heat and currently burn coal or gas. For those emissions, governments and businesses will have to develop new fuels and industrial processes, the report said.

Countries will also need to address emissions from deforestation and agriculture, which account for around a fifth of global greenhouse gases. That means dealing with issues like global meat production, which emits methane and carbon dioxide, and is causing rampant deforestation in vital places like the Amazon rainforest.

### Worsening Emissions

Carbon dioxide emissions last year rose more than 2 parts per million for the 10th consecutive year. Worse yet, look at methane emissions.

The Washington Post reported in *Methane emissions jumped by record amount in 2021, NOAA says*: “Global methane emissions soared by a record amount in 2021, eclipsing the record set the year before, according to the National Oceanic and Atmospheric Administration, demonstrating the huge challenge facing policymakers who have pledged to limit greenhouse gas emissions.”

Atmospheric methane levels averaged more than 160% greater than preindustrial levels during 2021.

Methane is the second biggest contributor to human-caused global warming after carbon dioxide. It “is emitted in part by oil and natural gas production, particularly shale gas drilling. But it’s also emitted by livestock farming and landfills, as well as wetlands whose waterlogged soils, rich in microbes, are ideal for naturally producing methane.”

“Since last year, about 100 countries have signed on to a Global Methane Pledge, which aims to cut emissions 30 percent by the end of the decade. Some major emitters, such as Russia and China, still have not.”

The White House Office of Domestic Climate Policy has created a U.S. Methane Emissions Reduction Action Plan. Let’s demand that our representatives in Congress implement it.

“Our data show that global emissions continue to move in the wrong direction at a rapid pace,” Rick Spinrad, the NOAA administrator, said in a statement. “The evidence is consistent, alarming, and undeniable.”

“Recently, climate experts and diplomats have put extra emphasis on controlling methane emissions because it is relatively easy to reduce the emissions by stopping methane escaping from oil and gas wells and leaking from pipelines. Major multinational oil and gas companies have emitted methane in the Permian Basin in Texas and New Mexico. And Russia ranks among the biggest emitters with aging pipelines stretching for roughly 2,500 miles from the remote Yamal Peninsula in Russia to consumers in Europe.”

“Reducing methane emissions from fossil fuel is an important step, and a low-hanging fruit to reduce atmospheric methane levels,” said Xin “Lindsay” Lan, a research scientist at NOAA’s Global Monitoring Laboratory and the University of Colorado at Boulder. Given that atmospheric methane largely disappears after about nine years, “it can respond rather quickly” to efforts to reduce such emissions.

“But she added that other factors were also driving emissions. Lan said that heavy rains from the La Niña weather pattern in tropical areas over the past two years might have flushed large quantities of methane from wetlands. Lan added that livestock farming and landfills were also ‘dominant drivers’ behind the upturn in emissions that took

place after 2006.”

“Durwood Zaelke, president of the Institute for Governance and Sustainable Development, said that methane concentrations in the atmosphere have continued to spike in recent years both for reasons that are natural and those driven by humans.” But he said that “the need for speed should be motivating every climate scientist, every climate policymaker, every climate activist.”

He said that slashing methane emissions represents “the single biggest, fastest and cheapest way to reduce warming in the near term,” adding that it also lowers the cost “of climate mitigation and the cost of adaptation, and lowers reliance on learning how to remove carbon dioxide from the atmosphere.” Zaelke said it is also “the best way to slow feedbacks and avoid tipping points.”

“The latest increases in methane concentrations reinforce the critical importance of reducing human-caused methane emissions if we are going to slow the rate of increase in warming,” Steven Hamburg, chief scientist at the Environmental Defense Fund, said in an email. “There is agreement in the scientific community that the majority of methane emissions are human caused and account for more than a quarter of the warming we are currently experiencing.”

“NOAA also announced that carbon dioxide was also rising at a steady but sobering clip. The global surface average for carbon dioxide during 2021 reached 415 parts per million, an increase of almost 3 ppm over the 2020 average. The figure marks the 10th consecutive year that carbon dioxide increased by more than 2 parts per million, the fastest sustained rate of increase in the 63 years since monitoring began.”

“The effect of carbon dioxide emissions is cumulative,” Pieter Tans, senior scientist with the Global Monitoring Laboratory, said in a statement. “About 40 percent of the Ford Model T emissions from 1911 are still in the air today. We’re halfway to doubling the abundance of carbon dioxide that was in the atmosphere at the start of the Industrial Revolution.”

This information urges us to join together in support strong remedial action.

#### Another Proposal

When it comes to averting global climate change catastrophes, it's now or never for any hope of staving off the worst ravages of climate breakdown. “We are running out of time and Congress is not acting fast enough.”

The U.S. Senate could do something RIGHT NOW by joining 135 countries and ratifying the Kigali Amendment to the Montreal Protocol -- an amendment that sets targets for every nation to phase down climate super-pollutant hydrofluorocarbons. These gases are short-lived climate pollutants that, like carbon dioxide, exacerbate global warming. They remain in the atmosphere for a much shorter period of time than carbon dioxide, yet their potential to warm the atmosphere is many, many times greater.

Let’s urge our representatives to take action, and celebrate all those who work to create a livable world with clean air, clean water and fertile soil. These things most necessarily include racial, economic and environmental justice.

#### Save the Trees

Forests and wetlands are effective natural stores of carbon dioxide, which makes sparing them from destruction a highly effective and economical way to mitigate warming, said Stephanie Roe, a World Wildlife Fund scientist. “I can’t reiterate enough the importance of conserving those ecosystems,” she said.

The report acknowledges the enormous challenges ahead. Winding down coal, oil and gas projects would mean job losses and financial dislocation. Some climate solutions come with major trade-offs: Protecting forests, for instance, leaves less land for growing crops or raising livestock to feed a world population that keeps growing.

And some of the biggest obstacles to climate action are political, not technological. The report notes that “incumbent fossil fuel interests” often work to thwart policies to cut emissions. Organized disinformation campaigns by climate change deniers have, in some places, increased political polarization over the issue. And politicians tend to avoid difficult decisions if the benefits are not felt beyond the current election cycle.

In the developing world, governments still need to expand access to electricity and modern cooking fuels for hundreds of millions of the poorest people, which might only be possible in the short term by burning more fossil fuels. These nations have benefited from advances in renewable energy technology, but efforts to cut emissions deeply have run up against two longstanding issues: high costs and overstretched governments.

"If technology could solve the problem completely, the problem could have been solved two or three decades ago," said Wei Shen, a researcher at the Institute of Development Studies, a think tank in Britain, who helped write the report.

"There is strong political will in many developing nations to tackle climate change, said Fatima Denton, director of the United Nations University Institute for Natural Resources in Africa and another author of the report. But greater financial support from wealthy nations is critical, she said, partly as a matter of fairness and historical responsibility: Western countries that got rich by burning fossil fuels are now effectively telling poor nations that they cannot do the same."

"You're telling them to leave their resources in the ground, when they have always more or less seen these as the route to more capitalism, more wealth, more prosperity," Dr. Denton said.

PEAK OIL: It is clear that we are reaching Peak Oil in two crucially serious senses. First, we are rapidly burning through non-renewable resources of oil and natural gas at an alarming rate, and second, we are ominously exceeding the capacity of the atmosphere and the oceans to continue absorbing the greenhouse gas emissions that are spewed out into the atmosphere when they are burned. Calamitously costly results of these activities are certain to become more and more damaging as we continue to fail to drastically reduce emissions gets worse and worse.

Our addiction is so dangerously unsustainable that scientists say we must leave most of the known reserves of fossil fuels in the ground, and that we must reduce our combustion activities by half by 2030, and get to net zero emissions in less than 30 years.

Our addiction to the burning of fossil fuels is an Achilles heel vulnerability. We are highly reliant on dirty fossil fuels to get around, to produce and cook food, to heat and cool our homes and buildings, and to power our industrial activities and military forces and almost every facet of our lives. We are far past the point that we can continue to remain dependant on dirty fossil fuels, because we are exceeding the capacity of the atmosphere and oceans to absorb the greenhouse gas emissions that result from the mining, transportation and combustion of these fuels.

Instead of continuing to profligately waste fossil fuels by driving huge pickup trucks, SUVs and other vehicles around with desperately compulsive abandon and the whole other range of activities that are driving greenhouse gas emissions, we must pursue an Apollo Program-like heroic monumental effort to wean ourselves from the booster rocket of profligately burned fossil fuels in order to leave a habitable planet for people in the future.

Last year, 25 of the largest fossil fuel companies experienced record profits of over \$205 billion. But more drilling sites, pipelines, and refineries are not the answer to soaring energy prices. Rubber stamping permits for more fossil fuel infrastructure, that will take decades to come online, won't stop the current crisis. Instead, it will lock in decades of climate pollution when we need to be investing in the real solution -- sustainable, renewable energy.

Big Oil is using Ukraine as a prop to push for more drilling on thousands of acres of public land. Beautiful wild places, from the glacier-carved peaks of Montana to the sunburnt, fragile arches of Utah, are in grave danger if Big Oil's land grab succeeds.

It's not too late for Congress to stop Big Oil from using the crisis in Ukraine to increase drilling on our public lands. The only way to make sure it acts is by ramping up pressure on your Members of Congress. Tell your legislators to stop greedy fossil fuel companies from exploiting the crisis in Ukraine for profit!

Demand Congress block Big Oil's attempts to increase fossil fuel extraction!

At a juncture in history where it is becoming increasingly urgent for humankind to dramatically reduce our burning of fossil fuels, Big Oil is antagonistic to climate action, and petrostates like Russia are involved in tragically wasteful and destructive wars for domination of other countries, and oil terminals are being blown up and clashes

of weaponry are annihilating the environment in war zones.

Political corruption is associated with industries that abuse the influence of Big Money like Big Pharma that can be accurately regarded as resembling an onerous tax on everyone who needs prescription drugs. The political corruption associated with moneyed influence of Big Oil is even worse, being of a colossal scale and involving a more damaging set of negative impacts. In addition to making it easier for authoritarian leaders to seize control and assault the liberties and general welfare of the people, there are really big costs associated with petrostate corruption. These include insidiously increasing harms being caused by the destabilization of the global climate and the ominously mounting adversities associated with air pollution, water contamination, toxic chemicals, plastics, nitrogen fertilizer runoff, record high temperatures, extreme storms, terrestrial rain flooding, severe droughts and devastating wildfires in numerous locales around the world every year. These are all-but-irreversible impacts of a warming planet that are being accompanied by ocean acidification, the bleaching of coral reefs and rising sea levels.

While Americans pay the price for disruptions to oil and gas supply, industry lobbyists are once again working to block urgent investments in renewable energy. Climate activists are making our voices heard and calling out Big Oil's lies — and policymakers in Washington, DC are taking notice.

"In case you missed it, the New York Times recently highlighted the work that a coalition of environmental organizations — including LCV — is doing to correct the record and draw attention to profiteering by Big Oil amidst Russia's war against Ukraine."

"Big Oil is running their same old playbook, but the reality is that times have changed. More and more voters now see tackling climate change as an urgent issue. But too many policymakers are stuck in the past, which is why we're correcting the record. The truth is, expanding drilling would do nothing to decrease today's prices at the pump, and would lead to even more climate warming and community-harming pollution, for decades to come."

"We are taking our message to the airwaves and to social media where these policy debates are taking place to build the pressure to enact these investments. Can you help us get the word out?"

The goal should be to teach kids about nature before covering climate change. "In the race to create a spark with young people, we can't afford to inadvertently blow out the flame. With urgency jumping from every headline and news report, one of the most important aspects of effective climate education is thoughtful restraint."

"If we teach climate change right, students will value nature, become civically engaged, and be empowered to lead the changes our planet desperately needs. But start too early or focus too much on catastrophic impacts and we could disempower and traumatize an entire generation of potential planetary heroes."

#### A Collateral Problem: PLASTICS

Plastics are a major contributor to climate change. Between its reliance on oil and gas extraction and its polluting production process, the US plastics industry emits a disastrous 232 million tons of greenhouse gases per year — the equivalent of emissions from 116 coal-fired power plants. Despite the magnitude of the problem, half of all plastics are designed to be used just once, and only 9% have ever been recycled.

Oil and chemical companies have fueled global plastic pollution, deliberately misleading consumers to believe plastic products were recyclable when they are not. The vast majority of plastic actually isn't reusable and typically ends up in landfills or pollutes the ocean and other waterways.

The amount of plastic produced has skyrocketed from less than 2 million tons annually in the 1950s to more than 300 million tons today. The sharp increase in plastic consumption has been facilitated by an industry-led marketing campaign to make consumers believe the material is reusable and eco-friendly. In reality, less than 10% of plastic worldwide is ever recycled, according to researchers at UC Santa Barbara.

Plastic is created using chemicals from fossil fuels, so the industry makes a lot of profit while causing pollution and being a significant source of heat-trapping emissions that exacerbate climate change.

Plastic doesn't biodegrade, but instead breaks down into micro plastics that accumulate in the oceans and



terrestrial environments. Microplastics pollute the food we eat, the water we drink, and the air we breathe. Single-use products clog our waterways. And plastic production is yet another way fossil fuel companies get richer while we get sicker. The United Nations recently approved a landmark agreement to create the world's first ever global plastic pollution treaty -- now we need a solution here at home to help our climate and communities recover.

"Ultimately, the plastics industry is so polluting on so many levels that it just isn't compatible with preserving crucial ecosystems or a livable climate," said Emily Jeffers, an attorney at the Center for Biological Diversity's ocean program. "We have to stop producing plastic junk."

A plastics waste initiative must be enacted that requires manufacturers to make all plastic packaging recyclable or compostable by 2030. We cannot keep kicking the can down the road to burden and harm people in the future.

In a potentially positive development, "chemical engineers in Texas say they have developed a new enzyme variant that can break down plastic in hours or days, compared with the centuries it takes to degrade in nature. University of Texas at Austin researchers say this could eliminate billions of tons of landfill waste and bring about true recycling of plastic."

Soaring plastic consumption has wreaked havoc on marine habitats and the environment, and plastics pollution has also created health concerns for humans and other animals that ingest small plastic particles that wind up in food, drinking water and the air we breathe.

"When researchers set out to investigate the exposure risks of plastic on human development, they hit a major snag: They were unable to find a control group."

"That's right. There's no group of people on Earth that has not been exposed to the endocrine-disrupting chemicals leached by plastics. And that's because plastic is everywhere -- in the air we breathe, the water we drink, the clothes we wear. Last year, scientists found microplastics in newborn baby poop -- yes, you read that right -- at 10 times the levels ingested by adults!"

"Now, some good news. First, the UN Environment Assembly just adopted a 'plastics treaty' that has been called the most important international environmental agreement since the Paris Accord. Secondly, our legislative advocacy team is working with our allies in Congress on a bill that would stop production of single-use plastics."

"But Big Plastic has powerful backers to ensure plastic continues contaminating our food and water, fossil fuel production keeps darkening our skies, and the climate keeps getting hotter. We won't get meaningful change through a 50/50 Senate without you."

"Of course, microplastics themselves aren't the only source of harmful health outcomes. Plastics production comes with toxic air emissions and pollution -- and researchers have linked living near the facilities that make plastic with increased rates of asthma, heart disease, birth defects, and more. And Black, Brown, and Indigenous communities are disproportionately affected by this pollution."

"Then there's the fact that plastic is a byproduct of oil and gas production -- which explains why, despite studies showing consumers want alternatives to plastic, change has been so hard. Petrochemical companies bet big on plastics, and won't fold without a fight."

"In many ways, the terrible plastic pollution in the oceans, in our backyards, and in our bodies themselves feels like an unfair burden. After all, big corporations sold us a lie about 'recyclable' plastic packaging, when only about 2% of all plastic is currently recycled!"

"Now that we know the truth, we must use our power to refuse unnecessary plastics, be selective in the brands and packaging we choose and demand Congress pass the Break Free From Plastic Pollution Act."

Truly,

Tiffany Twain

June 12, 2024 (Updated from first version in July 2022)