



# The Case for Climate Reparations in the United States

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## About the Author

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# INTRODUCTION

The global climate crisis is, fundamentally, a crisis of inequality. The climate crisis is fueled by the historic emissions of industrial countries and fossil fuel corporations, yet the impacts are borne most heavily by the nations and peoples who have contributed least to the crisis. The latest Intergovernmental Panel on Climate Change’s assessment report (IPCC AR6) made a historic acknowledgment that variations in vulnerability to climate impacts are the result of historic inequities in socioeconomic development, marginalization, governance, and histories of colonialism (Pörtner et al. 2022; Funes 2022).

These historic processes have directed social, material, and environmental harms toward some groups—such as people in poverty and Black, Indigenous, and People of Color—and away from others. If societies and governments desire to confront climate change in a serious and just way, they must confront the drivers of climate inequality. If we consider the countries and populations bearing disproportionate climate burdens to be injured parties, then a climate reparations framework proposes that the countries responsible for the vast share of historic greenhouse gas emissions that have caused climate change should take steps of repair to redress the harms of climate crisis on these populations. International climate reparations aim to attend to these inequities through transfer of resources from countries responsible for the majority of historic greenhouse gas emissions to countries most vulnerable to the climate crisis. Given that environmental inequalities exist at every scale, a climate reparations framework can be similarly employed to address disparate climate burdens within the United States. Such reparations should be designed to directly address intertwined historic racial, economic, and environmental inequalities.

In the international context, Global North countries, whose development depended on resource extraction and pollution of the atmospheric commons, owe a tremendous debt to countries in the Global South, whose underdevelopment is largely rooted in these histories of extraction, and which are now the countries most impacted by the climate crisis. Simply put, the Global North countries responsible for historic climate emissions owe a climate debt<sup>1</sup> to

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<sup>1</sup> *Climate debt* refers to the debt owed to developing countries by developed countries for the disproportionate use of the Earth’s resources and emissions production that have benefited their historic development. This includes “emissions debt” that is the result of the historic overuse of fossil fuels by developed countries, and “adaptation debt” of the costs of the adverse effects of the climate crisis on developing countries (Pickering and Barry 2012).

the most vulnerable countries and communities, and, from a reparatory view, that debt must be repaid through transfer of resources. Leaders of vulnerable nations, scholars, and climate justice advocates have called for global climate reparations between states or payments from corporations to impacted communities to address this debt (Harvey, Lakhani, and Gayle 2022; Willis 2022; Chugh 2022; Colman and Mathiesen 2022; Vyawahare 2022; Talakai 2018; Burkett 2009).

Climate reparations provides a legal and analytical framework to address climate inequality—an organizing principle for claims of injury due to the climate crisis between impacted parties and parties viewed as responsible for causing those impacts. The crux of a climate reparations analysis is that the countries and communities most vulnerable to the impacts of climate crisis are those least responsible, and the corporations and countries that have produced the majority of climate emissions have a responsibility to redress the harm and damages their actions have caused to the climate vulnerable—that is, those who face the disproportionate burden of risk and harm from the impacts of the climate crisis, including women, people with disabilities, people in poverty, and Black, Indigenous, and People of Color.

In international law, reparations are constituted by the conditions of **restitution, compensation, rehabilitation, satisfaction, and guarantees of non-repetition** for the victims of some violation of international law (Shelton 2015). In this way, reparations programs are both *backward* and *forward looking*: meant to address past harms but also to improve the lives of those harmed, now and in the future. As Maxine Burkett (2009) writes: “On the one hand, reparations often seek to identify and compensate for an exact past harm. On the other hand, forward-looking relief recognizes that past harm has current and continuing effect and, rather than an exact calculation of monetary payment based on those current harms, reparations seek compensation to improve lives into the future.” This is acutely the case in reparations meant to address the impacts of climate change. Climate reparations aims to address harm due to past and present climate impacts, but also to support impacted peoples’ ability to endure—and thrive—in the face of present and future climate impacts.

In the case of the climate crisis, the communities that are most impacted by climate pollution and the communities that are most vulnerable to future climate impacts are often the same. Thus, the climate reparations frame offers a unique way to simultaneously address past climate damage and address forward-looking vulnerabilities, with an intent to prevent

repetition of harm. Through payments and investments in climate-harmed and vulnerable communities, redress for past harm can be designed and deployed in a way that begins to undo structures and patterns that perpetuate historic environmental inequality, and so mitigate further vulnerability to climate change. The full potential of climate reparations is not only that it is reparative but that it is also reconstitutive, contributing to what Olúfẹmi Táíwò (2022) calls a constructive “world-building” project. Climate reparations can contribute to undoing the structural pillars of inequality that have been fortified by centuries of history and redirect resources to remake the world in more just and equitable ways.

The constructive view of reparations is more future-oriented and attentive to holistic, even global, transformation that aims to fundamentally address the structures and processes that have produced injustice—in this case, climate inequality. From this perspective, the project of climate reparations is not simply a matter of restitution or restoration to a previous state, but instead a forward-looking, world-making project. While Táíwò makes the case that global climate reparations would be a constructivist project, this paper argues that reparations within the United States could be similarly world-building, by directing resources to the harmed in order to directly undo structural environmental inequalities within the US.

Climate inequalities exist not only between nations, but also within them. The inequity of climate crisis impacts across the globe is mirrored within the United States. A growing preponderance of scientific literature demonstrates that multiple kinds of pollution disproportionately impact communities of color in the US, and that it is these same communities that are and will be the most vulnerable to climate impacts like floods, wildfires, droughts, and heat waves (US Environmental Protection Agency 2021a).

This is in part because the processes that created global inequalities of wealth, well-being, and economic and environmental harms are processes in which the US economy—which found its basis in chattel slavery and colonialism—played a linchpin role. The processes of extraction that colonizing countries perpetrated have resulted in a massive transfer of wealth from the Global South to the Global North (Hickel, Sullivan, and Zoomkawala 2022). The trans-Atlantic slave trade extracted people from Africa, and resources from the Americas and the Carribean, to provide labor and produce goods in the New World colonies, including what became the United States, and then transported those goods to the white and wealthy populations of Europe.

Over generations, explicitly and implicitly racialized policies have reinforced the legacies of colonialism and slavery and have fortified generations of political inequality and dispossession—particularly of Black and Native populations in the United States. The economic and social inequities produced by this racial hierarchy have consequently directed environmental harms to communities of color (Nardone, Chiang, and Corburn 2020; Mizutani 2019; Taylor 2014; Wright 2003; Brook 1998). For example, the conditions that created Cancer Alley<sup>2</sup> in Louisiana and the vulnerabilities of Black communities in the South to public health risks and environmental hazards are the same conditions of political, economic, and social disenfranchisement of Black communities in the region that institutions have perpetrated for centuries. The resulting environmental and health disparities are the result of the relegation of Black communities to environmental “sacrifice zones” (Lerner 2012).

Unequal environmental harms from climate disasters and unequal vulnerabilities to future climate impacts serve as the basis for a climate reparations program for climate-vulnerable peoples, or claimants. In the United States, certain policies have acknowledged and aimed to address these environmental inequalities.<sup>3</sup> However, these policies fall short of naming the responsibility or liability for inequitable climate impacts. Climate reparations policies and programs could offer a direct path to redressing the unequal harms of climate pollution, by directing resources from the harm-doers responsible for climate impacts to the harmed.

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<sup>2</sup> Cancer Alley refers to the geographic region along the southern stretch of the Mississippi river that is also the site of numerous petrochemical facilities. Residents of cancer ally have experienced disproportionate health harms including increased rates of cancers, asthma, heart disease, and other diseases that can be traced to environmental harms

<sup>3</sup> The history of environmental justice policy in the United States has attempted to address deeply rooted environmental inequality through various policy mechanisms. In 1994, President Bill Clinton signed Executive Order 12898 to direct federal agencies to analyze and address the burden of environmental harms in communities of color. However, this executive order has been criticized as insufficient. Some officials have attempted to develop further environmental justice legislation, such as the Environmental Justice for All Act, which has been introduced two years in a row in Congress and the Senate, and was developed with deep community input to address multiple issues like health equity, cumulative impacts of multiple harmful facilities on communities, environmental review processes through the National Environmental Policy Act (NEPA), and the strengthening of the Civil Rights Act to enable groups to seek legal remedy when faced with environmental discrimination.

This paper evaluates the applicability of a climate reparations framework in the context of domestic climate inequalities and resources required to mitigate climate-related harms for vulnerable populations within the United States. Recent climate litigation that identifies the US government or corporations' liability for specific climate harms and climate risks—as well as proportional emissions and attribution science—can help identify those responsible for climate harms. A reparatory program can use these advances to directly address existing climate inequality, by confronting and redressing the moral and material injury of climate-impacted peoples and redistributing resources from perpetrators of climate harm to those harmed. This transfer of resources can be one constituent effort or the foundation for a broader project to undo the patterns of social and economic inequality that produce climate inequality.

An adequate national response to the climate crisis requires addressing structural inequalities, and climate reparations offers a lens that could help policymakers understand how to effectively direct resources to those who need them most. Policies and programs can be designed both to correct the injustices of the past and to fundamentally transform the institutions and structures that allocate resources and harms, helping to prevent the perpetuation of inequality into the future.

## REPARATIONS FOR THE HARMS OF CLIMATE CHANGE

Climate reparations presumes that parties—such as nations or corporations—that have produced a disproportionate share of climate emissions can and should be held responsible for climate-related harms, like damages from climate disasters, on acutely impacted parties—such as climate-vulnerable nations or communities. Burkett (2009) named climate reparations as “the effort to assess the harm caused by past emissions . . . and improve the lives of the climate vulnerable through direct programs, policies and/or mechanisms for significant resource transfers.” Additionally, reparations offer to redress past harm, while also aiming to aid in the present and prevent future harm, thus improving the conditions of the harmed in a forward-looking fashion.

In the United Nations definition of reparations,

Adequate, effective and prompt reparation is intended to promote justice by redressing gross violations of international human rights law or serious violations of international humanitarian law . . . In accordance with its domestic laws and international legal obligations, a State shall provide reparation to victims for acts or omissions which can be attributed to the State and constitute gross violations of international human rights law or serious violations of international humanitarian law. In cases where a person, a legal person, or other entity is found liable for reparation to a victim, such party should provide reparation to the victim. (United Nations General Assembly 2005)

As a reparatory framework, climate reparations draws on the legal mechanism of reparations, which in international and general law principles demands perpetrators return wronged individuals to the *status quo ante* before the instance of wrongdoing, or else provide compensation for injury. The constituent components of reparations are **restitution**, **compensation**, **rehabilitation**, **satisfaction** and **guarantees of non-repetition**. These components require a return to conditions prior to the wrongful act (**restitution**); **compensation** in the case that such restitution is not possible; addressing of emotional and mental injury, for example, through formal apology (**satisfaction**); guarantees that the harm will not be repeated by the perpetrator (**non-repetition**); and **rehabilitation** through various supports to the victims of the wrongful act.

Climate reparations identifies claimants as the climate vulnerable. This primarily refers to Global South nations that bear the disproportionate burden of climate crisis, but within the United States, numerous studies have mapped vulnerabilities to pollution and climate change onto race, class, and other persistent social inequities (Donaghy and Jiang 2021; US Environmental Protection Agency 2021a). That means that climate-impacted and climate-vulnerable communities—which are disproportionately Black, Indigenous, and People of Color—could be claimants for climate reparations within the United States. Such groups include, for example, Black communities that live in Cancer Alley and other regions of the Gulf pockmarked by petrochemical industry, where communities face both the chemical pollutants in their air and water, and the threats of acute climate disasters.



Potential claimants also include primarily Latino farmworkers toiling in harmful air quality as a result of increasingly intensifying wildfires across the American West, and poor Black and immigrant communities in South Florida becoming internally displaced by rising sea levels and “climate gentrification.”<sup>4</sup> Claimants could also include the multitudes of Indigenous sovereign nations on whose lands fossil fuel infrastructure, such as pipelines, are often laid without their consent. Fossil fuel infrastructure can increase both public health risks from pollution as well as social risks—as seen in the concurrence of missing and murdered indigenous women and children coinciding with the emergence of “man camps” at fossil fuel infrastructure construction sites (Joseph 2021; Condes 2021).

Reparations to claimants are sought from those considered responsible for creating or committing the harm in question. In the call for climate reparations on the global scale, the harm-doers are the developed or wealthy nations who have not only contributed the majority of historic greenhouse gas emissions since the industrial revolution, but from whom an ecological debt is also owed due to their plunder of Global South nations and waste of the global atmospheric commons that provided the conditions for their industrial development up to the present (Bond 2010; Warlenius 2017; Hickel and Slamersak 2022). Historic responsibility for climate emissions is the basis of the principle of “common but differentiated responsibilities” enshrined in the UNFCCC.<sup>5</sup> The notion that the causes of the climate crisis can be traced to specific actors, such as nation-states and corporations, is at the crux of the logic for climate reparations.

Within the United States, this responsibility can be attributed to the fossil fuel corporations whose operations can be traced as substantially contributing to historic greenhouse gas emissions. The United States government may be charged as a liable party for inadequately

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<sup>4</sup> *Climate gentrification* refers to the ways that communities and residents are displaced by the shifts in community characteristics and local property values resulting from climate change-related patterns of movement. For instance, property values can shift significantly due to rising sea levels or in the aftermath of disasters: After Hurricane Katrina in 2005, New Orleans saw the mass displacement of Black and poor populations and consequent development in those neighborhoods.

<sup>5</sup> Common but differentiated responsibilities are outlined in the UN Framework Convention of Climate Change. The principle refers to the shared responsibility of nations to address the global climate crisis, but recognizes that nations have differing responsibility for the climate crisis as a result of the proportion of historic climate emissions they have produced. The UNFCCC and the Kyoto Protocol codify these differing responsibilities by distinguishing between Annex I and Non-Annex I countries. Annex I countries are industrialized countries responsible for emissions reduction, and Non-Annex I countries are largely developing countries only responsible for reporting emissions.

acting to meet the requirements of existing law—such as the National Environmental Protection Act and the Civil Rights Act—as some public litigation has contended (McCormick et al. 2018). Climate litigation that attempts to hold the government and corporations responsible for climate damages can help inform climate reparations programs by providing a growing body of arguments delineating responsibility for the climate crisis, to delineate the harm-doers who must pay reparations. The latest advances in science as well as climate litigation pinning responsibility for climate impacts on the government and corporations can lay the foundation for establishing parties responsible for climate impacts in the US

Given that the impacts of climate change are distributed so inequitably, reparations provide a moral and legal clarity that delineates responsibility and repair between the perpetrators and the harmed, and creates processes for turning those acknowledgments into material redress. Reparations also offers the potential to transformatively rectify, disrupt, and undo the social, political, and economic patterns that have relegated poor communities, and Black, Indigenous, and other communities of color to sacrifice zones that bear the disproportionate burden of pollution and climate impacts in the United States. This potential to stem the flows of harm to burdened communities is maximized if we approach climate reparations from a *constructivist* perspective that views reparations as a project in not only rectifying past harm, but in reconstructing the world in a way that undoes the structural inequalities that allow unequal harm to persist (Táíwò 2022).

## **The Case for Climate Reparations: Pollution Inequity within the United States**

What could a climate reparations legal and policy framework offer when it comes to addressing inequitable climate harms within the United States? Although international claims for climate reparations have stemmed from climate-vulnerable countries and communities making demands of Global North countries, the inequities that occur between Global South and Global North countries in the international arena are mirrored within the United States. Climate reparations would address specific climate change damages through reparatory investments or compensation to climate change-impacted peoples or communities. At the same time, climate reparations could and should be designed in a way that addresses historic environmental inequalities that aggravate climate vulnerability:

Many of the factors that contribute to inequitable climate vulnerability are the same factors that produce other inequitable environmental and health burdens.

A constructivist climate reparations program would account for the root causes of inequitable pollution burdens and inequitable climate impacts. These causes are the same—the histories of discrimination and creation of sacrifice zones that find their genesis in slavery, colonization, and racist policy. Thus, a comprehensive climate reparations program offers a way to redress historic inequities by tackling backward-looking historic environmental harms and advancing a forward-facing systems transformation to ensure just and equitable social and ecological futures.

In the United States, communities of color are disproportionately vulnerable to environmental harms. Decades of research have shown that the racial composition of a neighborhood is the strongest predictor of the siting of hazardous waste sites nationally (Brulle and Pellow 2006; Lee 1992), and that even “neighborhoods with already disproportionate and growing concentrations of people of color appear to ‘attract’ new facility siting” (Mohai and Saha 2015). In the US, people of color on average, are exposed to higher rates of nitrous oxide (Clark, Millet, and Marshall 2014) and PM2.5 particulate matter air pollution (Jbaily et al. 2022) across regions and regardless of income level (Tessum et al. 2021). Racial-ethnic disparities exist across nearly all major emission categories, and Black Americans are exposed to more pollution from every type of source, from industry to agriculture to vehicles.

This disproportionate and racialized pollution exposure results in well-documented health disparities. Black and Hispanic children have been found to have higher rates of asthma than white children, even when controlling for socioeconomic status (Zanobetti et al. 2022; US Department of Health and Human Services 2021). Studies have shown Black, Hispanic, and Asian people have higher risk of premature death from particulate matter pollution than their white counterparts (Di et al. 2017).

The disparities in exposure to air pollution are the result of discriminatory policies including Jim Crow laws, historic segregation, and redlining of neighborhoods in major metropolitan areas around the country (Guerrero 2019; Plumer, Popovich, and Palmer 2020; Zhong and Popovich 2022). One study offers evidence that segregation is broadly associated with

disparate air pollution exposures, with more highly segregated areas experiencing higher exposure (Bravo et al. 2016).

Exposure to various forms of pollution are not unrelated to the drivers of climate change. In many ways, racialized pollution exposure is driven by the fossil fuel industry, whose operations have released both toxic pollutants as well as greenhouse gas emissions that have significantly contributed to climate change. In the United States, the oil, gas, and coal industry are responsible for much of the pollution that vulnerable populations face. Over a million Black Americans live within half a mile of natural gas facilities, and over 6.7 million live in the 91 US counties in which oil refineries are located (Patnaik et al. 2020). Of the nearly 18 million people across the US who live near active oil and gas wells, 3.3 million are Hispanic, 1.8 million are Black, and 3 million live below the poverty line (Proville et al. 2022). Furthermore, there is evidence that hydraulic-fracturing or “fracking” oil wells are more likely to be sited in communities of color and areas of higher poverty (Johnston, Werder, and Sebastian 2016). As a 2021 Greenpeace report on “fossil fuel racism” outlined:

Oil, gas, and coal activity in the United States takes place on the ancestral lands of Indigenous peoples, making the fossil fuel industry complicit beneficiaries of the forced removal and genocide of Indigenous peoples. Racist practices such as redlining and housing discrimination, longstanding social and racial inequalities, colonization, Indigenous genocide and removal, and elected officials who are beholden to corporate power all combine to create a system in which the most dangerous impacts of pollution fall most heavily on the most disadvantaged, particularly Black, Brown, Indigenous, and poor communities. (Donaghy and Jiang 2021)

The same industries and activities that produce toxic pollution also contribute to the climate crisis. Therefore, actions to halt fossil fuel extraction and infrastructure have the dual benefit of addressing historic pollution inequity and the root causes of climate crisis. Many pollution-impacted communities have sought remedies to pollution inequity via legislation and litigation. But climate reparations offers another legal and policy tool that addresses the interwoven harms of disproportionate pollution exposure and disproportionate vulnerability to climate crisis.

# The Case for Climate Reparations: Disparate Climate Impacts in the United States

The climate crisis is occurring faster, more intensely, and more widely than previous science projected (Pörtner et al. 2022). But even as the impacts have “become even more evident, stronger, and extreme” (US Environmental Protection Agency 2021b) across the country, they are not *felt* equally. Unequal exposure to pollution and associated health risks in the US also contributes to the increased vulnerability of certain populations to climate change impacts like storms, floods, and heat waves. Pollution inequality is a key factor in identifying communities which may be at higher risk to climate impacts and thus potential claimants for climate reparations.

Not unexpectedly, the growing body of study on climate vulnerability in the United States shows that the same demographic communities that suffer historic racial and economic injustice and heightened pollution burdens are not only suffering the worst impacts of the climate crisis—past and present—but also face heightened vulnerability to future expected climate disasters (Plumer, Popovich, and Palmer 2020). A 2021 EPA report found that Black and African Americans are projected to face worse climate impacts—including living in areas with higher projected increases in deaths related to extreme temperatures—than all other demographic groups (US Environmental Protection Agency 2021a). The study also found Hispanic and Latino Americans disproportionately participate in weather-exposed industries vulnerable to extreme temperatures, such as construction and agriculture. They are also more likely to live in areas with the highest projected reductions in labor hours due to extreme temperatures. Climate change impacts on livelihood will also directly affect some Native American populations. For example, ocean acidification due to climate change could significantly harm coastal Native American tribes whose diet and economies often rely on fishing. Vulnerability to climate impacts also varies significantly across regions. The counties in the south of the United States will face the greatest cost burdens of climate change in the country (Hsiang et al. 2017).

American society’s racial hierarchy has created the patterns and conditions for climate disasters and burdens to fall into the same patterns created by decades and in some cases centuries of discrimination. The reality that Black, Indigenous, and other communities of color, as well as low-income communities, suffer greater pollution exposures, health risk, and

vulnerability to climate harm due to inequities embedded in US policies and history serves as another critical basis to identify claimant groups for climate reparations policy in the United States.

## Reparations in the Context of the United States

Reparations are not uncommon in the United States. Throughout history, individuals and groups have received restitution and apology for harm through court claims, legislation, and other government action, and many continue to do so today (Davis 2022). Recent reparations efforts, in particular, have sought restitution for atrocities perpetrated by the federal government. For example, in 1974, the surviving Black men among the 600 who were experimented upon in the 1932 Tuskegee experiment were awarded a \$10 million settlement, but a formal apology came only in 1997 from former President Bill Clinton. Similarly, the 1988 Civil Liberties Act created reparations for Japanese families who suffered internment in US concentration camps during World War II, but only after years of advocacy work by activists and legislators.

More recently, some states, localities, and individual institutions have attempted small-scale reparations programs, including some that attempt to address reparations for descendants of enslaved African peoples. For example, in 2019, Evanston, Illinois became the first municipal government to create and fund a reparations program. Reparations payments under the city's Restorative Housing Program began in 2022, awarding \$25,000 in housing assistance to 16 residents by lottery. Similarly, in 2019 as a result of several years of student activism Georgetown University committed to create a \$400,000 annual fund for scholarships and other support for descendants of 272 peoples enslaved by the university.

We cannot begin a discussion of climate reparations without also engaging in the ongoing debate on reparations and restitutions for the foundational atrocities perpetrated by the United States, particularly the enslavement of African peoples and the genocide of Native peoples across the continent through the course of westward expansion and colonization. Scholars and political theorists have engaged debate regarding reparations for the descendants of African slaves since the end of chattel slavery in the United States. They have offered numerous theories hypothesizing the appropriate form and scale of restitution to address the intergenerational impacts of chattel slavery on Black Americans, including forms

of reparations that attempt to account for and disrupt social, political, and economic inequalities.

Darrity and Mullen (2020), in particular, consider closing the wealth gap for Black American descendants of enslaved people to be the starting point for systemic reparations. They make the case that piecemeal reparations are insufficient to redress the debt owed to Black Americans for the value of labor stolen from Black enslaved peoples through the course of US history. To begin to address historic inequalities, a full-scale reparations program for Black Americans must include ownership of responsibility by the federal government for the atrocities of slavery, and restitution and compensation at the scale that eliminates the Black-white racial wealth gap.

In the case of reconciliation and restitution for the genocide and displacement of Native Americans from their lands, tribal nations, as sovereign political entities, are entitled to restitution under international law. Because Indigenous peoples hold property rights individually and collectively, in addition to individual reparations, Indigenous peoples also hold a claim for collective reparations to meet the needs of groups of victims or victimized communities (Van Boven 1992). International law on the rights of Indigenous peoples particularly emphasizes protection of the collective rights to natural resources. The UN Declaration of the Rights of Indigenous Peoples explicitly states that Indigenous Peoples are entitled to compensation in the case of damages from exploitation of their lands or forced relocation.

Nevertheless, Tribes and Native peoples have had to fight for generations for the respect of political sovereignty, enforcement of Native American treaties, and the restoration of lands stolen from Tribes and Native peoples. In the United States, Native Americans and Tribes have made multiple attempts to reclaim lands and restitutions for displacement, colonization, and genocide by the US government. For example, in 1924 the Pueblo Lands Act established the Pueblo Lands Board that granted the Pueblo \$1.3 million for lands stolen, although the Pueblo disputed the amount. In 1944, California Native Americans were awarded \$17 million in court for the federal government's failure to ratify treaties with Tribes, though they were ultimately paid only \$5 million. And in 1968, the US Court of Claims awarded the Tlingit and Haida Indians of Alaska \$7.5 million for lands taken by the US government between 1891 and 1925.

Notably, in 1946 Congress created the Indian Claims Commission, which has since awarded \$1.3 billion to 176 tribes and bands (Blakemore 2019). Much of these monies were put in trust by the US government and ultimately has averaged about \$1,000 per person. The intent of the Commission, however, was not to restore lands to Indigenous peoples but instead clear all Indian land claims. Initially the money was based on the value of the lands at the time of the “loss of lands,” not explaining when or how the lands were lost. Many Tribes have refused the money, including the Shoshone and the Lakota, saying that their lands were never for sale.

Compared to historic attempts, recent calls for “land back” from Native American communities and activists (Landback 2022) have translated to restoration of sovereignty over Indigenous lands and territories through public and private means including full equitable title and self determination for Tribes. Native Tribes and communities have sought multiple mechanisms to reclaim lands in recent years, including through the courts. One of the most visible court cases, *McGirt v. Oklahoma* (2020), reached the Supreme Court, where the majority ruled that a vast swath of Oklahoma remains jurisdictionally as the lands of the prior Indian reservations of the Five Civilized Tribes.

Furthermore, many direct transfers of private and public lands have resulted in restoration of lands to Tribes. This includes efforts to buy back small parcels and transfers of large swaths (Valdez 2022), like the 28,000 acres transferred to the Bois Forte Band of the Minnesota Chippewa in 2022 (Kunze 2022) and the over 9,000 acres transferred to the Confederated Tribes of the Colville Reservation in Washington State in 2021 (Oliver 2022). In California, Governor Gavin Newsome recently announced that the state would distribute \$100 million to nearly 200 tribes for the purpose of restoring lands to Tribes, a measure many Native American leaders called insufficient, but a start in the right direction (Ahtone 2022).

The history of harms perpetrated by the US government has resulted in multiple attempts to advance reparations for different racial and ethnic groups, including restoration of lands to Native Americans, reparations for Japanese internment, and historic and ongoing efforts to establish reparations for descendants of African slaves. This paper will not be able to convey the depth and breadth of scholarship, policy, and political approaches to the range of extant efforts to achieve reparations for Native Americans and Tribes, Black descendants of enslaved peoples, and other groups seeking reparations in the US. However, an effort to achieve climate



reparations within the United States cannot be separated from addressing the historic and systemic injustices done to these populations.

To seek climate reparations is to address climate and environmental inequities that map onto race, but are not a replacement for Black and Indigenous reparations, as the harm being addressed is connected but distinct. Nevertheless, a domestic climate reparations policy program will only be effective, systemic, and transformative if it not only addresses racial and political inequalities that have their roots in slavery and colonialism but also the historic policies and processes that have translated these inequalities into environmental burdens. While a climate reparations program must address racial and economic inequalities, a climate reparations program alone should not supplant other efforts for reparations, and can advance separately from efforts at reparations for racial and ethnic groups for historic injustices.

## **A CLIMATE REPARATIONS PROGRAM FOR CLIMATE-VULNERABLE PEOPLES OF THE UNITED STATES**

A US climate reparations program must confront the historic inequalities borne out of the US's role in colonialism and trans-Atlantic slavery, and—in the words of Táíwò (2022)—engage in a world-building project to construct society in an image of justice and equity.

A climate reparations regime would provide restitution or compensation for specific harms, such as climate displacement, health risks and mortality, and the impacts of disasters on specific communities. Climate reparations may be strictly concerned with addressing perpetrators' responsibility for such specific impacts of climate change or climate harms that have occurred. However, a constructivist climate reparations approach would confront the root causes of layered environmental inequities, and would also address future risk by investing in communities to improve their ability to withstand climate disasters and other climate impacts.

Efforts to address climate change impacts through reparations may take on a narrow form in which they specifically redress climate change damages caused by responsible parties, but not necessarily other forms of environmental burdens (e.g., disproportionate pollution).

Inequitable pollution burdens are deeply tied to climate inequality, and existing pollution inequality may serve as a factor in identifying claimants for climate reparations, due to their aggravated vulnerability to climate crisis. A climate reparations program focused on the responsibility for specific climate change impacts may be narrowly tailored and could produce co-benefits of addressing pollution inequality by correlation. However, a climate reparations program that is constructivist and comprehensive would address not only inequitable climate impacts but also historic pollution burdens and environmental inequities.

A constructivist world-building climate reparations program would address the isolated impacts of the climate crisis as well as the layered inequalities produced and reproduced at every point of the climate crisis causal chain: fossil fuel extraction, air pollution, and climate disaster. The perpetrators of climate change are often the same corporations or government entities that produce or enable other pollution and environmental harm on communities. A limited view of climate reparations may attempt to redress only the impacts of specific climate disasters, but a comprehensive climate reparations effort should address the interwoven root causes of inequitable impacts of climate change—including the harms of extraction, carbon pollution, and co-pollutants that produce inequitable health burdens—in addition to addressing discrete climate crisis impacts. Thus, even if the primary purpose of a climate reparations effort is to redress climate harms, climate reparations should be designed to address climate inequality, and therefore to mitigate historic, environmental inequities that produce disparate vulnerability to climate crisis.

## **Reparations for Whom?**

Past, present, and future climate impacts are inequitable as a result of historic processes of colonialism and resource extraction (Táíwò 2022). The social and economic foundations of the United States in the enslavement of African peoples, colonialism, and genocide of Native American peoples have produced persistent inequalities that have been reinforced by policies for generations. Environmental degradation, in particular, has been part and parcel of the exploitation of peoples and lands that set the foundation of the US economy, and the patterns of distribution of benefits and harms that have ensued for hundreds of years. It is onto these historic inequalities that present climate vulnerabilities map.

The claimants for climate reparations should be those individuals and communities who have sustained injury or injustice and are projected to continue to experience heightened exposure to harms as a result of climate change impacts and the activities of the perpetrators of climate change impacts. In this way, climate reparations that stem from specific instances of past climate harm and take a *backward-facing* view may also address ongoing harms and projected future risk to climate impacts in a *forward-facing* manner.

Burkett (2009) writes that the climate vulnerable are those who “suffer from anthropogenic climate change to which their contribution is, in most cases, negligible, yet the consequences are life-threatening.” She adds that in the global arena, lack of direct participation of the vulnerable in the process of international climate negotiations produces insufficient emissions reduction goals, which further contributes to the vulnerability of countries that experience higher climate risk. The same can hold true for climate-vulnerable populations in the United States, who have also had limited say in influencing national climate and energy policy solutions. The harms that the vulnerable face are thus a result of past emissions and ongoing contemporary political failures to develop and implement climate solutions at the scale that would mitigate risk to the most vulnerable.

In some cases, where reparations, compensation, or other relief is sought for climate damages through litigation, the claimants may be a particular community or group of individuals who have been impacted by a specific set of harms. In a landmark case, *Kivalina v. Exxon Mobil* (2008), the Alaskan Native Village of Kivalina and the City of Kivalina sued Exxon Mobil and several other oil and energy companies for damages for the destruction of Kivalina from flooding due to climate change, which resulted in the displacement and relocation of village residents. Similarly, in *Comer vs. Murphy Oil* (2010), a group of Mississippi homeowners sued 34 energy companies for their contributions to climate change that resulted in the destruction of their homes by Hurricane Katrina. While the Kivalina and Comer cases ultimately were dismissed, many groups continue to exercise litigation on behalf of claimants seeking restitution for climate damages. Ongoing cases include *County of San Mateo vs. Chevron Corporation* (2017), in which San Mateo and Marin Counties of California have sued 37 fossil fuel corporations for climate damages, and *Juliana vs. United States* (2015), in which a group of 21 young people have sued the US government for relief due to the government's neglect of the “atmospheric public trust” which threatens the plaintiff's constitutional rights to life, liberty, and property.

While these cases demonstrate the ability for individuals or communities to seek some compensatory relief due to impacts of specific climate change events, a national climate change reparations program could identify a broad range of vulnerable groups requiring relief. Climate reparations programs can be designed to address the damages specific communities experience from specific climate events and disasters *ex post* (after the event)—as in the case of *Kivalina*, *Comer*, and numerous other climate litigation. A broad climate reparations program, however, could also identify the climate vulnerable throughout the United States by using a set of indicators or criteria to identify populations that suffer the greatest vulnerability to both historic harms and future climate impacts *ex ante*—that is, based on future projections. One option is to use and expand on the Climate and Economic Justice Screening Tool (CEJST).

## ***The Climate and Economic Justice Screening Tool (CEJST)***

The federal Climate and Economic Justice Screening Tool (CEJST) is meant to identify “disadvantaged communities” to be prioritized for climate investments targeted by the Justice40 Initiative.<sup>6</sup> The Justice40 Initiative is an all-of-government policy initiative that could direct billions of dollars in public and private spending to communities that have been most environmentally marginalized in the past. While not explicitly a reparations program, the Justice40 Initiative is, in many ways, a reparative framework that tries to direct federal investment to explicitly address environmental and economic inequities. Justice40 uses the CEJST to assess climate, environmental, and economic variations across multiple criteria and identify “disadvantaged communities,” to whom spending must be directed. A domestic climate reparations program could use CEJST in a similar way, or expand upon the tool.

However, critics—including members of the White House Environmental Justice Advisory Council—have advocated for including race as a factor in the CEJST, which the tool notably excludes (potentially to avoid a situation in which the tool is blocked from being utilized by courts considering potential litigation challenging the explicit use of race). This danger is unfortunate because, as previously discussed, race is one of the strongest predictors of

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<sup>6</sup> The Justice40 Initiative is a policy framework launched by the Biden administration in 2021 to fulfill President Biden’s commitment to direct at least 40 percent of the benefits of climate spending to disadvantaged communities, across hundreds of federal programs.

environmental inequality and climate burdens in the United States. Nonetheless, both CEJST and Justice40 have begun to develop policy tools that could help identify disadvantaged communities to whom future climate reparations may be directed.

## Climate and Economic Justice Screening Tool Indicators

The Climate and Economic Justice Screening Tool incorporates various indicators of burdens to identify disadvantaged communities across the United States. A community is disadvantaged if it is (1) at or above the threshold for one or more environmental, climate, or other burdens, and (2) at or above the threshold for an associated socioeconomic burden. The criteria the CEJST considers, in addition to a low-income threshold, include (Council on Environmental Quality 2022):

- Climate change: agriculture, building, or expected population loss; projected flood risk; or projected wildfire risk.
- Energy: energy cost burden or PM2.5 exposure.
- Health: asthma, diabetes, heart disease, or low life expectancy.
- Housing: experiencing historic underinvestment, housing cost burden, lack of green space, lack of indoor plumbing, or lead paint exposure.
- Legacy pollution: abandoned land mines, former Defense sites, proximity to hazardous waste facilities, proximity to Superfund (National Priorities List) sites, or Risk Management Plan Facilities.
- Transportation: diesel particulate matter exposure, transportation barriers, or traffic proximity and volume.
- Water and wastewater: underground storage tanks and releases or wastewater discharge.
- Workforce development: low to median income or poverty level, unemployment, or linguistic isolation, and percentage of people who have attained a high school degree level education or above

## Reparations From Whom?

Who are the parties responsible for climate harms in the United States? It is the actions and negligence of governments and corporations—actions based on discriminatory policies that

have produced disparate pollution burdens and climate vulnerability—that provide the basis for these parties' responsibility to climate-impacted peoples in the United States.

In developing a climate reparations program or policies, the parties from whom reparations are sought must be clearly delineated as those who have done harm to the claimants. Burkett writes that reparationists can determine the degree and share of responsibility in a number of ways, and offers frameworks that appropriate responsibility under which reparations claims can be persuasive (Burkett 2009). In the case of the climate crisis, there is a growing body of scientific and legal findings that place the evidence for responsibility on polluting corporations and governments. Advances in proportional emissions accounting and attribution science are giving greater clarity to the responsibility of specific institutional actors for a crisis that, in the past, has been regarded as a collective responsibility: There are indeed specific actors and entities who bear a greater proportional responsibility for historic emissions.

Legal liability and scientifically determined responsibility can inform climate reparations policies, as we will see later in specific policy examples. Although cases adjudicating responsibility for specific climate harms may only produce piecemeal remedies for specific groups or communities, there is a growing body of legal cases that aim to pin responsibility for climate impacts on the actions or inactions of the United States government and climate polluting corporations (in particular, the fossil fuel industry). These actors would serve as the perpetrators of climate harms from which both specific and broad climate reparations can be drawn. Furthermore, as the legal case for climate responsibility in the US develops, groups of the climate vulnerable will have greater access to recourse for climate reparations.

## ***Liability and Responsibility for Climate Crisis***

Domestically, government actions have undergirded inequitable burdens of historic pollution and climate impacts (Taylor 2014; Morello-Frosch and Lopez 2006; Bullard and Johnson 2002). The federal government has taken actions that have contributed to historic emissions and climate change—such as putting forth policies to promote fossil fuel development and production—despite clear knowledge of the impacts that continued greenhouse gas emissions have on global warming (Donaghy and Jiang 2021). Federal and sub-national government policies have also played an active role in creating and reinforcing

environmental inequity and its uneven health outcomes (Grove et al. 2018; Wilson, Hutson, and Mujahid 2008; Heiman 1996).

Some innovative litigation is directly tackling the question of the inadequacy of governments' response to the climate crisis. In a forward-thinking wave of "government framework litigation," litigants challenge the overall response of governments to climate change. These cases "may involve (i) challenges to the overall level of ambition of the response; or (ii) failure to implement measures adequate to achieve the government's ambition" (Setzer, Higham, and Bradeen 2022). Some of this litigation relies on compelling the governments to protect people from climate impacts by virtue of the "public trust" for citizens' well-being. These public trust claims are fewer in number than regulatory enforcement cases, such as Clean Air Act or National Environmental Protection Act (NEPA) cases, or even state law cases in the United States, and have been difficult to win because public trust has historically had a narrow legal scope and thresholds of causation are difficult to meet (McCormick et al. 2018).

One highly visible case is *Juliana v. United States*, in which 21 young people have brought the claim that the government has actively contributed to climate-related harm these young people have suffered and failed to meet the government's public trust duties to present and future generations. Their argument rests on evidence that the US government has perpetuated fossil fuel energy, through historic and ongoing government approvals and fossil fuel subsidies. This landmark case has asserted not only the failure of the US government to address the climate crisis, but its active participation in advancing policies that promote climate harm (Our Children's Trust n.d.).

In addition to making claims against the US government, climate-impacted peoples and communities have made numerous claims against fossil fuel corporations for their contributions to climate change. A vast number of US climate litigation cases challenge breaches of existing environmental statutes by industry for polluting facilities or sites (Columbia Law School Sabin Center n.d.). McCormick, in a survey of US climate litigation, finds that the highest number of cases involve air quality and utilize the CAA and NEPA to make claims (McCormick et al. 2018). Some cases attempt to establish a corporation's culpability for climate change damages. A climate reparations program could use these cases to help establish grounds for making climate polluters pay reparations. In the United States,

plaintiffs have sought to recover damages allegedly caused by climate change under common law theories of liability, federal and state statutes, and the US and state constitutions (Zarghamee et al. 2021).

A first wave of litigation from 2005 to 2015 largely failed to establish standing and causality between climate harms and defendant conduct (Ganguly, Setzer, and Heyvaert 2018). Cases like *Kivalina* and *Comer* were dismissed because courts challenged plaintiffs' standing and judges deferred to the political question doctrine, which deems questions posed by plaintiffs on climate policy best answered by other branches of government. But a new wave of climate change litigation may find greater success, as plaintiffs deploy an arsenal of new tactics, such as challenging corporations for withholding information on the impacts of their products from a consumer protection perspective, and risk disclosure to stakeholders. Ganguly, Setzer, and Heyvaert (2018) suggest that even if corporations avoid accountability, there may be costs in terms of liability for future climate harms, reputational damage, and greater public scrutiny. In the United States, an increasing number of climate change cases are using state law and private tort claims to hold corporations accountable. This period has also witnessed courts more willing to adjudicate claims.

## ***Climate Science and Climate Responsibility***

Many innovative new cases are now relying on the advance of climate science to attempt to hold corporations accountable for their contributions to climate change. Climate science, particularly related to climate change attribution and proportional greenhouse gas emissions, has also advanced. Richard Heede's 2013 study quantified and mapped the cumulative emissions of the 90 largest carbon emitters from 1854 to 2010. This landmark study was eventually published in the journal *Climatic Change* in 2015 and created an opening for a wave of cases that drew on the ability to apportion responsibility for climate change (Frumhoff, Heede, and Oreskes 2015). Colloquially known as the "carbon majors,"<sup>7</sup> this study informed a landmark petition by the Philippines Commission on Human Rights against the carbon majors for responsibility for climate change and ocean acidification.

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<sup>7</sup> Carbon majors refers to the oil, gas, and coal companies that have contributed the most to greenhouse gas emissions.



Cases that followed have drawn on proportional emissions science: “Whether or not they refer explicitly to the Carbon Majors study, the lawsuits initiated in the second wave of private climate litigation specifically quantify the individual and historical emissions from major carbon-emitting corporations and argue on the basis of defendant-specific attribution” (Ganguly, Setzer, and Heyvaert 2018). This study has helped launch a growing body of work tracing historic emissions down to individual contributing entities. The University of Massachusetts Amherst maintains a regularly updated “Greenhouse 100” index that also tracks the top greenhouse gas emitters annually (University of Massachusetts Amherst 2019). This work has enabled claimants to identify specific defendants or groups of defendants more easily.

In addition to proportional emissions science, attribution science is also developing rapidly. Attribution science aims to determine the impact climate change has had on the severity and frequency of extreme climate events (Cho 2021). Advances in climatic event attribution science is establishing novel evidence that specific climate change events are impacted by increases in anthropogenic greenhouse gas emissions (Marjanac and Patton 2018). For example, one study utilizing attribution science determined that \$8.1 billion economic damages from Hurricane Sandy could be attributed to sea level rise due to human-caused climate change (Strauss et al. 2021). Recent studies have even aimed to combine the proportional emissions science and attribution science to determine how specific climate impacts—like sea level rise or an extreme weather event—can be proportionately attributed to the emissions of specific individual companies (Ekwurzel et al. 2017).

Attribution is a developing science and has limitations: For example, different types of weather events, such as heat waves and sea-level rise, can be attributed to human-caused climate change to a greater extent than others, like specific precipitation events. The spatial scales of available data are often the limiting factor in attribution studies (Cho 2021). Additionally, attribution doesn't necessarily translate to causation in litigation. But the science, along with proportional emissions evidence, is providing evidentiary tools for attributing responsibility for climate events to the actions of specific polluting actors.

Previously, courts were reluctant to rule on climate change causation in specific cases. The challenge in determining responsibility for climate harms was that climate change was viewed as the result of collective actions rather than the responsibility of individual actors,

and liability and restitution for impacts in a specific country or region had been difficult to trace to the specific actions of individual corporations. Thus, climate change cases were subject often to the political question doctrine. The science that can help determine both the proportion of emissions individual actors (states and corporations) have contributed to climate change, and how attributable the severity of specific climate events are to climate change, is advancing rapidly. As these fields develop, courts may begin to express greater openness to individual corporate responsibility for climate harms if even partial contribution and causation is scientifically proven.<sup>8</sup> This means that future climate reparations policy in the US may rely on attribution and emissions proportionality to identify the responsible parties, broadly, and even in cases of specific climate disasters.

## What Form of Climate Reparations?

In international relations, reparations is described as satisfying one or more of the conditions of *restitution*, *compensation*, *rehabilitation*, *satisfaction*, and *guarantees of non-repetition*, and the same can be true for climate reparations in the US.

Climate reparations can and should direct resources for the explicit purpose of undoing climate inequality. A domestic climate reparations program can begin with restitution and compensation—simply giving people and communities money and resources. In particular, restitution and compensation can materially address the current and future environmental health of impacted communities by supporting efforts for local adaptation and mitigation and enhancing climate resilience at the local level. One way to do this is through community-based environmental justice reparations (Kaiman 2016).

A climate reparations framework modeled after community-based environmental justice reparations would confront racialized environmental injustice in the United States and narrowly target reparations programs to the needs of environmentally harmed or vulnerable communities. Kaiman suggests using existing environmental law to require perpetrators of environmental harm to resource community-based programming to benefit the people

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<sup>8</sup> Partial contribution is a lower standard of responsibility for an event than direct causation. See below regarding the standard set in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). In the case of the climate crisis, this could translate to needing to demonstrate that a party's emissions simply may have contributed to climate change.

harmed. But existing law may have limitations—as civil cases have demonstrated—that make developing new legislation and new ways to deploy regulatory and executive authority necessary to enable robust climate reparatory policies. The following policies provide some examples of how this could be done.

## ***Comprehensive Environmental Response, Compensation, and Liability Act***

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the Superfund statute, provides some existing precedent for a compensatory system that addresses direct environmental harms while ensuring a manageable threshold for proof of causation. As Farber (2008) lays out: “CERCLA imposes liability for the costs of cleaning up hazardous waste sites. It covers a range of potentially responsible parties: waste disposers and transporters, waste generators, and site owners. Liability includes the cost of clean-up and under certain circumstances, damages to natural resources owned by governmental entities.” CERCLA is also retroactive, and requirement for proof of causation is minimal. Where a site has had leakage of hazardous materials, the Environmental Protection Agency must only prove that a given producer’s waste was sent to a site, without necessarily showing that the producer’s waste was part of the specific leakage. This lowers the threshold for identifying harmful activity and whether a producer is the harm-doer.

A climate reparations program could borrow from the CERCLA format and develop legislation for an “atmospheric superfund” program that holds climate polluters accountable for their co-pollutant and climate emissions in a given community. Legislation could set a minimal standard for demonstrating climate harms, drawing on the latest climate science—including attribution science—and requiring, to determine liability, only proof that emissions were released that contributed to aggravated climate impacts or events that caused harm. Such legislation, however, would likely draw much pushback from the fossil fuel lobby and industries, all of which have resisted determinations of strict liability to date.

## ***Extending Justice40 into a Reparatory Framework***

Justice40 is the first all-of-government initiative that instructs hundreds of federal programs to direct funding to disadvantaged communities, including programs that have extant

targeted funding and those that would be establishing targeted funds for the first time (The White House n.d.). This effort requires a robust build-out of federal administrative capacity, technical assistance for eligible program recipients, and a centralized implementation infrastructure. But if effectively implemented, the Justice40 Initiative could serve as a starting point for an even more expansive and explicit climate reparations program.

As discussed earlier, by drawing from existing data sets like the American Communities Survey and the EPA's EJScreen, the development of the Climate and Economic Justice Screening Tool for Justice40 could lay the groundwork for a regularly updated dataset that would determine the communities most vulnerable to climate and environmental harms, who could then become the recipients of a robust climate reparations program. The lessons from mobilizing government programs and building out an implementation regime could be invaluable for establishing an even broader or more explicit climate reparations program within the United States.

However, in its current form, Justice40 is not a full reparations program. Implementation of Justice40 is ongoing, with considerable gaps that have been identified by advocates (United Frontline Table 2022), members of Congress (Markey 2022), and the administration's own White House Environmental Justice Advisory Committee (Whitehouse Environmental Justice Advisory Council 2021). While the administration and agencies continue to roll out plans for fulfilling the requirements of Justice40, advocates have called for a more centralized implementation approach with a consistent set of standards, more rapid deployment of the program, and the expansion of the pool of eligible programs. Notably, as we've discussed here, the CEJST does not include race as a factor in the identification of disadvantaged communities.

The Justice40 initiative does not yet have a mechanism to account for potential harms of federal programs that could negate the so-called benefits being directed to disadvantaged communities. Analysis of recent legislation like the Infrastructure Investment and Jobs Act (Daly 2022) and the Inflation Reduction Act (Chi 2022) demonstrate that targeted funding is less than 40 percent of these new investments (about 11 percent), and several new funds also have the potential to cause substantial harm to already vulnerable communities. Frontline environmental justice groups as well as the White House Environmental Justice Advisory Council have communicated to the Biden administration the concern that Justice40 must

also account for harms so that federal spending does no additional harm to disadvantaged communities. A lack of accounting for potential harms is one factor that causes Justice40 to fail in meeting the reparations threshold of non-repetition, since it is possible that some programs covered by Justice40 may actually produce environmental harms or burdens for disadvantaged communities.

Finally, for Justice40—or any program—to constitute a reparations program, specific forms of repair that meet the restitution and satisfaction conditions of reparations would be required. This includes the delineation of responsibility or liability for environmental and climate harms and attendant restitution or compensation, either from the US government or corporations. As existing statutory federal programs, the expenditures included in Justice40 do not necessarily provide adequate redress of harms, and the disadvantaged communities identified may or may not be victims of specific climate harms as climate vulnerabilities are identified as some among many factors. Nevertheless, a constructivist, world-building reparations program would serve to undo the historic inequities of environmental harm by directing resources to impacted communities, and Justice40 could serve as a proving ground for the development of such programs.

## ***The Polluters Pay Climate Fund Act***

In 2021, Senator Chris Van Hollen introduced the Polluters Pay Climate Fund Act, a unique piece of legislation that aims to create a fund for climate-related investments drawing from a proportional fee charged to the 25-30 largest climate polluters that are based in or do business in the United States (Chris Van Hollen 2021). The aim of the legislation is to generate revenue for climate investments from the corporations most responsible for climate pollution. The Treasury would use the latest attribution science to determine the top polluters and their proportional contribution to a fund of \$500 billion over 10 years, based on greenhouse gas emissions from 2000-2019.

These investments could be directed in a reparatory way to climate-vulnerable communities to help address historic inequitable pollution and climate burdens and to help cover the costs of the economic transition. Notably, the Act will not preempt state laws or lawsuits seeking accountability or damages, and does not serve as a remedy for communities harmed by companies, nor does it rule on guilt or innocence of corporations.

Like the Justice40 initiative, these investments are not explicitly reparations payments, and no apology or legal liability is determined through the legislation. However, the bill serves as a model for beginning to assess proportional contributions to a climate-investments fund and, in the future, could be used to develop a similar apportionment of payments to a climate reparations fund based on historic contributions to greenhouse gas emissions.

## *Insular Area Climate Change Act*

Finally, a US reparations approach for addressing the climate crisis and differential vulnerabilities cannot ignore the ongoing colonialism of the United States, particularly regarding existing US territories (Serrano and Tapu 2022). US territories hold a unique political status that is rooted in historic colonization by the US government, and these territories face unique vulnerabilities to climate crisis and limitations on their ability to combat the impacts of climate change, due to their distinct political status as colonies and limited access to resources.

Serrano and Tapu argue that addressing climate resilience for US territories will require a reparative effort that also advances self-determination and decolonization, restoring to the territories management over land and resources. The Insular Area Climate Change Act, introduced by member of Congress and former House Natural Resources Committee Chair Raul Grijalva in 2021, would direct resources to the territories to enhance their ability to develop efforts to combat the climate crisis. The Act aims to create several offices, programs, and policies to foster long-range climate planning in the territories and provide funding grants for climate related programs, acknowledging the unique needs of territories and the US government's responsibility for repairing the economic and ecological damage of colonization.

While promising, some advocates have critiqued the Act for overlooking territories' varied approaches to self-determination and political power, and for failing to acknowledge the full range of ecological and political harms that territories face. A climate reparations program could aid in undoing the histories of colonization that have rendered territories as dependents to the US empire.

## CONCLUSION

Climate reparations offers a political and policy framework that can directly address historic, ongoing, and future climate inequality by identifying direct responsibility and organizing transfers of resources to answer for these historic structural inequalities. And while climate reparations draws from the international legal framework aimed at addressing historic responsibility for global climate change, there is also a strong case for a climate reparations framework to inform climate change policy in the United States, to address both historic inequities of pollution and environmental harm and forward-facing climate vulnerability.

A climate reparations program can be developed specifically to redress historic and ongoing pollution and climate inequality. Climate reparations can be channeled through payments and resources that directly aim to address differential climate vulnerability, such as through community-based environmental justice reparations that direct funding and resources to the most environmentally vulnerable communities, and in so doing can invest in correcting historic environmental inequities that are a result of histories of discrimination. Furthermore, the latest climate science is making it easier to identify individual corporations and entities most responsible for the greenhouse gas emissions that produce climate change and exacerbate specific climate events, which, in turn, makes it possible to decide which harm-doers are responsible for paying reparations.

While civil litigation attempting to hold these actors accountable continues to face both challenges and opportunities, a climate reparations program could build on these developments and set new precedents for holding polluters responsible. A domestic climate reparations program could also draw on existing policy frameworks like CERCLA and nascent policy models, such as the Justice40 initiative, to serve as the basis of broader and more explicit climate reparations policy. Nevertheless, a challenge for a climate reparations program in the United States is to develop a policy framework at a national scale, when delineating climate liability and restitution thus far has been attempted only in a piecemeal form, mostly through climate litigation and regulatory enforcement of existing statute. Existing policy models are far from a comprehensive climate reparations program.

A full climate reparations program must be able to delineate a wide range of recipients who are categorically identified as climate-vulnerable because they suffer the consequences of

histories of environmental inequity that are exacerbated by ongoing climate crisis. A case-by-case attempt at climate reparations may ascribe reparations for damages from specific climate events to specific populations impacted by those events, as some litigation has attempted to achieve. This, however, is a limited approach to climate reparations.

The transformative potential of climate reparations lies in the ability of reparatory investments to fundamentally address systemic and institutional racism and discrimination at the root of inequitable environmental burdens. After all, these are the same conditions that force the populations bearing the brunt of pollution burdens to experience disproportionate vulnerability to climate crisis.

A comprehensive climate reparations program, such as a national climate reparations program, would be designed to undo the intersecting vulnerabilities that, in the lived experiences of vulnerable populations, are inseparable. Reparations for climate change impacts or climate vulnerability must inherently address the inequity that produced such different levels of vulnerability in the first place, such as disproportionate pollution burdens. And because the governments and corporations that create environmental harm in communities are often engaging in the same behaviors that produce climate pollution and climate crisis, a climate reparations effort that is constructivist, or world-building, in nature should address inequitable harms (such as the effects of the entire fossil fuel production chain—extraction, combustion, waste disposal, and climate disaster) perpetrated by these parties. A climate reparations project that is centered on correcting inequitable burdens of pollution and climate impacts has the potential to reconstitute the US political economy and redress deeply embedded social and economic inequities.

Climate reparations is a robust area for debate and policy development. Such a policy and political project for climate-vulnerable peoples in the United States holds the potential to help undo the roots of environmental inequality in this country and build a just and healthy future for all.



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