MILITARY CLIMATE EMISSIONS

By Nadia B. Ahmad*

On the third anniversary of the World Health Organization’s declaration of a global pandemic, Gen Z’s first congressional representative, Maxwell Alejandro Frost, advocated for a reduction in the Pentagon’s budget to better serve local communities. This perspective underscores the economic and moral rationale for reallocating national defense funds to communities. The call for defunding the police has gained momentum, paralleling the advocacy for demilitarization. This Article emphasizes the overlooked impact of U.S. military carbon emissions on climate change and advocates for its inclusion in national carbon accounting systems globally. The U.S. Department of Defense has not been transparent about its carbon footprint, excluding significant military emissions from most official reports. Including military carbon emissions in national assessments can strengthen the U.S.’s stance in climate negotiations. Reallocation of the Pentagon budget to support climate change initiatives would foster international cooperation and peace. This demilitarization could symbolize the U.S.’s commitment to disarmament, inspiring global stability, and resilience against climate-induced challenges.

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INTRODUCTION

“We need to cut the [P]entagon budget and invest in communities.”
– U.S. Congressman Maxwell Alejandro Frost

On March 11, 2023, the third anniversary of the World Health Organization’s declaration of a global pandemic, Gen Z’s first member of Congress, Maxwell Alejandro Frost, tweeted that the Pentagon budget should be reduced to invest in local communities. Representative Frost’s argument that funds should be reinvested in local communities is both economic and moral. Pentagon spending for national security purposes affects the way communities receive funding. By presenting this economic argument, he also expanded demilitarization’s social justice and humanitarian dimensions.

Following the emergence of the Black Lives Matter movement, defunding the police has gained traction, but coalition-building around demilitarization has been a more tenuous process. In this Article, I contend that U.S. military carbon emissions should be included when calculating the carbon footprint and determining how to respond to a carbon crisis. Representative Frost has identified several areas of concern in his policy positions, including the reduction of gun violence, pandemic preparedness, the climate crisis, reimagining justice, housing and transit, and healthcare. Not only did he call for a reduction in defense expenditures, but also called for a redistribution of those funds to communities in general. While others have acknowledged the connection between climate change and national security, I support Representative Frost’s more radical understanding of its impact on national security and defense expenditures in his tweet. Furthermore, I contend that defense expenditure serves as a catalyst for climate change and is accountable for the lack of resources available for climate adaptation.

Military carbon emissions have been overlooked in discussions of climate change and environmental policies because the idea was too extreme. Yet the intensity of future climate change is far worse. In fact, the number of people who will be impacted by carbon dioxide emissions constitute a substantial

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proportion of global greenhouse-gas emissions, thereby playing a role in climate change and its related consequences. In this Article, I argue that demilitarization—the process of reducing the size, scope, and influence of armed forces—can have far-reaching impacts on decarbonization and economic development. This Article aims to examine the correlation between carbon emissions generated by the military, the process of demilitarization, and the significance of military-carbon emissions in the context of decarbonization and endeavors toward just economic development.

This Article aims to examine the correlation between carbon emissions generated by the military, the process of demilitarization, and the significance of military-carbon emissions in the context of decarbonization and endeavors toward just economic development. I support the proposition put forward by UK-based scholars Neta Crawford along with Mohammad Ali Rajaeifar, Oliver Belcher, Stuart Parkinson, Benjamin Neimark, Doug Weir, Kristi Ashworth, Rueben Larbi and Oliver Heinrich to require climate emissions accountability for militaries worldwide.

I focus on my own government’s need to account and keep track of its military carbon emissions for operational security and more accurate energy security assessments.

The Department of Defense (“DoD”) refrains from publicly disclosing comprehensive fuel usage or greenhouse gas emissions. The DoD does not disseminate publicly accessible reports encompassing the entirety of its military-related greenhouse gas emissions. The lack of transparency regarding petroleum-fuel consumption data by the DoD has resulted in notable discrepancies in the measurement of the carbon footprint in the United States. Indeed, most official U.S. government reports on overall greenhouse gas emissions fail to include data on the military and military sectors’ contributions to the United States’ emissions outside the scope of domestic facilities and installations.

To strengthen the United States’ position in climate negotiations, I urge the White House and Congress to consider military carbon emissions in national carbon accounting. Obviously, there are arguments for maintaining the current status quo of excluding military carbon emissions for national-security reasons. Notwithstanding this concern, a large foreign-military presence


6 See Rajaeifar et al., supra note 4, at 30.


can be perceived as aggressive or intrusive, and the recognition of military carbon emissions serves as a positive gesture. Reducing the size of military fleets and installations can promote diplomatic relations and peaceful resolutions to conflict.9

According to Representative Frost, the Pentagon fails government audits year-over-year, raising the concerns over mismanagement.10 Proper action items and adherence to timelines would conserve a substantial quantity of resources, including financial, human, and natural resources.11 The redirected funds can then be invested in domestic and international climate change adaptation and mitigation initiatives including renewable energy, infrastructure, and disaster relief. Given the substantial consumption of fossil fuels by the U.S. military and its consequential impact on greenhouse gas emissions, a reduction in the magnitude and extent of military operations would likely lead to decreased emissions and a diminished carbon footprint.12 This outcome aligns with the overarching goals of global climate change mitigation. Another potential outcome of such actions would be the transition from military dominance to cooperation. Following such a transition, the United States would be able to collaborate with other nations to resolve pressing global issues such as climate change. Sharing technology, expertise, and resources to develop and implement effective solutions could be part of this change.

Additional benefits of demilitarization could send a message that the United States is committed to disarmament and a reduction in global militarization, inspiring other nations to follow suit, and resulting in a safer and more stable global community.13 By investing in climate change adaptation and mitigation rather than in military operations, the United States can help vulnerable regions become more resilient to the effects of climate change.14 This shift in emphasis can promote peace by decreasing the likelihood of

11 Id.
13 See Road from Kyoto—Part II: Kyoto and the Administration’s Fiscal Year 1999 Budget Request Before the Comm. on Sci., 105th Cong. 1, 102–03 (1999) (statement of Hon. Dr. Gibbons, Assistant to the President for Sci. and Tech., Exec. Off. of the President) (discussing existing tax incentives for wind and biomass).
conflict resulting from resource scarcity, forced migration, and other climate-related factors.

In April 2023, Senator Edward J. Markey of Massachusetts and Congresswoman Alexandria Ocasio-Cortez of New York, accompanied by advocates for labor, health, and climate justice, reintroduced the Green New Deal Resolution. If the Green New Deal is what needs to happen, the reduction in the Pentagon budget is how it will happen. The Green New Deal seeks to address the climate catastrophe with a decade-long mobilization strategy that involves the employment of a significant number of American citizens in well-compensated, unionized positions. In a manner reminiscent to President Franklin D. Roosevelt’s New Deal, the proposed employment opportunities would prioritize the enhancement of the country’s public infrastructure, while also addressing issues pertaining to pollution and climate-related harm. This shift in policy understanding opens the door for reallocating resources from traditional military expenditures to initiatives like the Green New Deal, marking a transformative moment in the intersection between environmental policy and national security.

Legal scholar Mark Nevitt, who served twenty years in the U.S. Navy as a tactical jet aviator and attorney before retiring in the rank of commander in 2017, has argued that “how the United States responds to the climate crisis will increasingly define our national security posture this century and truly demonstrate the undeniable nexus between climate and security.” The national security posture is a twenty-first-century buzz phrase for imperialism and colonialism. Even if the U.S. military has a higher level of compliance with environmental rules than other countries, it selectively enforces rights based on its geostrategic interest, including alignment of issues on biodiversity, cultural heritage, and historical preservation to flaunt its moral high ground to other nations. The U.S. military has been concerned with maintaining its geostrategic interests abroad as concern for climate impacts or environmental degradation, but these climate and environmental concerns

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16 Id.
17 Id.
matter because they are simultaneous geostrategic concerns. In 2023, the Military Responses to Climate Hazards ("MiRCH") organization recorded the deployment of nineteen military forces in fourteen different nations, namely Libya, Mexico, India, Ghana, the United States, and Brazil. These military interventions were undertaken in response to various climate-related hazards such as floods, hurricanes, droughts, and wildfires.

Nevitt argues bipartisanship support for strategic alignment focused on national security "has kept the climate adaptation 'flame' alive when climate action [has] extinguished elsewhere." Nevitt’s scholarly work titled *Climate Change and the Law of National Security Adaptation* presents an argument that sustains a U.S. leadership paradigm, highlighting the significance of national-security concerns. This perspective has resulted in an inflated military budget and hindered progress toward addressing climate change. Nevitt’s assertion regarding the linkage between climate change and national security, although advocating for climate action as needed, can be interpreted as reinforcing the dominance and hegemony of the United States in several manners. This idea indirectly posits the assumption that the United States ought to assume the role of the world leader, strengthening the concept of American exceptionalism and moral supremacy and adopts a perspective that is primarily focused on the United States, prioritizing American interests and policy modifications above those of other countries.

Legal and business scholar Sarah Light’s article titled, *The Military-Environmental Complex*, examines the complex interconnections between the military, business sector, and universities, which are bolstered by governmental entities such as Congress and the presidency. The interconnectivity gives rise to worries regarding the potential impact of private profit on the formulation of strategic government decisions pertaining to warfare. Light argues that the military’s primary goal of sustaining forces for the sake of deterrence and safeguarding national security is intricately linked with what is known as the “military-environmental complex,” which she suggests is a potential clash between the military’s objectives and the aims of environmental

20. See [DOD Analysis Highlights Geostategic Risks of Climate Change](https://perma.cc/6TJP-9UFE).
22. Id.
24. See generally Id.
26. Id. at 880.
preservation.27 She downsizes the original concept of the “military-environmental complex.”28 Light does not overtly refer to fossil fuels as pollutants in the first part of her paper, but instead adopts a more comprehensive perspective on the role of corporations in the military-environmental complex, explicitly failing to mention the impacts of oil and gas companies in environmental degradation.29 She overlooks the work of Arthur Galston, who likely first used developed the idea of “ecocide” in 1970 and developed the link between Agent Orange and environmental and health damage caused by U.S. military activities overseas.30 Light puts forward that the military can play a significant role in addressing climate change by promoting strategies to reduce energy consumption and fostering the growth of renewable energy sources.31 At the same time, she is not accounting for the extreme environmental degradation caused by the military as a part of its mission and operational capacity. Antiwar activist and clean energy advocate Helen Caldicott has also made the link between the military-industrial complex and environmental pollution.32 Meanwhile, Nevitt emphasizes the assumption that national security should be the primary determinant of policy, which frequently serves as a rationale for U.S. interventions and sustains its worldwide control. Indeed, whatever bipartisan endorsement of climate adaptation exists primarily stems from a national-security perspective.33 This emphasis on minor policy changes within the United States as the means of maintaining climate action overshadows the contributions made by other countries and international organizations. While Nevitt’s recognition of the link between national security and climate change is somewhat transformational, the way it is presented and the fundamental presumptions it relies on serve to perpetuate the ascendancy of the United States in international affairs. The potential for the U.S. military to act as a catalyst for change is limited due to its historical track record of non-compliance with legal principles.34 Demilitarization should be the klaxon call for reducing carbon emissions and environmental pollution, which contributes to long-term health and economic benefits.35 Environmental pollution impacts morbidity and healthcare

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27 Id.
28 Id.
29 Id.
31 Light, *supra* note 25, at 899.
33 Nevitt, *supra* note 23, at 145–46; see also Velandy, *supra* note 9, at 312.
cost allocations for lung disease, heart disease, cancer, asthma, etc., which in turn increases costs for public health benefits and other medical expenses. The decrease in life expectancy also impacts the economic contributions of those who die from illness caused by or exacerbated by environmental pollution. By reallocating cost savings from healthcare, governments can invest in renewable energy development, ultimately moving away from the fossil fuel economy and creating a more sustainable global economy.

The transition from militarization to international cooperation should be the bedrock of U.S. foreign policy, considering the significant impact of war on death, destruction, and environmental degradation. War also takes a toll on emotional and mental health as well as overall societal development. Countries unaffected by war tend to experience fewer diseases, famine, and infrastructure declines. While “Speak Softly and Carry a Big Stick” as a diplomatic policy may have worked in the past, I argue that the United States should “speak” loudly on climate action without the sticks of the lethal arsenal of military intervention and threat of economic sanctions.

To promote global well-being, the United States must consistently establish and uphold human rights to avoid double standards among nations. For example, following the attacks by Hamas on Israeli people on October 7, 2023, the United States pursued a policy of giving the Israeli government carte blanche for missile strikes and a ground offensive in Gaza. President Biden requested $14 billion for war spending for Israel at a time when the Republicans could barely agree on a Speaker of the House. In the face of strong international condemnation, the United States still pursued a policy of

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36 Ioannis Manisalidis et al., Environmental and Health Impacts of Air Pollution: A Review, 8 FRONTIERS PUB. HEALTH 1, 2 (2020).
39 See Julian Agyeman, Sustainable Communities and the Challenge of Environmental Justice 1–2, 5 (2005).
escalating the violence instead of pursing diplomatic efforts at a ceasefire. In fact, South Africa brought a genocide case against Israel in the International Court of Justice and was able to obtain an interim ruling in January 2024. The United States also stood by Israel as it cut off electricity, fuel, food, and water in Gaza so that it could, in essence, starve an already beleaguered Palestinian population. Demilitarization by reducing military operations would play a vital role in fostering sustainable development and improving the overall health of the planet. By working together, countries can achieve significant progress in this direction, creating a safer and more prosperous future.

The U.S. military fleet and facilities cover approximately 800 overseas bases, which include carriers, vehicles, jets, tanks, and drones. U.S. fleets in the Pacific Ocean require tankers to accompany fleets for fuel resupply, and Air Force fighter jets consume vast amounts of oil. Navy vessels also require oil, and thousands of soldiers require fuel for deployment maneuvers and when returning home. Although naval carriers are nuclear propelled, other aspects of their operations require jet fuel and oil. As the White House heralds climate change adaptation efforts through its efforts at the Bipartisan Infrastructure Act and Inflation Reduction Acts, it overlooks the need to dramatically reduce its 1.62 trillion dollar military budget. Electric humvees and solar-powered bases are not the answers. We need to close many of our overseas bases and consider other forms of power for our military.

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51 Compare JJ Afaga & Eric Cheng, Amphibious Solar Powered Hover Vehicle, Viable or Not?, INT’L CONF. ON POWER ELECTR. SYS. AND APPLICATIONS 1 (2022), with Eric Tegler, The
nearly 800 overseas bases, stop deploying troops all over the world, opt for diplomacy over war, and develop a new foreign policy based on global cooperation, not U.S. domination.\(^\text{52}\)

Just by sheer numbers and size, reports indicate that “[n]o expense has been spared assembling a frightening array of planes designed to win air superiority, rapidly respond anywhere on the globe, conduct surveillance and build intelligence.”\(^\text{53}\) While the United States may have the highest military budget, it does not have the largest military. China does, with more than two million active military personnel in 2022.\(^\text{54}\)

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\(^{52}\) CATO INST., OUR FOREIGN POLICY CHOICES: RETHINKING AMERICA’S GLOBAL ROLE 10, 18–19 (Christopher Preble et al., eds., 2016).


As of 2017, the air force had more than 5,300 aircraft, 406 nuclear capable intercontinental ballistic missiles (ICBMs) and 170 military satellites. Drones have also recently become a recent deadly item of military hardware to call on.

Three types of long-range and stealth bombers, totaling 152 planes, can take to the air and drop nuclear bombs and conventional weapons. The air force has 74 B-52H Stratofortress bombers, capable of carrying 32,000kgs of weaponry, 59 B-1B Lancers and 19 B-2A Spirits. The jewels in the US air force crown are 1442 blisteringly fast fighter jets, including the F-16C, F-15E, F-15C, F-22A and F-35A, all armed with high-powered canons and missiles.

All the hardware and tech is flown, operated and supported by 321,444 active duty airmen, 141,000 civilian personnel, 69,000 reservists and more than 100,000 in the Air National Guard.

The trimming of the world’s militaries is where the battle for climate change will be fought. Without significant reductions in military expenditures, the world will not be able to stave off the negative impacts of climate change.\textsuperscript{56} Funding climate adaptation is not possible with these high costs of military expenditures. Without a radical shift in funding priorities, the planet is on the brink of climate catastrophe as witnessed with severe storms and floods.

Climate finance encompasses the monetary resources necessary to support both mitigation and adaptation endeavors aimed at tackling the challenges posed by climate change. The recognition of its significance within the international climate change system is evident in both the United Nations Framework Convention on Climate Change (“UNFCCC”) and the Paris Agreement. Climate finance endeavors to provide financial support for initiatives and strategies that contribute to the abatement of greenhouse gas emissions, as well as facilitate the adaptation of individuals and communities to the detrimental impacts of climate change.

The notion of climate finance encompasses a dual approach, encompassing both local initiatives and international assistance. Developed nations will bear the responsibility of funding initiatives aimed at mitigating their own carbon emissions, including the allocation of resources towards renewable energy, energy efficiency, low-carbon technologies, and the establishment of sustainable methodologies aimed at diminishing their overall carbon emissions.\textsuperscript{57} The objective is to facilitate the shift towards a low-carbon economy

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\textsuperscript{56} See Denise Garcia, \textit{Redirect Military Budgets to Climate Change and Pandemics}, 584 \textit{NATURE} 521, 522 (2020).

\textsuperscript{57} Jan Christoph Steckel et al., \textit{From Climate Finance Toward Sustainable Development Finance}, 8 \textit{WIREs Climate Change} 1, 1 (2017).
while simultaneously maintaining sustainable economic growth. Developed nations have a responsibility to provide financial support for the purposes of climate change mitigation and adaptation in poor nations. Despite having made relatively smaller contributions to worldwide emissions in the past, developing nations frequently have heightened vulnerability to the consequences of climate change and possess limited capacities to mitigate and adapt to such impacts. Financial assistance can be provided in the form of grants, loans, and other financial mechanisms to help climate-related initiatives in developing countries.

Heading into the United Nations’ 2021 COP26 Summit in Glasgow, the Biden administration rolled out a series of reports concerning the impact of climate change on national security. At the time, environmental advocates applauded the move, although anti-war organizations such as CODEPINK, Veterans for Peace, World Beyond War, and Roots Action demanded that the administration address the elephant in the room: carbon-heavy military emissions that have been left out of past UN climate agreements. In fact, a closer look at the administration’s reports reveals a glaring omission of the impact of the U.S. military’s footprint on global warming, with military carve-outs for reduction goals.

Military vehicles, combined with “the forces that use them and the industries that supply them,” account for five percent of worldwide carbon emissions annually. The United States military consumes a larger quantity of petroleum than any other institution. This petroleum is mostly utilized for activities such as jet propulsion, building heating, and the transportation of food and supplies to approximately 800 locations worldwide. Consequently, the cumulative emissions resulting from these operations exceed those produced by the entire nation of Sweden. In the high-level negotiations of COP26, the Pentagon, the largest institutional consumer of oil and

59 See Jen Iris Allan, Dangerous Incrementalism of the Paris Agreement, 19 GLOB. ENV’T. POL. 4, 6–7 (2019).
61 Alejandro de la Garza, To Take Climate Change Seriously, the U.S. Military Needs to Shrink, TIME (Feb. 17, 2022, 7:00 AM), https://time.com/6148778/us-military-climate-change/ [https://perma.cc/TK87-3RPU].
emitter of greenhouse gases globally, continues to be excluded from the discourse.65 This exclusion persists even though the carbon footprint of the Pentagon significantly overshadows the efforts required to achieve climate resilience.66

This problem of military carbon emissions did not begin with the current administration; overlooking military carbon emissions has undermined humanity’s carbon goals since the Kyoto Protocol in 1997.67 While the Biden Administration has made significant statements in support of reducing the carbon footprint of the military, other actions, including raising the military’s annual budget, undermine this goal. In fiscal year 2022, the U.S. Department of Defense had access to $1.64 trillion in budgetary resources, constituting approximately 15 percent of the federal budget for that fiscal year.68 According to a study carried out by the Stockholm International Peace Research Institute in April 2022, the United States allocated a greater amount of financial resources towards defense expenditures compared to the combined defense budgets of China, India, Russia, the United Kingdom, Saudi Arabia, Germany, France, Japan, Ukraine, and South Korea.69 The United States Undersecretary of State, Stuart Eizenstat, testified in 1997, “At Kyoto, the parties . . . took a decision to exempt key overseas military activities from any emissions targets.”70 As a result, the emissions calculations did not include United States’ overseas military locations.71 Since the initiation of the Global War on Terror in 2001, the military has produced a total of 1.2 billion metric tons of greenhouse gas emissions.72

66 Id.
68 Department of Defense (DOD), supra note 50.

Defense spending accounts for 12 percent of all federal spending and nearly half of discretionary spending. Total discretionary spending—for both defense and nondefense purposes—is typically only about one-third of the annual federal budget. It is currently below its historical average as a share of GDP and is projected to decline further.

Id; see also Figure, supra p. 855.
72 Crawford, supra note 8, at 2; Sonner Kehrt, The U.S. Military Emits More Carbon Dioxide into the Atmosphere than Entire Countries Like Denmark or Portugal, INSIDE
According to Neta Crawford, a political science professor at Oxford University, cumulative greenhouse gas emissions attributed to the U.S. Department of Defense for the period spanning from fiscal year 1975 to fiscal year 2018 exceeded 3,685 million metric tons of carbon dioxide equivalent.\footnote{This is a specific number that is cited in the text.} A justification for these staggering numbers for military expenditures is that the U.S. faces real, cognizable threats. Crawford, though, argues, \textquotedblleft[t]he threats of terrorism and Russian, Iranian, Chinese or Korean aggression are all real, but terrorists and these countries are not certain to attack the US."\footnote{This is a quote from Crawford that is cited in the text.} Meanwhile, the threat of climate change is omnipresent. The use of arms controls and diplomatic strategies has the potential to effectively mitigate military tensions and constrain potential threats.\footnote{This is a statement that is cited in the text.}

This Article is divided into five Parts. Part I offers a theoretical framework for what I refer to as transmodern coloniality, to show the wide reach of the U.S. military as an occupying force. Part II considers the carbon footprint of the U.S. military and its worldwide installations in the context of other militaries. Part III examines climate security as essential to the broader contours of U.S. and global security. Part IV delves into the process of demilitarization as a significant step toward both decarbonization and economic development prospects. Part V offers policy suggestions based on the National Defense Authorization Act (\textquotedblleft NDAA\textquotedblright) and reallocating military defense funds as a climate change adaptation imperative, while also considering existing efforts for military funding of climate initiatives, the Inflation Reduction Act, national security concerns from climate change, and the historical resistance to change.

\section*{I. Transmodern Coloniality}

If the sun never set on the British Empire during the height of colonialism, today the sun never sets on the empire of U.S. military bases. The United States military has engaged in military operations worldwide, assuming a role like that of a colonizing power. When separated from the traditional legal definition of colonialism, it becomes clear that the United States military has functioned less as a tool of imperial conquest and more as a means to further the interests of transnational corporations. I refer to this modernized form of colonialism, distinct from its historical roots, as \textquoteleft\textquoteleft transmodern coloniality.\textquoteright\textquoteright

\begin{itemize}
\item \textbf{CLIMATE NEWS} (Jan. 18, 2022) https://insideclimatenews.org/news/18012022/military-carbon-emissions [https://perma.cc/D9Z3-M84D]. \textquoteleft\textquoteleft In 2018, the Defense Department had some 585,000 facilities, spread over 27 million acres in 160 different countries. Each of these buildings emit greenhouse gases: in 2013, Crawford’s report found, the Pentagon building itself emitted more than 24,000 metric tons of carbon dioxide equivalent.\textquoteright\textquoteright \textit{Id.}
\item Crawford, \textit{supra} note 8, at 39–40.\footnote{This is a citation from Crawford that is cited in the text.}
\item \textit{Id.} at 2.\footnote{This is a citation from Crawford that is cited in the text.}
\item \textit{Id.} \textquoteleft\textquoteleft Economic sanctions can also diminish the capacity of states and non-state actors to threaten the security interests of the US and its allies.\textquoteright\textquoteright \textit{Id.}
\end{itemize}
In 1989, Spanish philosopher and writer Rosa María Rodríguez Magda introduced the concept of transmodernity. The idea of transmodernity sought to create a new paradigm that transcends the limitations of modernity and postmodernity by integrating the positive aspects of both and offering new perspectives and solutions to the challenges faced by contemporary society.

Argentinian-Mexican philosopher Enrique Dussel identified himself as a proponent of transmodernism. In doing so, he criticized postmodern theory while calling for the adoption of a transmodern manner of thought. The concept of transmodernism draws inspiration from American transcendentalism, particularly the work of Ralph Waldo Emerson. Additionally, transmodernism exhibits connections to Marxism and dissident Roman Catholic liberation theology. Transmodernity serves as a valuable framework for examining and analyzing many cultural phenomena and belief systems. The concept of transmodernity is discernible in the power dynamics observed within the European Union (“EU”). Although transmodernity and the EU experiment possess certain shortcomings, the notion of transmodernity offers an alternative approach to reconfiguring environmental dominance in a manner that is more inclusive and prioritizes the well-being of the Earth rather than being only driven by corporate interests. Indeed, contemporary theoretical frameworks pertaining to environmental justice and community empowerment align with the transmodernity concept.

The philosopher Marc Luyckx Ghisi has identified four distinct levels that characterize the transmodern development of global civilization: (1) “The lowest (subconscious) level is the danger of Humanity killing itself”; (2) “End of patriarchal values and presence of a new sacred”; (3) “The third level is the end of modernity . . . [from modern extreme intolerance to transmodern
radical tolerance”; and (4) “The fourth level Transmodern Economy: End of industrial capitalism and birth of an intangible postcapitalist society.”

I suggest that there is a fifth level of transmodern transformation in the form of transmodern coloniality. Colonialism captures the bondage, human suffering, and depravity that a lack of sovereignty encapsulates. Considering both transmodernity and coloniality, the idea of transmodern coloniality captures the reformulations of historical dynamics that lead to economic, environmental, and social imbalances. From droughts to conflicts, certain historical events trigger a cascading impact on the environment. The shift towards transmodern coloniality aligns with the objective of attaining environmental justice, not through reconciliations, but through collaborative efforts and partnerships. The observation of the dynamic nature of capitalism inside various markets and economic systems, as well as its significant impact, suggests the possibility of examining colonialism as a multifaceted phenomenon within the transmodernity framework.

The accounting and mitigation of carbon emissions originating from the military sector is perceived as a morally justified approach in reaction to the persistent consequences of colonialism. Throughout history, colonialism has been a catalyst for ongoing conflicts, human distress, and the growth of military-industrial complexes. By implementing these measures, we demonstrate an awareness of the ecological consequences of military operations and strive to address the historical injustices perpetuated by colonialism, which frequently emphasized military supremacy over social and environmental welfare. Shifting the priorities of the world’s militaries to respond to the climate crisis and human security instead of terrorism, nuclear proliferation, and rapid commercialization would be a type of climate reparations. Righting our military’s carbon footprint through humanitarian assistance, climate-finance initiatives, and loss and damage funding for climate initiatives would be a welcome course correction.

The idea of transmodern coloniality also inculcates a gendered understanding of the national power dynamics and decision-making processes. Environmental humanities professor Stacy Alaimo cautions, “when gender categories are launched into a national imaginary, we need to be concerned about how they are being deployed.” She adds, “[w]hat may be a subversive, playfully queer stance in one context may, when magnified, become a neocolonialist position of domination.” The concept of transmodern coloniality

86 Aimé Césaire, From Discourse on Colonialism, in POSTCOLONIAL CRITICISM 73, 81 (Bart Moore-Gilbert et al. eds., 2013); Bipan Chandra, Colonialism, Stages of Colonialism and the Colonial State, 10 J. Contemp. Asia 272, 283 (1980).
88 Id.
introduces a gendered analysis into the discussion of national power dynamics and decision-making processes. This gendered analysis emphasizes the importance of diverse perspectives and representations in policymaking related to environmental issues.

The comprehension of gender roles within the context of transmodern coloniality and state policy not only contests conventional narratives, but also prompts inquiries into the wider consequences of power and identity on environmental policies. As we transition from discussing the theoretical implications of gender and power to examining the concrete consequences of human activity, we are confronted with the significant environmental damage caused by the military industry. The substantial carbon emissions in this industry are driven by the development of advanced military technologies, highlighting the pressing necessity to reevaluate objectives in order to harmonize national defense with global sustainability endeavors.

II. THE CARBON FOOTPRINT OF THE MILITARY

The military industry plays a substantial role in the generation of carbon emissions, and the adoption of advanced technologies during militarization has further amplified the carbon footprint associated with this sector. The allocation of significant financial resources towards advanced military technologies has a direct impact on the magnitude and severity of carbon dioxide emissions, as well as the ecological footprints per person inside nations. Historically, the United States military has commonly utilized open burning as a convenient approach for reducing volume and managing solid waste during times of conflict. This practice, however, generates a diverse array of contaminants. The United States military considers climate change as a critical element in its strategic planning for forthcoming battles. The examination of the military’s position as an environmental actor, specifically in relation to the promotion of the U.S. Navy’s “Great Green Fleet,” is currently underway.

To comprehensively analyze the role of the US military as a significant contributor to climate change, it is imperative to thoroughly understand the intricate logistical supply chain involved in the procurement and utilization

90 Id. at 12.
92 Id.
of hydrocarbon-based fuels.\textsuperscript{95} An analysis of the military’s influence on climate can be conducted through an examination of the geopolitical ecology inherent in its worldwide supply lines.

The military’s dependence on sophisticated technology and equipment has resulted in an increase in energy usage and carbon release. The per capita ecological footprint of nations is influenced by military expenditures, given that the military sector constitutes a substantial component of a nation’s economy.\textsuperscript{96} A positive correlation exists between a nation’s military expenditure and its per capita ecological impact.\textsuperscript{97} Regulating carbon emissions from the military sector to lessen its impact on the environment and decrease the ecological footprint per capita of nations continues to be a matter of concern. The pandemic has been a lost opportunity for the rapid deployment of renewables. Instead, the use of the fossil-fuel business continued as usual.\textsuperscript{98}

Researchers studying patterns in the United Kingdom, for instance, have recognized that “tackling CO2 emission through renewable energy development is essential for achieving several [Sustainable Development Goals (“SDGs”)] such as affordable and clean energy (SDG7), sustainable cities and communities (SDG11), responsible consumption and production (SDG12) and climate action (SDG13).”\textsuperscript{99} Connecting SDG goals to renewable energy development signaled an appreciation for international cooperation. The DoD has implemented the Strategic Environmental Research and Development Program to address sustainability issues to measure cost-effectiveness in photovoltaic solar installations, such as the Nellis Air Force Base.\textsuperscript{100} Scaling this type of work would reduce carbon emissions, but scaling down operations would be efficient as a driver for reductions in carbon emissions.

\begin{enumerate}
\item Cheng-Feng Wu et al., \textit{The Dynamic Relationship Between Military Expenditure, Environmental Pollution, and Economic Growth in G7 Countries: A Wavelet Analysis Approach}, ENERGY & ENV’T, 1, 2 (2023).
\item Unbreen Qayyum et al., \textit{Armed Conflict, Militarization and Ecological Footprint: Empirical Evidence from South Asia}, J. CLEANER PROD., Nov. 2020, at 125299, 3, 6 (2021).
\end{enumerate}
A. Energy Consumption and Military Operations

Military operations rely heavily on fossil fuels for transportation, training, weapons systems, and base operations. The DoD is the largest military organization worldwide, thus occupying the position of the largest user of petroleum and the top institutional emitter of greenhouse gases on a global scale.101 Russia, China, and North Atlantic Treaty Organization (“NATO”) member countries also have heavy carbon footprints.102 The reliance on fossil fuels in military operations stems from the necessity of dependable and easily accessible energy sources capable of fueling a diverse array of equipment and vehicles. The energy requirements of contemporary military forces are substantial, encompassing a wide range of equipment such as airplanes, naval vessels, ground vehicles, and generators.103 The utilization of fossil fuels is accompanied by significant environmental consequences, as the combustion of petroleum-derived fuels results in the emission of substantial quantities of carbon dioxide and other greenhouse gases into the atmosphere.104 The emissions in question play a role in climate change, which presents substantial threats to global security, public well-being, and natural surroundings.105

The environmental ramifications of military activities extend beyond the scope of greenhouse gas emissions.106 Military bases and training facilities can generate hazardous waste, contaminate local water sources, and disrupt ecosystems.107 In addition, the production, transportation, and storage of fossil fuels used by militaries can lead to spills and accidents, further exacerbating environmental degradation.108

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101 Zarook, supra note 65.
104 Florinda Martins et al., Analysis of Fossil Fuel Energy Consumption and Environmental Impacts in European Countries, 12 ENERGIES 964, 964 (2019).
105 See generally INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2023 SYNTHESIS REPORT: SUMMARY FOR POLICYMAKERS (Hoesung Lee et al. eds., 2023).
106 See Michal Touš et al., Energy and Water Savings in Military Base Camps, 12 ENERGY SYs. 545, 545–46 (2021).
107 See ASSISTANT SEC’Y OF DEF., PER- AND POLYFLUOROALKYL SUBSTANCES IN GROUNDWATER (2023) (discussing how the DoD will clean up the PFAS it has released into the groundwater).
To address these challenges, militaries have begun to explore and adopt more sustainable energy sources and practices. As an illustration, the DoD has established ambitious objectives aimed at augmenting the utilization of renewable energy sources, curbing energy consumption, and allocating resources for the development and implementation of environmentally friendly technologies.\textsuperscript{109} By doing so, the military is attempting to not only reduce its environmental footprint but also enhance its operational capabilities by reducing its dependence on vulnerable supply chains and increasing its resilience to potential energy disruptions.\textsuperscript{110} To adequately tackle the issue of climate change, it is important to integrate initiatives focused on reducing carbon emissions linked to military activities within a comprehensive worldwide framework. The use of sustainable energy sources and practices inside military organizations can contribute to the reduction of greenhouse gas emissions and the mitigation of climate-change effects, as these organizations strive to innovate and adapt.\textsuperscript{111} Partnerships among military entities in relation to these endeavors have the potential to cultivate international collaboration and confidence, thus enhancing prospects for a globally harmonious and secure society.\textsuperscript{112}

B. Military Infrastructure and Carbon Emissions

Military bases, installations, and facilities require large amounts of energy for daily operations. Heating, cooling, and powering these bases significantly contributes to carbon emissions.\textsuperscript{113} Moreover, the construction of military facilities and the extraction of resources required for their maintenance have environmental impacts.\textsuperscript{114} Increased emissions can lead to pollution, soil post.com/politics/2022/01/13/red-hill-fuel-water-contamination-activism [https://perma.cc/85RR-Z8K4].

\textsuperscript{109} Anderson et al., supra note 7.

\textsuperscript{110} Parkinson, supra note 35.


\textsuperscript{114} See Shakoor Ahmed et al., \textit{Militarisation, Energy Consumption, CO\textsubscript{2} Emissions and Economic Growth in Myanmar}, 31 DEF. AND PEACE ECON. 615, 615 (2020); see also Christopher S. Galik et al., \textit{Meeting Renewable Energy and Land Use Objectives Through Public–Private Biomass Supply Partnerships}, 172 APPLIED ENERGY 264, 265 (2016); Korhan K. Gokmenoglu et al., \textit{Military Expenditure, Financial Development and Environmental Degradation in Turkey: A Comparison of CO\textsubscript{2} Emissions and Ecological Footprint}, 26 INT’L J. FIN. & ECON. 986, 986 (2021); Andrew K. Jorgenson & Brett Clark, \textit{The Temporal Stability...
erosion, and biodiversity loss.\textsuperscript{115} To mitigate the aforementioned environmental consequences, military entities should embrace sustainable methodologies, including, but not limited to, the adoption of renewable energy sources, such as solar or wind power; the integration of energy-efficient equipment; and the reduction of waste. By incorporating green building practices and sustainable design principles, new and existing military facilities can reduce energy consumption and their overall environmental footprint.\textsuperscript{116}

C. \textit{Indirect Emissions and the Military-Industrial Complex}

The military-industrial complex, encompassing the manufacturing and upkeep of weaponry, vehicles, and military apparatus, also impacts carbon emissions.\textsuperscript{117} These industries are responsible for substantial indirect emissions via energy consumption and resource extraction.\textsuperscript{118} Direct emissions stem from manufacturing processes, including the operations of factories and production plants that fabricate military equipment. These facilities often require large amounts of energy to power machinery, heat buildings, and produce materials, with fossil fuels being the primary source of energy.\textsuperscript{119} Manufacturing further contributes to carbon emissions and pollution. For example, the mining of metals and minerals generates emissions from the use of heavy machinery and vehicles, as well as energy consumption of processing facilities.\textsuperscript{120} In addition, the transportation of raw materials and finished products via trucks, ships, and airplanes contributes to emissions through fuel combustion.\textsuperscript{121} Indirect emissions from the military-industrial complex arise from the extraction, transportation, and refinement of raw materials used in the production of military equipment.\textsuperscript{122}

\textsuperscript{116} See, \textit{e.g.}, Nathwani, supra note 111, at 229.
\textsuperscript{117} Birch & van Bergen, supra note 5, at 261.
\textsuperscript{119} See id. at 299.
\textsuperscript{122} See Allanore & Gribkoff, supra note 120.
To address the environmental impact of military-industrial complexes, several strategies can be implemented, including promoting energy efficiency. Promoting the implementation of energy-efficient technology and procedures inside manufacturing facilities can effectively mitigate energy usage and hence carbon emissions. The use of renewable energy sources, such as solar, wind, and hydroelectric power, can decrease dependence on fossil fuels, thereby decreasing the emissions and environmental consequences associated with their use. A corollary of renewable energy use would be to adopt sustainable supply chain practices. Implementing sustainable procurement policies and supporting suppliers who prioritize environmental stewardship can help reduce the indirect emissions and environmental impacts associated with resource extraction and transportation. The most effective and cost-conscious methods of reducing military-industrial complexes’ carbon emissions include demilitarization and disarmament. While an actual abolition of the military remains not even remotely possible, investing in research and development of innovative, eco-friendly materials and technologies can lead to the creation of more sustainable military equipment, reducing the environmental footprint of the military-industrial complex incrementally.

III. CLIMATE SECURITY AS HUMAN SECURITY

In October 2021, the Office of the Director of National Intelligence released “Climate Change and International Responses Increasing Challenges to
US National Security Through 2040. It represents the first National Intelligence Estimate (“NIE”) relating to climate change. This research, which was generated by the National Intelligence Council (“NIC”) and Office of Director of National Intelligence’s (“ODNI”) center for long-term strategic analysis, examined the geopolitical consequences of climate change in foreign countries within the near- and medium-term timeframes. The formulation of this declaration constituted a significant milestone in recognizing the climate crisis.

Eric Rosenbach and Aki Peritz of the Belfer Center for Science and International Affairs at Harvard Kennedy School conducted a scholarly review of NIEs, concluding that NIEs are the most informed written assessments produced by the intelligence community on national security issues. NIEs provide critical information and highlight areas of concern for policymakers in various armed forces to address both foreign and internal challenges to their military security. At the same time, the United States, China, and India are simultaneously engaged in fortifying their weaponry and augmenting their respective armed forces to address both foreign and internal challenges to their military security. The high costs of military expenditure run counter to the concern for climate-change adaptation. With national budgets limited because of the economic crisis associated with COVID-19, the military’s budget could have been alternate funding for climate-change adaptation.

131 Id.
However, the carbon footprint of the military has long been overlooked. The arms industry itself is known worldwide due to its lack of transparency and is called the most corrupt of all industrial sectors.\textsuperscript{136} The NIE responded to President Biden’s Executive Order 14008, “Tackling the Climate Crisis at Home and Abroad.”\textsuperscript{137} The conclusions derived from the NIE reflect the consensus perspective of the eighteen Intelligence Community elements. United States federal science agencies provided the baseline observational data and climate modeling necessary for the analysis.\textsuperscript{138} Spending on climate makes sense for national security because it helps prevent climate refugees from arriving on our shores and on allies’ shores. Climate refugees and forced internal and external displacement are also collateral issues from a Western vantage point. Frontline communities in the Global South and small island nations lack the luxury of time and face a dire future resulting from the troubling acceleration of climate change.\textsuperscript{139} Defense experts have argued that the military should be a model for energy conservation and efficiency, calling for lower expenditures and better logistics in the field. From a tactical standpoint, energy efficiency and resources provide strategic advantages. But this issue is far larger than energy efficiency. The issue is the military’s bloated budget, which has expanded in 2022.\textsuperscript{140}

In The New York Times, Farhad Manjoo notes that the military budget of the United States constituted around 40 percent of global military expenditures.\textsuperscript{141} He adds, “[t]his level of spending has long been excessive, but after a pandemic that has claimed the lives of more Americans than any war we fought, continuing to throw money at the military is an act of willful disregard for the most urgent threats we face.”\textsuperscript{142} Projections from the Congressional Budget Office show that Congress is projected to spend about $8.5 trillion for the military over the next decade—about half a trillion more than is budgeted for all nonmilitary discretionary programs combined (a category that includes federal spending on education, public health, scientific research, infrastructure, national parks and

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\textsuperscript{136} Seyfettin Erdoğan et al., \textit{Relationship Between Oil Price Volatility and Military Expenditures in GCC Countries}, 27 ENV’T SCI. & POLLUTION RESCH. 17072, 17073 (2020).
\textsuperscript{138} NAT’L INTEL. COUNCIL, supra note 128, at ii.
\textsuperscript{141} Farhad Manjoo, \textit{We Must Stop Showering the Military with Money}, N.Y. TIMES (Jan. 13, 2022), https://www.nytimes.com/2022/01/13/opinion/military-budget-build-back-better.html [https://perma.cc/K9V9-3ET7].
\textsuperscript{142} \textit{Id.}
\end{flushleft}
forests, environmental protection, law enforcement, courts, tax collection, foreign aid, homeland security and health care for veterans).143

A. Climate Insurgencies

Climate insurgencies will likely continue to develop. On November 17, 2018, the *gilets jaunes* (yellow vest) movement hit France with 300,000 protestors in the streets of Paris, Toulouse, Bordeaux, Lyon, and other cities and rural areas. They were protesting the increase of the “‘[t]axe intérieure de consommation sur les produits énergétiques,’ a tax on car fuel, planned to be enforced in January 2019.”144 The prices of gas and diesel were set to increase by four and seven cents per liter, respectively, in an effort to satisfy clean energy transition targets.145 The government also mandated biofuel additives in gasoline, as well as a fuel surcharge for the additive. What was most surprising about the impressive size of the movement was that it had no organizational structure, no leader, and no official support from any unions or political parties.146 The movement was grassroots organizing at its finest in the digital twenty-first-century era. This yellow vest movement started with rumblings of class inequality and energy security, the inequality of higher fuel costs, and the risk of not having enough money for vehicle fuel.

A few years removed from the 2015 Paris Climate Agreement, the most vulnerable regions were excluded from negotiating terms about how their lives would be impacted by higher fuel prices set in motion by a carbon tax.147 These high-level climate negotiations were a delicate game of give and take, with rich countries doing more taking, and Global South countries giving.148 According to the data provided by Oxfam, it is evident that the top 1 percent of the global population, in terms of wealth, contributes a significantly higher amount of emissions compared to the bottom 50 percent.149 Specifically, the emissions generated by the wealthiest 1 percent were found to be twice as much as those produced by the poorest 50 percent.150 According to projections, the carbon footprint of the top 1 percent of the global population is
expected to be 30 times higher than the threshold deemed consistent with the 1.5°C target outlined in the Paris Agreement by the year 2030.\(^{151}\)

When climate negotiators and environmental leaders jetted in and out of Paris for the historic climate agreement, the marginalized populations in the city of Paris and its outlying areas did not have a voice at the table. They may have provided cab rides to airports, hotels, meeting venues, and the finest Parisian restaurants. They may have served meals. Yet, the pangs of hunger and palpable fears of energy insecurity were real and unimaginable, even if they were there lurking in shadows. Just three years later, the yellow vest movement gave those voices visibility—even if they covered their identities with face masks and yellow vests.

In May 2018, Priscillia Ludosky, a resident of the Paris suburbs, initiated an online petition in response to escalating fuel prices resulting from taxation policies and market forces.\(^{152}\) By October, the petition garnered a total of 300,000 signatories, with the number approaching over one million within that month.\(^{153}\) Then, a wave of online petitions, blogs, video posts, and social media activity captured the rage against the hike in fuel prices.\(^{154}\) Workers who traveled far distances into the French capital because they could not afford to live in the city were hit hardest by the fuel price increase.\(^{155}\) These protests exemplified the issue of how environmental pollution is not caused by everyone to the same degree, but how the poorest pay the greatest burden. The idea of polluter pays is reserved for academic discussion. The hard truth is that the poorest always pay for the environmental misdeeds of the wealthy.

The implementation of fuel taxes in France has resulted in a surge in public discontent, leading to widespread and violent riots. The protesters donned high-visibility jackets as they obstructed major roadways and fuel distribution centers. Subsequent demonstrations eventually escalated into acts of violence.\(^{156}\)

Eurasia Group analyst Charles Lichfield noticed that the protests evolved suddenly because of the lack of official leadership or structure.\(^{157}\) Lichfield said, “[w]eb-based expressions of anti-elite resentment have quickly morphed into a physical protest movement.”\(^{158}\) In one Facebook post, Éric Drouet, from


\(^{152}\) Royall, supra note 145, at 99.

\(^{153}\) Id.

\(^{154}\) Id.

\(^{155}\) Id.


\(^{157}\) Id.

\(^{158}\) Id.
Melun, issued a call to the French to block roads on November 17, 2018. In another viral post, Jacline Moureau, from Brittany, railed against the high costs of living and how people in rural and semi-urban areas suffered a disparate impact resulting from the government’s policies. The protests seeking social and economic justice were backed by opinion polls showing support of over 70 percent in early December 2018 and slightly over 50 percent by late March 2019. The protests were similar to the 1789 French Revolution. The issues of class inequality sparked the protests because they had lain dormant for far too long. A significant escalation followed a series of protests that unfolded over multiple weekends in November 2018, culminating in large-scale riots erupting in Paris. Observers have described these riots as urban warfare and consider them the most severe in a generation. In response, law enforcement authorities utilized tear gas and water cannons to disperse demonstrators. Indeed, reportedly 133 individuals, including police officers, sustained injuries, while 412 individuals were apprehended.

This social turbulence underscores the broader challenges that societies face when confronting change—be it in the realm of economic justice or environmental policy. When I studied the carbon tax as a master’s student at the University of Denver in 2012, the idea was considered radical, even for hardcore environmental law professors. Despite attending academic conferences and delving deeper into the subject, I realized that the concept of a carbon tax had yet to gain much traction in the United States. Like the reluctance in addressing class inequality, the United States was slow to adopt this environmental innovation, reflecting a widespread hesitance to embrace change.

The 2018 protests in France brought attention to the challenges associated with the implementation of environmental laws, specifically the carbon price, which inadvertently placed a burden on the working class. The protests originated as a direct reaction to the implementation of a fuel tax hike, resulting in a notable decrease in the available discretionary income for a significant portion of the population. Consequently, this reduction in disposable income has imposed constraints on their capacity to purchase basic necessities such as sustenance, utilities, and shelter. The prevailing dissatisfaction was ignited by the financial strain, which brought to light a significant disparity between the upper echelons and the lowest strata of society. The affluent individuals in positions of authority persisted in amassing riches and exacerbating carbon emissions, while the adverse effects of their conduct disproportionately burdened people situated at the lower end of the socioeconomic spectrum.

159 Royall, supra note 145, at 100.
160 Id.
161 Id.
162 Ellyatt, supra note 156.
163 Id.
The incorporation of renewable energy solutions, encompassing the whole assessment of biofuel life cycles, necessitates the examination of both environmental ramifications and socioeconomic consequences for consumers and energy producers alike. The primary obstacle is in effectively managing the pressing imperative for climate action while also addressing the immediate survival requirements of individuals. The implementation of harsh climate regulations in the absence of viable alternatives or support mechanisms can result in resistance, as seen by the occurrence of protests. Hence, it is imperative to establish an equitable transition that recognizes and addresses the economic burdens imposed on the populace. Furthermore, there has been an increasing acceptance and recognition of the idea of minimizing the environmental impact of military activities in terms of climate emissions, which has been observed over the course of the last ten years. This particular domain warrants considerable attention due to the substantial environmental impact attributed to the military. An inclusive strategy for climate policy should incorporate several sectors, including the military, to ensure a fair distribution of the responsibility for addressing climate change throughout society.

B. National Defense Authorization Act (NDAA)

In the initial months of 2022, legislators in the United States sanctioned a $25 billion increase to the yearly defense policy bill, elevating the aggregate amount to $768 billion.164 The sixty-third iteration of the National Defense Authorization Act (“NDAA”) endorses a comprehensive allocation of $886 billion in fiscal year 2024 to sustain and enhance national defense capabilities.165 Specifically, the Act grants $845 billion to the Department of Defense and allocates $32 billion to national security projects within the purview of the Department of Energy (“DoE”).166 The 2024 NDAA has several notable features. The proposal entails a 5.2 percent salary increase for military personnel and the Department of Defense civilian employees, while also addressing the issue of reducing housing, healthcare, and childcare expenses for families inside the military community.167

According to the Arms Control Association, the quantity in question signifies the bipartisan perspectives held by members of Congress, which assert


166 Id.

that President Joe Biden’s proposal was inadequate for deterring China and Russia as well as keeping up with inflation.\(^{168}\) Every year, lawmakers have applied advancements in the NDAA.\(^{169}\) The updates addressed a comprehensive array of urgent matters, encompassing strategic rivalry with China and Russia, as well as the impact of disruptive technologies, such as hypersonics, artificial intelligence, and quantum computing.\(^{170}\) Additionally, it encompasses an endeavor to update and enhance naval vessels, planes, and land vehicles.\(^{171}\) The NDAA version proposed by the committee, which was approved on July 21, incorporated a $25 billion augmentation to the administration’s initial NDAA funding request of $743 billion.\(^{172}\) Representative Mike Rogers of Alabama, the ranking Republican on the House Armed Services Committee, expressed his belief that the NDAA strengthens the security of our nation and enhances the preparedness of our military to confront the escalating challenge posed by China.\(^{173}\) Rogers proposed an amendment inside the committee to enhance the proposal, which was subsequently adopted by the committee as a part of the NDAA.\(^{174}\)

For fiscal year 2024, Rogers issued a similar statement:

The threat we face from China is the most pressing national security threat we’ve faced in decades—the FY24 NDAA is laser-focused on countering China. The FY24 NDAA protects our homeland from threats by investing in stronger missile defense and modernizing our nuclear deterrent. The legislation also boosts innovation and revitalizes the industrial base to ensure they can deliver the systems we need to prevail in any conflict.\(^{175}\)

These big military toys and the increasing talk of war with China and Russia do not mesh well with the urgent demands of climate action. U.S. lawmakers are comfortable with increasing military spending but balk at relief

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\(^{172}\) Bugos, supra note 168.

\(^{173}\) Id.

\(^{174}\) Id.

funds to countries for loss and damage associated with climate change. Oliver Milman wrote in the Guardian, “COP26 reveals limits of Biden’s promise to ‘lead by example’ on climate.”\textsuperscript{176} Milman reported that the American climate delegation in Glasgow was wary of a push to provide ‘loss and damage’ payments to countries vulnerable to climate impacts and has sought to shift criticism towards the inaction of China and Russia, although the US and China did unveil an unexpected plan to work together on cutting emissions, despite the enmity between the two countries.

This reticence, critics claim, undermines Biden’s credibility on climate. Others say the dysfunctional nature of Congress, where sweeping climate legislation to expand renewable energy and wind down fossil fuels is effectively in the hands of a senator who derives most of his income from investments in coal, is to blame.\textsuperscript{177} The inaction also showed the U.S. administration’s inability to adapt to climate change. The United States appeared to merely provide lip service and tough talk versus plans and tangible actions. Heading into COP28 in the United Arab Emirates, the United States could be truly committed to reducing its carbon emissions, especially in the form of reductions in military spending, and thereby military emissions.

C. Demilitarization Advocacy

As the world grapples with the escalating crisis of climate change, the impact of military operations on the environment has become a critical topic of discussion. In this context, the carbon emissions of the military, particularly those of the United States Department of Defense, assume a significance that cannot be overlooked. The political strategist and community organizer, Marcy Winograd, provides a compelling commentary on this issue in her article for Common Dreams titled The Pentagon Is Killing Us – and the Planet.\textsuperscript{178} She highlights that the Pentagon is not only the largest single U.S. emitter of greenhouse gases (“GHGs”) but also the biggest institutional consumer of oil.\textsuperscript{179} Winograd calls for a drastic reduction in the carbon footprint resulting from wars and weapons production, as well as a reconsideration of the expansive global military presence maintained by the U.S., which spans

\textsuperscript{176} Oliver Milman, Cop26 Reveals Limits of Biden’s Promise to ‘Lead by Example’ on Climate Crisis, GUARDIAN (Nov. 12, 2021, 2:00 AM), https://www.theguardian.com/environment/2021/nov/12/biden-promised-lead-climate-crisis-cop26-revealed-limits [https://perma.cc/5LW2-DCP5].

\textsuperscript{177} Id.


\textsuperscript{179} Id.
hundreds of overseas bases, including a new one under construction in Okinawa.\textsuperscript{180}

In her persuasive argument, Winograd urges President Biden, Congress, and the public to move away from an interventionist foreign policy driven by the ambition for full-spectrum dominance in all domains—air, land, sea, and space.\textsuperscript{181} She warns that without a change in direction, humanity must prepare for the catastrophic consequences of climate change, such as rising sea levels, extreme weather events, droughts, and famines.\textsuperscript{182} These calamities, as projected by the World Bank, could force as many as 143 million people to become climate refugees by the year 2050.\textsuperscript{183} The urgent need for climate action is clear, and the role of military emissions in this equation is an issue that demands immediate attention and action.

Veterans for Peace is an organization that includes military veterans and their allies, advocating for peace and exposing the costs of war.\textsuperscript{184} They aim to educate the public about the realities of conflict and the importance of peace, support veterans and war victims, and address social injustices that can lead to war.\textsuperscript{185} Engaging in educational and protest activities, they collaborate with other groups to promote their anti-war message and assist in the healing process for those affected by war.\textsuperscript{186} The endeavor initiated by Veterans for Peace, focusing on the intersection of the climate crisis and militarism, aimed to secure the adoption of Representative Barbara Lee’s (D-CA) resolution, “Recognizing the Duty of the Department of Defense to Annually Report All Greenhouse Gas Emissions and Progress on Reduction Targets,” which stated:

1. It is the duty of the Department of Defense to reduce the overall environmental impact of all military activities and missions;
2. It is the duty of the Department of Defense to monitor, track and report greenhouse gas emissions from all its operations, including but not limited to combat operations, deployments, drone attacks, weapons production and testing, base construction and functions;
3. It is the duty of the Department of Defense to set clear annual greenhouse gas emission reduction targets for both domestic and foreign activities that are consistent with the 1.5°C target specified by the 2015 Paris Agreement;
4. It is the duty of the Department of Defense to commit to annual greenhouse gas emission reporting mechanisms that are robust, comparable and transparent, are based on recognized greenhouse gas monitoring protocols, and which are independently verified and include emissions from domestic and overseas

\textsuperscript{180} Id.
\textsuperscript{181} Id.
\textsuperscript{182} Id.
\textsuperscript{183} Id.
\textsuperscript{184} Who We Are, VETERANS FOR PEACE, https://www.veteransforpeace.org/who-we-are [https://perma.cc/K3LH-WSNC].
\textsuperscript{185} Id.
\textsuperscript{186} Id.
United States military bases, from their contractors, and from the manufacture and transport of military equipment and weapons;
(5) It is the duty of the Department of Defense to define clear greenhouse gas reduction targets for its military technology contractors and to report their full greenhouse gas emission;
(6) It is the duty of the Department of Defense to prioritize greenhouse gas reduction initiatives at source and only utilize verifiable offsets of greenhouse gas emissions;
(7) It is the duty of the Department of Defense to publish greenhouse gas reduction policies, strategies and action plans, with annual follow-up reporting on performance from all its operations;
(8) It is the duty of the Department of Defense to evaluate how reducing military expenditure and deployments, and altering military postures can reduce emissions;
(9) It is the duty of the Department of Defense to demonstrate leadership, openness and a willingness to collaborate and exchange information on good practices with non-military stakeholders;
(10) The Department of Defense should repurpose and manage its properties to promote carbon sequestration and biodiversity;
(11) The Department of Defense should commit to increase climate and environmental training for decision makers, including how it can mitigate climate change and environmental degradation;
(12) The Department of Defense should incorporate climate and environmental assessments in decision-making for all procurement, activities and missions; and
(13) The Department of Defense should commit to allocating the appropriate resources to ensure all climate and environmental protection policies can be fully implemented.\textsuperscript{187}

Communities belonging to racial and ethnic minorities, individuals facing economic disadvantages, and indigenous communities frequently encounter circumstances where they reside in designated “sacrifice zones,” regions that disproportionately experience the adverse impacts of environmental deterioration.\textsuperscript{188} These communities, who are already contending with systemic disparities concerning wealth, housing, availability of nutritious food, quality of education, and equitable voting processes, encounter an additional level of susceptibility owing to their close proximity to polluted settings.\textsuperscript{189} The environmental challenges they encounter are not independent problems, but rather interconnected with the wider complexities of economic and social equity.


\textsuperscript{189} Id.
The mitigation of environmental and climate problems is not solely an obligation from an environmental standpoint, but also an issue of equity and human rights. The undertaking necessitates a dedicated commitment to extensive investment in infrastructure, with the United States alone facing the prospect of allocating trillions of dollars towards this endeavor. The magnitude of expenditure required is important not only for the purpose of mitigating existing harms, but also for the establishment of robust systems capable of enduring forthcoming problems.

Nevertheless, it is imperative to acknowledge that the available resources are limited, hence necessitating a meticulous evaluation of the allocation of financial resources. Therefore, in the discourse surrounding environmental policy and its ramifications, it is imperative to acknowledge the budgetary limitations that arise when undertaking extensive transformative endeavors. The dialogue should incorporate a strategy for the fair allocation of resources in order to guarantee that communities facing the greatest environmental injustices are not marginalized in their efforts to adapt to and mitigate the consequences of climate change. This necessitates not only the reallocation of financial resources, but also a reconceptualization of policies that give precedence to the requirements of the most marginalized communities, guaranteeing that no individual is marginalized from the advantages of environmental initiatives.

IV. DEMILITARIZATION

“Hold That Heat.”
– Southside and Future\textsuperscript{190}

A report by the Council on Foreign Relations noted the failure of climate finance at the Glasgow Meeting.\textsuperscript{191} Based on calculations provided by the United Nations Environment Program (“UNEP”), developing nations require $70 billion annually for adapting for climate impacts. Furthermore, it is projected that this amount will need to double by 2030.\textsuperscript{192} Poorer nations have reiterated their demands for increased investment and financial support in addressing climate change, specifically advocating the establishment of a loss-and-damage fund to be financed by richer nations as a kind of

\textsuperscript{190} SOUTHSIDE & FUTURE, FEATURING TRAVIS SCOTT, \textit{Hold That Heat}, on HOLD THAT HEAT (Epic Records 2022).


\textsuperscript{192} Id.
These setbacks in Glasgow, and again at COP27 in Egypt, underscore the necessity of allocating extra resources to climate finance. The defense budgets of many nations appear to be the most viable targets in terms of accessibility.

At COP27 in Sharm El-Sheikh, Egypt, delegates from 197 nations alongside civil society organizations and other relevant actors gathered with the objective of engaging in deliberations and negotiations pertaining to the further execution of the Paris Agreement and UNFCCC. COP27 reached a momentous resolution by establishing and implementing a fund specifically dedicated to addressing and mitigating loss and damage, which aims to offer economic support to poor nations that are particularly susceptible to the adverse effects of climate change. During COP27, numerous nations presented revised or augmented commitments aimed at mitigating greenhouse gas emissions.

The COP27 conference showed advancements in climate adaptation, including the establishment of a fresh worldwide objective on adaptation and the initiation of a novel project aimed at assisting developing nations in their efforts to adjust to climate change. COP27 witnessed a heightened emphasis on the involvement of non-state players, including corporations, cities, and civil society organizations, heightening the acknowledgement of the vital role these entities hold in attaining the objectives outlined in the Paris Agreement.

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193 Id. ("But the Glasgow Climate Pact did not resolve the funding challenge. Although the Adaptation Fund, which was established in 2001 to finance adaptation efforts in developing countries, received $356 million in new support at COP26, funding levels remain woefully inadequate. And though the pact presses rich nations to at least double finance for adaptation by 2025, this remains billions of dollars below the projected costs. Wealthier nations also blocked the move to create the loss-and-damage fund. Instead, the pact includes a promise for future dialogue about increased financial support and technical assistance to mitigate climate-related damage.").


197 Id.


199 COP27 Presidency Launches Adaptation Agenda to Build Climate Resilience for 4 Billion by 2030, CLIMATE CHAMPIONS (Nov. 8, 2022), https://climatechampions.unfccc.int/cop
In spite of the favorable consequences, COP27 was nevertheless marked by significant letdowns. The mitigation efforts exhibited a dearth of ambition, as industrialized nations failed to present noteworthy promises in reducing greenhouse gas emissions. Insufficient progress was observed in the realm of finance, as wealthier nations failed to make any fresh pledges towards extending financial aid to underdeveloped nations. Additionally, no consensus was reached about the restructuring of the global climate finance framework. COP27 witnessed no advancements in the field of agriculture, a significant omission considering the dual role of agriculture as a contributor to greenhouse gas emissions and its susceptibility to the impacts of climate change. Ultimately, certain nations participating have made commitments in previous instances that have not been fulfilled, thereby engendering apprehensions over the reliability of these pledges and the genuine dedication of countries to undertake tangible measures in addressing climate change.

Comparatively, the Glasgow Meeting showed a business-as-usual approach to climate mitigation. The single largest delegation at COP26 was the fossil fuel industry. The presence of the fossil fuel industry was to put up obstacles and roadblocks to limit reductions in fossil fuel exploration, development, and delivery, but also to limit the efficacy of actual climate change solutions and commitment to the Paris Agreement. Despite the shortcomings...
of the Paris Agreement, the fossil fuel industry remains vigilant in opposing climate change adaptation measures that threaten to reduce its market share.

President Joe Biden jetted into Glasgow with the promise that the United States would lead by example on climate change to avoid the dangers of global warming beyond 1.5 °C.\footnote{Milman, supra note 176.} He went so far as to dispatch his entire cabinet to the COP26 meeting with vows to limit methane emissions and end deforestation.\footnote{Id.} In the conference room, negotiators from the White House did not push hard enough for the deep emission cuts that were needed. Still, the White House published a new report on the Department of Defense and Climate Risk. These documents issued by the U.S. Departments of Homeland Security, U.S. Department of Defense, the National Security Council, and the director of national intelligence, were "the first time that the nation’s security agencies collectively communicated the climate risks they face."\footnote{Christopher Flavelle et al., Climate Change Poses a Widening Threat to National Security, N.Y. TIMES, https://www.nytimes.com/2021/10/21/climate/climate-change-national-security.html [https://perma.cc/4KS6-LPLW] (June 23, 2023) [hereinafter Flavelle et al.].}

Sherri Goodman, who previously held the position of Under Secretary of Defense for Environmental Security and the current Secretary General for the International Military Council on Climate & Security, said in the 2021 study: “[t]his is the most extensive report DOD has ever produced on climate risk, moving to directly integrate [the] concept of climate change as a threat multiplier into all aspects of defense strategy, planning, force posture and budget.”\footnote{Id.} While critics have said that the report and subsequent actions related to it have not gone far enough, others have derided the report as too strong and too heavy on climate change rhetoric.\footnote{See Michael Birnbaum & Tik Root, The U.S. Army Has Released Its First-Ever Climate Strategy. Here’s What That Means., WASH. POST (Feb. 10, 2022, 6:00 AM), https://www.washingtonpost.com/climate-solutions/2022/02/10/army-military-green-climate-strategy [https://perma.cc/6K75-YFYM].}

\begin{thebibliography}{99}
\bibitem{Milman} Milman, supra note 176.
\bibitem{Id} Id.
\end{thebibliography}
The Pentagon’s acknowledgment of climate change as a national security risk marks a significant step in aligning military practices with environmental sustainability. In its Department of Defense Climate Risk Analysis from October 2021, the Pentagon committed to integrating climate considerations into its budget, particularly in areas of military exercises, war games, and strategic stability studies. The Department intends to prioritize funding DOD Components in support of exercises, wargames, analyses, and studies of climate change impacts on DOD missions, operations, and global stability, according to its report. In coordination with allies and partners, DoD will work to prevent, mitigate, account for, and respond to defense and security risks associated with climate change.

This shift indicates a willingness to address the ways in which climate change can affect defense and security around the world, promising a more proactive approach in coordination with international allies.

However, this newfound commitment to climate resilience must also confront the environmental legacy of the military’s operations. The U.S. armed forces generate 750,000 tons of toxic waste as depleted uranium, oil, jet fuels, pesticides, defoliants, lead, and other chemicals. The U.S. armed forces have been responsible for a substantial amount of toxic waste, including hazardous materials like depleted uranium, jet fuel, and other chemicals, contributing to over 900 Superfund sites—a testament to the military’s environmental impact. Reports such as the one from Newsweek, which disclosed the military’s emission of more than 25,000 kilotons of carbon dioxide from fuel combustion, further underscore the urgent need for environmental accountability within the defense sector.

True action on climate change...
will necessitate not only a reevaluation of military practices but also a reallocation of the military’s budget towards technologies that mitigate climate impacts and advance global environmental goals.217

Among these consequences is the ongoing fossil fuel needs of a constant war footing spanning the entire globe. Working with the Veterans for Peace’s Climate-Militarism Project, Congresswoman Barbara Lee (D-CA) introduced House Resolution 767, which urges the Pentagon to track, reduce, and report its greenhouse gas emissions annually.218 The resolution says it is the duty of the Department of Defense “to reduce the overall environmental impact of all military activities and missions . . . including but not limited to combat operations, deployments, drone attacks, weapons production and testing, base construction and functions.”219

British researchers Oliver Belcher, Patrick Bigger, Ben Neimark, and Cara Kennelly have analyzed the U.S. military’s climate impacts based on logistical supply chains focusing on how acquisition and consumption of fossil fuels occurs.220 Supply chains were linked to geopolitical ecology, which is a “theoretical framework that combines political ecology with critical geopolitics to gain deeper insight into the impact of large geopolitical institutions on environmental change.”221 They argued that military fuel consumption was a function of “the material-ecological metabolic flows (e.g., hydrocarbon-based fuels) enacted through US military supply chains,” which connected critical

Jerry Ensminger would agree. He joined the Marines during the Vietnam War, in which his brother had been wounded, and was assigned to Camp Lejeune in 1973. He and his wife lived on the base’s northern edge. Their second daughter, Janey, was born in 1976. Photographs show a pretty girl with cheeks like apples. At the age of six, Janey was diagnosed with leukemia. In the photographs that follow, her hair is cut short. Deposits of fat, from treatments, pad her body. She knows things no child should have to know. On September 24th, 1985, aged nine, Janey Ensminger died.

Id.

218 Veterans for Peace, supra note 71.
219 Id.
220 Belcher et al., supra note 95, at 2.
221 Id.
logistics and supply studies. They suggested that opposing military adventurism is a critical strategy for the disruption needed for further locked-in hydrocarbons.

Scientists for Global Responsibility have recognized that serious efforts to limit military carbon emissions would require diplomacy and arms control through disarmament treaties. The organization also advocated for a reduction in the size and spending of the military along with the abolition of nuclear weapons in order to create a policy shift from national security to human security.

A. Decarbonization

By reducing the size and scope of the armed forces, demilitarization can help decrease the overall carbon emissions associated with military activities. As countries downsize their military forces, they can reduce their reliance on fossil fuels, scale down their military bases, and decrease the production and maintenance of weapons systems, all of which contribute to carbon emissions.

1. Military Research and Clean Energy Innovation

Historically, the military has played a significant role in technological innovation, particularly in the energy sector. Redirecting military research and development efforts towards clean energy technologies can help accelerate the transition to renewable energy sources, contributing to global decarbonization efforts.

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222 Id. The link between supply chain and military logistics is also fashioned my multinationals in the corporate sector:

Deborah Cowen has emphasized, the entanglement between logistics and military operations has only grown more pronounced as corporate management practices have assumed a privileged position within the US military since at least the Vietnam War. Ucko has shown how US counterinsurgency doctrine, adopted by the US Army in the mid-2000s as the wars in Afghanistan and Iraq were chaotically deteriorating, incorporated a small business-model approach to provisions, technology development, and tactical operations. This enacted a “bottom-up” command structure that enabled on-the-ground officers to challenge the provision assumptions of US commanders running the wars from Central Command in Tampa, Florida and the Pentagon. For Cowen, what is important is not so much the US military adopting management techniques and practices fashioned by multinational corporations. Rather, it is that US corporations are also reliant on the US military to secure their own logistical supply chains; or, more precisely, that there is a symbiotic relationship between the military and corporate sector. In terms of liquid fuel logistics, one might think of the role the US military plays in securing oil shipping routes, some portion of which the military is likely to go on to burn.

Id. at 4 (internal citations omitted).

223 Id. at 12.

224 Parkinson, supra note 35.

225 Id.
The National Renewable Energy Laboratory ("NREL") recommends detailed assessments to determine the waste heat recovery, low-temperature geothermal, geothermal heat pump ("GHP"), and underground thermal energy storage ("UTES") potential at DoD installations.\textsuperscript{226} Assessments should include a thorough evaluation of the available resources, leading to a shortlist of high-potential installations.\textsuperscript{227} Techno-economic analysis should be conducted to determine the economic viability of these technologies, considering factors such as energy requirements, heating and cooling systems, building characteristics, geology, and climatic conditions.\textsuperscript{228} The analysis of the available data obtained from energy audits conducted during the installation process, as well as engineering reports, are recommended for the establishment of a comprehensive database intended for the utilization of stakeholders.\textsuperscript{229} The provided data will facilitate the identification of possible energy-saving opportunities through the utilization of GHP and/or UTES systems, and it will aid in assessing the feasibility of harnessing waste heat for power-generating purposes.\textsuperscript{230} The implementation of geothermal technologies in newly established DoD installations allows the collection of real-time performance data. This will significantly support subsequent research, analysis, and system enhancement.\textsuperscript{231} The integration of this data with the GHP database will provide valuable assistance for comprehensive systems modeling initiatives that will yield DoD advantages.\textsuperscript{232}

2. International Cooperation and Disarmament

Demilitarization can also take the form of international disarmament agreements, which aim to reduce military stockpiles and the potential for armed conflict. By decreasing the likelihood of armed conflict, disarmament efforts can help lower the carbon emissions associated with war and military activities. A study by economists suggests policy implications to address the following findings: (1) encourage policymakers and government officials to reduce global political risk by pursuing peace treaties, agreements, and negotiations, and (2) promote a higher share of renewable energy in total energy consumption to decrease CO2 emissions and mitigate environmental impacts.\textsuperscript{233} This study investigated the impact of geopolitical risk ("GPR") on

\begin{itemize}
\item \textsuperscript{226} E. ANDERSON ET AL., NAT'L RENEWABLE ENERGY LAB'Y, A BROAD OVERVIEW OF ENERGY EFFICIENCY AND RENEWABLE ENERGY OPPORTUNITIES FOR DEPARTMENT OF DEFENSE INSTALLATIONS viii (2011).
\item \textsuperscript{227} Id.
\item \textsuperscript{228} Id. at 25.
\item \textsuperscript{229} Id.
\item \textsuperscript{230} Id. at 26.
\item \textsuperscript{231} Id.
\item \textsuperscript{232} Id.
\item \textsuperscript{233} Muhammad Khalid Anser et al., Does Geopolitical Risk Escalate CO2 Emissions? Evidence from the BRICS Countries, 28 ENV'T SCI. & POLLUTION RES. 48011, 48019 (2021).
\end{itemize}
CO2 emissions in the countries of Brazil, Russia, India, China, and South Africa (“BRICS”) from 1995 to 2015. Using second-generation panel data methods, it was found that GPR increases CO2 emissions, whereas renewable energy consumption reduces them. Conversely, GDP, non-renewable energy, and population growth contribute to higher CO2 emissions.

B. Economic Development

This Section examines how demilitarization can contribute to sustainable economic development, improve social well-being, and prevent the decline of civilization. It also emphasizes the importance of international collaboration and the need to uphold human rights standards consistently. Demilitarization can spur economic development and promote sustainability by redirecting resources toward more environmentally friendly sectors, creating jobs using clean energy technologies, and improving social well-being. This approach can also prevent the decline of civilizations and help foster a safer and more prosperous future for all nations. Countries must work collaboratively and avoid double standards in establishing and upholding human rights standards.

A group of economists considered the differences in presidential democracy between presidents and parliaments and their impact on conflict. This research examined a sample of 157 nations from 1988 to 2006, revealing that presidential democracies exhibit a higher propensity to allocate greater financial resources towards defense expenditures compared to parliamentary institutions.

A number of political science studies suggest just that presidential systems are more prone to civil conflict than are parliamentary democracies because of a lack of flexibility and the dual legitimacy that arises from the election of both president and parliament. Reynal-Querol analyzed the relation between political systems and civil conflict and found that less inclusive systems – for example, presidential regimes – are more prone to civil war. Were this to be the case, it could be argued that a relation might exist between proneness to conflict and military expenditure. Indeed, this . . . shows that states with more developed and stable institutional and political systems are less prone to internal violence and, therefore, have fewer incentives for military spending.

234 Id.
235 Id.
236 Id.

[1] In the case of growing institutional conflict in a presidential democracy between president and parliament, no democratic principles are in place to resolve the discord. In such circumstances, the military can act as a leveraging power, giving them a role in the civil power game that enhances its importance in a presidential system. Thus, it seems plausible that this position of the army in presidential systems can result in higher spending. In other words, the military might be seen to be using their power and influence in a presidential system to control the state, thus securing for themselves higher rents and greater investment in the army."

Id. at 280 (internal citations omitted).
democracies. Furthermore, it was observed that countries employing majoritarian voting systems tend to allocate more funds towards defense compared to countries that utilize proportional representation systems. These findings indicate that democratic institutions show diverse effects on the provision of public goods, and attributes associated with presidential systems, such as limited adaptability and dual legitimacy, could potentially contribute to increased levels of military expenditure. These findings are important for understanding the role of political structures in managing military spending and reducing conflict risk.

One of the primary reasons demilitarization can lead to economic development is the reallocation of resources. When a nation reduces its military budget, it can reallocate financial and human resources to alternate sectors of the economy. The act of reallocating resources has the capacity to stimulate economic expansion, create job prospects, and enhance overall economic efficacy. For example, a country that reallocates resources from its defense sector to education and healthcare is likely to witness improvements in its human capital in wellness and economic growth. A well-educated and physically fit labor force exhibits higher levels of productivity, innovation, and adaptability in response to evolving economic circumstances. Consequently, this phenomenon results in heightened competitiveness and fosters economic expansion. By reducing environmentally damaging military activities, nations can reduce their ecological footprints and invest in more sustainable industries. This shift can lead to the creation of green employment, thereby contributing to economic growth and climate change mitigation by reducing greenhouse gas emissions.

Furthermore, by nurturing a peaceful environment, demilitarization can encourage sustainable resource management. Conflicts frequently lead to the exploitation of natural resources, resulting in deforestation, pollution, and loss of biodiversity. Nations can ensure the long-term health of their environment by focusing on preserving ecosystems and adopting sustainable practices. Demilitarization ensures that nations maintain a balanced allocation of resources across all sectors, thereby preventing economic stagnation and social unrest. Redirecting resources from the military to areas such as education, healthcare, and social welfare can improve the quality of life of citizens, leading to increased social cohesion and well-being and decreasing the likelihood of internal conflict and unrest. Demilitarization can ultimately promote a safer and more prosperous future for all nations. Armed conflicts become less likely as nations reduce their military capabilities and prioritize diplomacy.

238 Id. at 279.
239 Id.
240 Id. at 280.
242 See id.
international cooperation, and peaceful conflict resolution. This, however, requires coordinated international efforts and commitment to uphold human rights consistently. To transition to more sustainable and tranquil societies, countries must collaborate, share knowledge and resources, and support each other.

V. POLICY SHIFTS

Funding and budget allocations affect military force preparedness. Special Operations Forces (“SOF”) are entities distinct from conventional military units. I would argue for funding reallocations from Special Operations Forces to climate change adaptation efforts, similar to the military’s deployment of the Manhattan Project for the development of the nuclear bomb. Deploying tactical forces away from war preparedness when the United States is undergoing relative peacetime is a critical concern. Recognizing the special interests and heavy emphasis on military funding in the federal budget, the climate movement can push for demilitarization by moving military resources toward climate-change adaptation efforts to curb greenhouse gas emissions. Seeing how budget authorities and decisions are linked to funding priorities will lead to greater emphasis on budget reallocations and reconciliations, which paved the way for the Inflation Reduction Act.243

In recent years, the DoD has recognized climate change as a significant threat to national security and has taken steps to address its impact. DoD spending on climate initiatives can be found across multiple programs and budgets. Some of these initiatives include investing in renewable energy, increasing energy efficiency, and enhancing the resilience of military installations to climate-related risk. For example, DoD has set a goal to generate or procure 25 percent of its total energy consumption from renewable sources by 2025.244 The U.S. military has been conducting research and development in areas such as alternative fuels, energy storage technologies, and microgrids. These investments aim to reduce the military’s dependence on fossil fuels, lower greenhouse-gas emissions, and improve energy security. Budgets and spending priorities can change over time, however, and new climate initiatives may be introduced, or existing ones may expand. A precise figure is difficult to identify because many military processes occur as special operations or remain classified.


This lack of funding and expenditure details raises questions about the transparency and accountability of projects, but overzealous oversight also presents barriers to mission preparedness and effectiveness. The significant administrative oversight leads to additional compliance measures, but also bogs down the project because of cumbersome expectations to report and justify appropriations and expenses in ways that may not exist for adversaries whose governments, institutions, or systems lack these checks and balances. At the same time, these special force projects may later present diplomatic and political issues when they are subject to congressional and public scrutiny once discovered/exposed.

Since 2001, SOF deployments have increased (tripling by 2014) to meet the operational needs of the U.S. Central Command area.\(^{245}\) A report from the Government Accountability Office ("GAO") predicts that a high rate of deployment will continue even as a shift in focus occurs in other parts of the globe.\(^ {246}\) While GAO has requested steps to quantify SOF spending allocations, the estimates are variable.\(^ {247}\) U.S Special Operations Command’s ("USSOCOM") methodology provides only a partial picture and does not capture all funding allocations.\(^ {248}\)

SOFs have conducted training on Haiti’s security forces, which the U.S. Department of Defense included as the country’s judiciary through "civil affairs personnel—who are statutorily designated special operations forces (10 U.S.C. § 167(j)(5))—conducted the mission under 10 U.S.C. § 2011, which authorizes DOD O&M funding . . . ."\(^ {249}\) In Mexico, the U.S. Drug Enforcement Agency ("DEA") conducted covert operations “to obtain information on rival cartels, and establish a network of informants for the purposes of protecting national security.”\(^ {250}\) These missions have received mixed results and/or have had unintended impacts.


\(^{246}\) Id. at 23.

\(^{247}\) Id. at 18. ("[T]he command has estimated the allocation of military service funding to support SOF to be roughly $8 billion annually. This amount, which exceeds SOCOM’s fiscal year 2014 base budget of $7.5 billion, is in addition to the $9.8 billion that SOCOM receives through its base and supplemental special operations—specific funding.").

\(^{248}\) Id.


There were also several deals that were offered to the suspected members of the Sinaloa Cartel in order for those members to avoid prosecution, and attorneys for the cartels stated that the decision to give out these deals ‘had been approved by high-ranking [U.S] officials and federal
Budget request for fiscal year 2023 included $246 million for nine aircrafts for “procurement within USSOCOM’s Armed Overwatch program so that SOF deployed to remote locations can get the close air support, precision strike capability, airborne intelligence, surveillance, and reconnaissance capabilities they need to execute their missions.”251 In testimony to the Senate Armed Services Committee, officials noted, “‘[t]he investment into the Armed Overwatch program will ensure that this dedicated capability exists, allowing high-end fighter aircraft to orient towards other critical needs[.]’ The Armed Overwatch platform will deliver a capability that ensures our SOF can continue to operate wherever we need them, whenever they are needed.”252 The ability to have functional flexibility to achieve operational goals is a hallmark of SOF projects. Changes in technology will additionally impact funding requests for the integration of modernized intelligence and weapons systems.

The emergence of artificial intelligence and unmanned systems will also lead to costs, but with reductions in personnel and associated labor costs.253 Defense analyst and former Special Forces officer Steven Bucci has indicated that “SOCOM might see its budgets trimmed in the coming years as the Pentagon’s main focus turns toward great power competition with China and Russia and away from counterinsurgency and counterterrorism.”254 He noted that counterterrorism and counterinsurgency risks still exist and play a role in powerful competition.255

Being able to accomplish the aims of Special Forces will also require interpretation of the law and rules that govern the continued operation of special forces. Major Rudolph Barnes, Jr. has argued that “[a]s long as politically sensitive military operations remain an integral part of our national defense strategy, we must insure that our commanders have adequate legal staff support to accomplish their assigned missions.”256 Operational support is as necessary as logistical support is. The military may also begin to embrace climate-
change adaptation efforts as new climate insurgencies grow. Paris witnessed the Yellow Vest movement, which threatened the order and wins of the 2015 Paris Agreement.

**CONCLUSION**

Emerging threats, including disease vectors (i.e., coronavirus), climate change, the rising sea level, environmental threats, industrial risks, corporate sabotage, nuclear proliferation, supply chain issues, cybersecurity, grid reliability, and domestic terrorism, will alter the landscape of special operations and require more flexibility for funding and project directives. These changing conditions will require agility to outmaneuver as well as flexibility for special forces budget allocations as well as the military overall. Disa Ravi, a climate activist, highlighted that the COP26 meeting exhibited an unprecedented level of exclusion for civil society organizations, individuals from the Global South, and those with disabilities.\(^{257}\) She noted that the COP26 Coalition, a UK-based civil society coalition of environment NGOs, reported that two-thirds of the individuals they were assisting from the Global South could not attend the Glasgow conference due to visa issues, accreditation challenges, and vaccine inequity.\(^{258}\) Despite some activists overcoming these barriers to attend, they were often marginalized in media coverage, highlighting the systemic exclusion of the Global South in climate discussions.\(^ {259}\) I leave you with Ravi’s final words in her article: *The Climate Crisis Is About the Global South’s Present: “To fight the systems that are responsible for the climate crisis, we need news organizations, activists and governments to first acknowledge the urgency and proximity of the climate crisis. To elicit climate action, we must change conversations. We must live in the moment. And we need to strip environmentalism of its white garb because if we do not fight for the present – there is no future.”*\(^ {260}\)

\(^{257}\) Ravi, *supra* note 147.

\(^{258}\) *Id.*

\(^{259}\) *Id.*

\(^{260}\) *Id.*