

Article

# A Comparative Study on Military Climate Crisis Management Policies in Korea and the United States

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**Abstract:** The climate crisis is emerging as an extreme crisis for the entire earth and humanity. In order to solve the climate crisis, developed countries around the world are thinking together and looking for ways. Recently, the 6th IPCC report was published, but the forecast results are even more disastrous. Accordingly, the United States, one of the world's strongest developed countries, is doing its best to prepare active countermeasures against the climate crisis in the field of defense. The result of these actions is appearing as a result of many policies related to the U.S. defense climate crisis response. In particular, the United States recognizes the climate crisis as one of the biggest threats to national security, and is designing policies based on this perception. Specifically, the United States Department of Defense, United States Army, United States Navy, and United States Air Force's climate crisis response policies were published. However, in the case of Korea, there is no specific policy for responding to the climate crisis in the defense sector so far, and the policies for responding to the climate crisis in the past have not been evaluated for their results and are not being continuously implemented. In this study, in order to think about the problems of Korea's defense climate crisis policy, a comparative study was conducted with the US defense climate crisis policy, and in particular, each climate crisis policy was divided into prevention policy, preparedness policy, response policy, and recovery policy field. As a result, specific policies for each policy field are being conceived and implemented in the U.S. defense climate crisis policy. However, in the case of Korea, it was confirmed that there is no recognition of the climate crisis as a threat by the Ministry of National Defense and no specific policy.

**Keywords:** Climate Crisis Management, U.S. Military Climate Crisis Policy, Korea Military Climate Crisis Policy,

## 1. Introduction

The United States is a country that has consistently maintained the world's No.1 military power index(Global Firepower Index, GPI) unrivaled in the field of defense since the Cold War era(Gloabalfirepower.com, 2023). While most countries focus most of their military's combat power on self-defense, the United States maintains its global military influence by dispatching its troops to various parts of the world. This means that the U.S. military must have operational considerations for different environments around the world, and at the same time, it means that the direct and indirect effects of changes in the environment are relatively greater than those of other countries.

The concept of security expanded after the post-Cold War demanded the U.S. military to consider new types of threat factors based on the comprehensive security concept. In particular, the 1994 Human Development Report published by the United Nations Development Program(UNDP) emphasized human security and the seven elements of politics, economy, environment, health, community, individual, and food with announcing

the emergence of non-traditional security threats (Moon, 2021). Among the seven factors, the environmental factor is a fundamental threat to the rest of the factors, and the 'climate crisis', which has been revealed as a visible phenomenon worldwide, falls under this category. As the intensity and frequency of extreme climate events such as floods, droughts, and heat waves increased due to the climate crisis, domestic and foreign security concerns began to become an issue. In January 2021, the Biden administration's executive order 14008 formalized the response to the climate crisis, and in September 2021, the U.S. Department of Defense announced the Department of Defense Climate Adaptation Plan to implement specific military climate crisis response policies.

After the conclusion of the Kyoto Protocol with the goal of reducing greenhouse gas emissions in 1997, the United States showed a lukewarm response in the field of military power through refusal to ratify it. At the time of the Trump administration, there was a period of stagnation due to the nature of the regime, but it is dealt with as a global security issue, not at the level of U.S. national security, and all government-wide agencies are participating to seek alternatives to overcome the crisis together to overcome the climate crisis (The White House, 2021; Moon, 2021).

These efforts led to the publication of the Report of Effects of a Changing Climate to the Department of Defense in 2019 by the U.S. Department of Defense. 36 Air Force Bases, 21 Army facility, 18 navy bases, 2 military facilities, 1 financial facility, and 1 headquarters were evaluated for climate crisis vulnerabilities. Based on these evaluation reports, the U.S. Department of Defense announced a military-level climate risk assessment report (U.S. Department of Defense, "Climate Risk Analysis") and a climate adaptation plan (U.S. Department of Defense, "Climate Adaptation Plan") in 2021. And the U.S. Department of the Army released the 2022 Climate Strategy report (U.S. Department of the Army, "Climate Strategy"), the U.S. Navy released the same year's Climate Action 2030 report (U.S. Department of the Navy, "Climate Action 2030"), and the U.S. Air Force released the U.S. Department of the Air Force ("Climate Action Plan"). In addition to the plan, the U.S. Department of Defense formed a 'Climate Working Group' to lay the groundwork for the implementation of the specific plan (Moon, 2021). As such, it is expected that the U.S. military will continue to present and implement defense policies to respond to the climate crisis in the future, and as a result, the U.S. military system's weapon system, technology, and each military policy are expected to change and develop. So, in this study, we look at the military climate crisis management policy of the United States and compare it with the military climate crisis management policy of the Republic of Korea to obtain policy implications.

## **2. U.S. Government's Climate Crisis Management Policies**

Since the main climate crisis policy of the U.S. Department of Defense is based on the U.S. administration's climate crisis policy by the will of the U.S. President and the White House, it is necessary to first check the flow of the U.S. government's climate crisis policy.

Currently, the United States is running the government of the 46th President Joe Biden from January 20, 2021. It can be seen that President Biden's administration has a high level of awareness and will for the climate crisis, enough to change and use the world's first official climate crisis response policy term from climate change to climate crisis. In particular, the Biden administration is focusing on climate crisis response policies by selecting the climate crisis as one of the seven policy priorities (COVID-19, Climate, Racial Equity, Economy, Health Care, Immigration, Restoring America's Global Standing) (White House.gov, 2023)

President Biden criticized the passive policy on the climate crisis of Donald Trump, who was the 45th president, and predicted many climate crisis policies even before his election through election pledges. In particular, he strongly criticizes former President Trump's withdrawal from the Paris climate agreement (notified on November 4, 2019,

confirmed on November 4, 2020), and has declared that he will immediately rejoin the Paris climate agreement if he is elected president. In addition, achieving zero carbon emissions by 2050, achieving carbon neutrality in the power (power generation) sector by 2035, investing in the environment/clean energy industry and low-carbon infrastructure in the amount of 2 degrees, adding 500,000 electric vehicle charging stations by 2030, and Election strategies were established and publicized, focusing on pledges related to responding to the climate crisis, such as electric vehicles (Choi, 2021).

In the case of the past, the Obama administration (2009-2016) actively tried to legislate climate change bills such as the "American Clean Energy and Security Act (Waxman-Markey Bill) in 2009, but failed to pass a Senate vote. As it died out, it was promoted based on administrative orders, not institutionalization through legislation, and had limitations that were mostly abolished or modified by newly emerging President Trump's administrative orders (Choi, 2021). Nevertheless, the Obama administration has a stance of responding to the climate change problem from a comprehensive and long-term perspective, and responds to the climate crisis by organizing a climate crisis adaptation task force through Executive Order 13514 (Federal Leadership in Environmental, Energy, and Economic Performance). Policies were established and implemented (Park, 2016; Moon, 2021).

Considering the urgency of the climate crisis, President Joe Biden also had limitations in implementing policies through executive orders rather than legislation. Based on the lessons of the past, where the opportunity for energy conversion was lost by wasting two years while working, a specific support policy is being created by improving the completeness of the policy (Han, 2021).

**Table 1.** President Biden's Major Election Pledges in Response to the Climate Crisis

<b>Main Contents</b>
1. On the first day of inauguration, rejoining the Paris Climate Agreement and hosting the World Climate Summit
2. Achieving net zero carbon emissions by 2050, carbon neutrality in power (power generation) sector by 2035, environment/ \$2 trillion investment in clean energy industries and low-carbon infrastructure
3. Add 500,000 electric vehicle charging stations by 2030, replace all buses with electric vehicles
4. Tax benefits and subsidies for electric vehicle production/consumption
5. Expansion of renewable energy use (8 million solar roofs, 500 million solar panels, 60,000 wind turbines)
6. Eco-friendly conversion of 4 million buildings and 2 million housing units, supply of 1.5 million eco-friendly public housing units
7. Prohibition of subsidies for fossil fuels, prohibition of new permits for leasing public lands for the gas and oil industries
8. Suspension of Keystone XL Pipeline Project
9. Development of sustainable social infrastructure and clean energy
10. Expansion of social infrastructure and job creation to strengthen resilience in response to climate change and disasters in the fields of roads, bridges, buildings, power grids, water resources, etc.
11. Countries and climates in the Caribbean and Central America that experience hurricanes, sea level rise, and natural disasters Collaborate to adapt to change and strengthen resilience
12. Eliminate trade finance for carbon-heavy projects with G20 countries
13. Suspension of carbon support financing for excluding least developed countries with G7 and multinational trade finance institutions
14. Induce the elimination of subsidies for China's coal and high-emission technologies through U.S.-China agreements

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15. Carbon linked to diplomatic support of China's Belt & Road Initiative (BRI) policy Footprint verification, development of new alternative development finance for member countries of the Belt and Road Initiative (BRI) and offer
  16. Include the climate change crisis on the national security agenda
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Source: Joe Biden for President, Official Campaign Website ([joebiden.com](http://joebiden.com)); Biden-Harris Transition Team Website ([buildbackbetter.gov](http://buildbackbetter.gov)); The U.S. Federal Register ([www.federalregister.gov](http://www.federalregister.gov)); See also The White House Briefing Room Website ([www.whitehouse.gov/briefing-room](http://www.whitehouse.gov/briefing-room)); Edited by the researcher with reference to Choi (2021)

The Biden administration is taking a rational and scientific policy approach through Executive Orders and Presidential Memorandum to quickly and concretely realize election pledges. In particular, through Executive Order 13990 (Executive order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, January 20, 2021) announced at the same time as President Biden's inauguration, the policy basis for responding to the climate crisis direction was presented. Executive Order 13990 emphasized adherence to the scientific method in all policy formulations for public health and harm, and the new administration's Environmental Code re-evaluated relevant policies implemented by the previous government, and the net greenhouse gas emissions Estimates were made on social costs lost due to property damage such as increased agricultural productivity, health flood risk, and destruction of the ecosystem value chain (Choi, 2021). In addition, through the presidential memorandum (Memorandum on Restoring Trust in Government Through Scientific Integrity and Evidence-Based Policymaking, January 27, 2021), all administrative departments emphasized compliance with scientific truth and evidence-based policy making, and the Science and Technology Policy Bureau and the National Science and Technology Commission were dumbfounded to oversee and evaluate policy establishment based on scientific truth and evidence, emphasizing scientific evidence-based policy approaches and improving reliability related to the climate crisis (Choi, 2021). Through Executive Order 14007 (Executive Order on the President's Council of Advisors on Science and Technology, January 27, 2021), policy establishment compliance based on science and data and the Presidential Science and Technology Advisory Committee were re-established(Choi, 2021). And in relation to the climate crisis, Executive Order 14008 (Executive Order on Tackling the Climate Crisis at Home and Abroad, 2021. 1. 27.) declares the climate crisis as an essential element of U.S. foreign policy and national security policy, grants full authority for diplomacy and international cooperation in response to the climate crisis to the Special Presidential Envoy for Climate (appointed by John Kerry), and the Domestic Climate Policy Department within the White House (Office of Domestic Climate Policy) established, Assistant to the President and National Climate Advisor (appointed Gina McCarthy) appointed, Nationally Determined Contribution (NDC) development and climate finance plan established, Director of National Intelligence, DNI) estimation of the security aspects of climate change, consideration of climate change aspects in bilateral and multilateral development cooperation, formation of the National Climate TF (National Climate TF), preferential purchase of low-carbon power generation and electric vehicles, national-owned land and territorial sea fossil fuel mining It contains specific policies such as banning, wind power policy development, repealing fossil fuel subsidies, launching and educating the Civilian Climate Corps, promoting designation of 30% of U.S. territory and territorial waters as protected areas, and regional working groups for energy transition.(Choi, 2021).

### 3. U.S. Military Climate Crisis Management Policies

### 1) *U.S. Department of Defense*

The U.S. Department of Defense consumes about 708 trillion Btu (British Thermal Unit) annually by using fossil fuels such as jet oil and diesel oil for military training, maintenance of military forces, operation of military equipment, and maintenance of military facilities. It not only accounts for 77-80% of the total energy consumption of the U.S. federal government, but also consumes more than the total consumption of countries such as Sweden and Denmark (Kang & Shim, 2021).

Reflecting these greenhouse gas emissions in the defense sector, the climate crisis defense budget as of fiscal year 2022 is about \$620 million, which exceeds the \$500 million budget for responding to COVID-19, and in detail, the budget for strengthening the recovery capacity of military bases 2.6 billion dollars, energy-related R&D expenses of \$190 million, purchase of eco-friendly equipment such as electric vehicles of \$150 million, and climate crisis war game development of \$2 million (Congressional Budget Office, 2021; Kang & Shim, 2021).

The U.S. military's climate crisis policy is in line with the military's disaster management system. Air base damage caused by Hurricane Andrew in 1992 (Homestead AFB, Florida), Hurricane Ivan in 2004 (Navy Base, Pensacola) and after Hurricane Katrina an omnidirectional integrated disaster management system was established by U.S. Department of Defense (Park & Kim, 2023). In this regard, since 2009, the Department of Defense has declared that the climate crisis can be a 'serious' threat to national security through research, and emphasized that the threat can expand to resource wars, refugees, and conflicts between countries (Park & Kim, 2023).

In 2003, the U.S. Department of Defense published a report called 'An Abrupt Climate Change Scenario and Its Implications for United States National Security'. Several scenarios of conflicts were specified in detail, centering on the United States, Europe, and Asia. In particular, it contained predictions that natural disasters and wars caused by the climate crisis would cause millions of population displacement and that global catastrophes would come (Moon, 2021). Through these predictions, in 2009, the Joint Operation Environment Report of the Joint Chiefs of Staff emphasized the need to respond to the climate crisis as a new 'serious' threat.

In the Ministry of National Defense, through 'The Climate Change Adaptation and Resilience Guidelines' in 2016, climate crisis considerations for military facility infrastructure and operations were handed down to each service, and have been continuously updated to date. In addition, in 2017, the Planning Handbook on Climate Change Installation Adaptation and Resilience was published to provide guidelines considering the vulnerability of the climate crisis in the Installation Development Plan Process. In the same year, in response to the climate crisis, the High Performance and Sustainable Building Requirements were included in the United Facilities Criteria to establish military facility construction standards to overcome the vulnerability of the climate crisis.

The Department of Defense's response to the climate crisis began to materialize in the 2019 Ministry of Defense's Impact Assessment Report (Report on Effects of a Changing Climate to the Department of Defense). This report is largely divided into two parts. The first evaluates the vulnerability caused by the climate crisis, and the second part summarizes the Department of Defense's efforts to secure resilience according to the vulnerability of the climate crisis. This report mainly assessed the vulnerability of military facilities, specifically 36 Air Force Bases, 21 Army Bases, 18 Naval Bases, 2 Defense logistics facilities, 1 Defense finance facility, and the military headquarters in Washington. A total of 79 military installations were evaluated. As for specific evaluation items, current and future potentials were evaluated for the items of recurrent flooding, drought, desertification, wildfires, and thawing permafrost.

In the case of 'regular flooding', the first evaluation item, the Joint Base Langley-Eustis base is a representative example of vulnerability. From 1930 to the present, due to a sea level rise of about 14 inches, floods of an average of about 3 feet have occurred regularly, and the intensity is getting stronger and stronger. evaluated as having. Also, Navy Base Coronado continues to experience severe flooding due to the effects of typhoons and rising sea levels. In particular, it was found that naval bases located along the coastline are seriously exposed to frequent flooding caused by sea level rise and typhoons. In the case of drought, the second criterion, bases in the southwestern United States are greatly affected. Joint Base Anacostia Bolling, Joint Base Andrews, U.S. The Naval Observatory/Naval Support Facility, Naval Air Station Key West, etc. are severely damaged by drought, and the drought not only supplies water for operations, but also increases additional energy consumption to maintain combat power. Desertification, the third evaluation item, is judged to have an impact on the sustainability and mobility of the base, and in particular, Camp Roberts and White Sands Missile Range are evaluated to be greatly affected. In the case of forest fire, the fourth evaluation item, a forest fire occurred near Vandenberg Air Force Base in 2017, and a forest fire near the same base in 2016 has spread to the space launch pad and electricity generation facilities. It was evaluated that the frequency of additional consumption of equipment and direct or indirect damage to military facilities is increasing.

Finally, the only base affected by permafrost thawing is in Alaska, so the impact seems low, but this report only determines the impact of the base itself. Negative assessments of the security environment due to topographical changes in the Arctic Ocean are expected to be added (D.O.D, 2019: 5-11).

**Table 2. Summary of U.S. Department of Defense Climate Crisis Impact Assessment Report**

Branch	facilities	Recurrent flooding		Drought		Desertification		Wwildfires		Thawing permafrost	
		Current	Future	Current	Future	Current	Future	Current	Future	Current	Future
Air Force	36	20	258	20	22	4	4	32	32	-	-
Army	21	15	17	5	5	2	2	4	4	1	1
Navy	18	16	16	18	18	-	-	-	7	-	-
Logistics	2	2	2	-	2	-	-	-	-	-	-
Finance	1	-	-	-	1	-	-	-	-	-	-
HQ	1	-	-	-	-	-	-	-	-	-	-
Total	79	53	60	43	48	6	6	36	43	1	1

Source: D.o.D, Report on Effects of a Changing Climate to the Department of Defense(2019), Edited by researcher.

In the next part of this report, efforts to secure resilience according to the vulnerability of the climate crisis, it emphasized the need for collaboration with state and local governments and non-governmental organizations (NGOs) as well as independent efforts by the Department of Defense, and presented 10 real cases.

Also, recently, through 'The U.S. Interim National Security Strategic Guidance' published in March 2021, the climate crisis is recognized as a new threat, and through U.S. leadership and international cooperation, the climate crisis and its accompanying challenges will be met. (The White House, 2021). Through this flow, it can be seen that although the administration continued to change periodically through elections, within the Department of Defense, there were continuous efforts to recognize and prepare policies

for the climate crisis as a threat, and as part of these efforts, the Minister of Defense The DOD Climate Change Working Group has been established to assess security threats against the climate crisis and prepare measures for cooperation between ministries (Inside Defense, March 10, 2021; Kang & Shim, 2021).

Additionally, through Executive Orders 14008 and 14057 of the Biden administration, the Department of Defense published the Department of Defense Climate Risk Analysis in 2021. This report outlines the security implications of climate change for the Department of Defense, the role of the Department of Defense in international efforts with the U.S. Government and its partners, the Department of Defense's responsibility for climate change, climate hazards and security implications, and strategy, information on how to include the climate crisis in plans, climate crisis-related technologies, experts, and cooperation issues such as budgets (DoD, 2021; Moon, 2021). In particular, it included information on regional climate risks, disasters, and security relations, but this part was classified as Controlled and Unclassified Information and treated as confidential. In connection with this, in the same year, the 'The DoD Installation Exposure to Climate Change at Home and Abroad' and 'The DoD Climate Assessment Tool' were published (DoD, 2021: 5 ). In addition, the Department of Defense published a policy and strategy on climate change (2022) based on Executive Order 14008 (Park & Kim , 2023).

In addition, the U.S. Department of Defense is focusing on international climate crisis response policies by announcing 'The NATO Climate Change and Security Action Plan' in 2021 as well as internal climate crisis policies (DoD, 2021: 13 ). and international, multidisciplinary approaches (Overseas Humanitarian, Disaster, and Civic Aid funds, Pacific Environmental Security Partnership, DoD Regional Center for Security Studies, U.S. Army Corps of Engineers, the State Partnership Program, the Institute in relation to climate crisis security policy for Security Governance, the Defense institute of International Legal Studies, etc.), the climate crisis policy is being realized (DoD, 2021).

## 2) *U.S. Army*

Since the beginning of 2000, the U.S. Department of Defense-level climate crisis response policy has been continuously planned and revised, but in the case of the Army, specific climate crisis response policies have been prepared according to the guidelines of the Department of Defense after the Biden government's Executive Order 14008. And The U.S. Army has published 'The 2022 Army Climate Strategy'.

'The 2022 Army Climate Strategy' regards the climate crisis as a threat that changes the geographical and strategic environment, and forces human resources, a key element of the military, to operate and fight in a threatening environment, and to soldiers who are mobilized to fight forest fires and flood damage. Since the climate crisis already exists as a threat to be faced, it emphasizes the urgency of responding to the climate crisis immediately.

The Army's 2022 Army Climate Strategy was designed primarily in response to the climate crisis, focusing on new mission processes, standards, infrastructure, energy consumption reduction, and greenhouse gas reduction (U.S. Army, 2022). The End State and Goals presented by the U.S. Army in accordance with Executive Orders 14008 and 14057 of the Biden administration are to reduce greenhouse gases by 50% compared to 2005 by 2030, to achieve net-zero greenhouse gases by 2050 and reflect security-related matters due to the climate crisis in strategy, planning, acquisition, supply system, and all administrative procedures, and supply 100% of electric vehicles for non-combat vehicles by 2027 (U.S. Army, 2022). As a specific example, the U.S. Army Future Command is carrying out active R&D and promotion plans with the goal of improving operational time,

low-noise operation, and reducing logistics burden, along with the promotion of electrification projects for tactical combat vehicles (Defense News, September 2020.21.).

To achieve this goal, the U.S. Army proposes three lines of effort (LOE). LOE 1 is the installation part, which adapts to the climate crisis and is highly resilient and sustainable while reducing greenhouse gas emissions. It was intended to build facilities and infrastructure. LOE 2 is the field of Acquisition & Logistics, and focused on acquiring equipment and operational capabilities to prepare operational capabilities suitable for the climate crisis. The third LOE 3 is Training, which focuses on training soldiers to be prepared in detail in response to the climate crisis.

Overall, the U.S. Army's strategy to respond to the climate crisis presents a policy that focuses on mitigating the climate crisis rather than focusing on minimizing damage caused by the climate crisis, adapting under the threat of the climate crisis, that is, maintaining operability. The reason is that the Air Force It is judged that the direct operational impact of the climate crisis is relatively small compared to the Air Force and the Navy.

**Table 3. Summary of U.S. the Army Climate Strategy**

Division	Details	Description
LOE1: Installations	Energy & Water Supply	Plan for seamless energy and water supply under climate crisis conditions
	Carbon-Pollution-Free Electricity	Plan to complete 100% pollution free electricity supply and demand by 2030
	Efficient Structures	Facility operations applying leadership in energy & environmental design, achieving net-zero by 045
	Non-Tactical Fleet Electrification	Replace all non-tactical vehicles with electric vehicles by 2035
	Land Management	Preservation of the ecosystem on land owned by the Army and prohibition of reckless development
	Enhanced Planning	Incorporate tools, information, research and technology considering the climate crisis in all Army operational/administrative planning
LOE2: Acquisition & Logistics	Advanced Technology	Sustainability through replacement of tactical vehicles with electric vehicles by 2050, improved tactical power and reduced impact on the environment
	Future Contingency Basing	Completion of charging system considering abnormal situation in energy supply
	Clean Procurement	Complete eco-friendly procurement system of process, transportation, maintenance and facilities by 2050
	Resilient Supply Chains	Complete a supply system that is resilient to the climate crisis, including policies and plans by 2080
LOE3: Training	What the Army Trains	Completion of a complete climate crisis-based education system by 2028



	How the Army Trains	Completion of training system for minimizing greenhouse gas emissions by 2028 and completion of training system that reflects climate crisis threat environment
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Source: U.S. Army, 2022 Army Climate Strategy(2022). Edited by researcher.

### 3) *U.S. Navy*

The U.S. Navy has presented two goals to complete the Climate-ready Force. The first goal is to build climate resilience against the climate crisis, and the second goal is to threaten the climate crisis. It is Reduce Climate Threat (U.S. Navy, 2021). The detailed goals for each of these two goals are nature-based resilience and energy resilience (U.S. Navy, 2021).

The U.S. Navy has also selected four Lines of Effort. The first LOE 1 is a climate-informed decision-making system, which refers to the establishment of a decision-making system that considers the impact of the climate crisis, risks, opportunities for adaptation, and the effects of mitigation and resilience (U.S. Navy, 202). LOE 2 is the operation of training and equip for climate resilience in consideration of climate resilience, which is about the operation of equipment available in the environment and the training system that reflects the environment in consideration of the operational environment changed by the climate crisis. (U.S. Navy, 2021). LOE 3 is Resilient built and natural infrastructure, which means that the natural environment itself becomes infrastructure, and conservation efforts for it can be linked to military readiness and operational success(U.S. Navy, 2021). LOE 4 is supply chain resilience and innovation, emphasizing that consumption of major resources such as energy and water can be reduced through the application of low-carbon technologies for supply and transportation and operation of resilient supply chains(U.S. Navy, 2021). Finally, LOE 5 is called Enhance mitigation and adaptation through collaboration, which will operate an effective climate crisis policy through cooperation with external and international organizations of the U.S. Navy. It emphasizes efforts to cooperate with all organizations, including state and local governments and non-governmental organizations(U.S. Navy, 2021).

In the case of the Navy, due to the nature of operating ships at sea rather than on land, priority is given to maintaining combat power through effective energy and water supply in the climate crisis environment, and the focus is on adaptation rather than mitigation against the climate crisis.

**Table 4. Summary of U.S. Navy Climate Action**

Division	Details	Descriptions
LOE1: Climate-informed decision-making	Climate considerations into the budget process	Securing budget considering climate crisis assessment, climate disaster response, climate crisis adaptation, etc.
LOE2: Train and equip for climate resilience	Electrification of Tactical Ground Vehicles	Planned replacement for ground tactical vehicles with hybrid or electric-based vehicles
	Integrated & Improved Propulsion for Navy Ships	Efficient and effective operation by introducing a hybrid propulsion system for ships

LOE3: Resilient built and natural infrastructure	Natural Infrastructure Resilience	Securing climate crisis resilience by maximizing the disaster prevention effect of natural infrastructure such as the coastline
	Net-Zero Energy	Ensuring energy resiliency through the introduction of programs such as microgrid through external technological cooperation along with internal energy planning and water conservation efforts
LOE4: Supply chain resilience and innovation (Continue...)	Energy Resilience Initiatives	Supply network operation based on mitigation and adaptation technologies for the impact of the climate crisis, such as low-carbon fuel use, effective electricity supply, and advanced water purification technology
LOE4: Supply chain resilience and innovation	Lithium-Ion Batteries for Tactical Ground Vehicles	Research and development of securing an effective power source for electric ground tactical vehicles through collaboration with the Army
	Investments in Innovation	Expand continuous investment in technology development companies for climate crisis response technology development
LOE5: Enhance mitigation and adaptation through collaboration	Collaborating with External Partners	Securing effective climate crisis response policies and technologies by collaborating with not only defense-related organizations in and outside the United States, but also with state governments, local organizations, non-governmental organizations, and research institutes in other countries.

Source: U.S. Navy, Department of the Navy Climate Action 2030(2022).

4) *U.S. Air Force*

The U.S. Air Force is the only U.S. Air Force headquarters building built in consideration of the climate crisis during flooding at Offutt Air Force Base in Nebraska in 2019 to experience any flood damage at all. Based on these experiences and the Biden administration's Executive Order 14008, published in 2021 is the U.S. Air Force's 'Climate Action Plan'.

In order to maintain a consistent flow of policy, the U.S. Air Force presents climate crisis policies by stratifying them in the order of flow as shown in the following <Table>.

**Table5. Summary of U.S. Air Force Climate Actions Plan**

Order of flow	Details
Goal of action plan with priority	<ol style="list-style-type: none"> <li>1. Maintain Air and Space dominance in the face of Climate risks</li> <li>2. Make climate-informed decisions</li> <li>3. Optimize energy use and pursue alternative energy sources</li> </ol>
Objective of the priority	<ol style="list-style-type: none"> <li>1. Modernize infrastructure and facilities</li> <li>2. Develop a climate-informed workforce</li> </ol>

	<ol style="list-style-type: none"> <li>3. Integrate security implications of climate change into department strategy, planning and operations</li> <li>4. Incorporate climate considerations into department requirements, acquisition, and supply chain processes</li> <li>5. Improve operational energy intensity</li> <li>6. Adopt alternative energy sources</li> </ol>
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Source: U.S. Air Force, Air Force Climate Actions Plan(2021), Edited by Resarcher.

The most final goal of the U.S. Air Force Climate Action Plan is to secure resilience to the climate crisis and preserve combat reliability in the climate crisis environment, and to fight and win the enemy (U.S Air Force, 2021). Based on these goals, the Air Force is presenting a set of priorities for action. The first is securing aerospace superiority in conditions of climate risk, the second is a climate-informed decision, and the third is an optimized strategy. Energy use and securing alternative energy (U.S Air Force, 2021).

The specific goal of securing the superiority of aviation and space in the first priority, climate risk, is to build facilities for climate crisis resilience, secure energy, and reduce future climate threats through greenhouse gas reduction (U.S Air Force, 2021). The results to be obtained through the achievement of the above goals are to secure an annual budget of 1 million dollars by 2027 for the implementation of the climate crisis action plan, establish a system for assessing the impact of the climate crisis by 2024, and evaluate the risk caused by the climate crisis by 2026. Completion of basic facility planning, energy resilience readiness training plan by 2027, completion of facility energy plan by 2023, securing budget from 2024, 50% carbon emission compared to 2008 by 2033, net by 2046 - There is completion of the zero portfolio (U.S Air Force, 2021).

For the second priority, climate information-based decision-making, knowledge, technology, maneuverability, dispatch, sustainable power management and climate crisis threat reduction based on climate crisis were presented as the goal of forming a climate crisis response culture (U.S. Air Force, 2021). The final state to be achieved through the above goals is the completion of an integrated and professional military education curriculum that considers the climate crisis by 2024, the completion of a technical education curriculum that considers the climate crisis by 2024, and the concept development of the Air Force and Space Force considering the climate crisis by 2024 Laying the foundation for command and control and theater planning through 2023, completion of 10 war games (simulations) considering the climate crisis by 2023, tentative climate crisis impact assessment including allies and allies by 2023, integrated joint capability and development manual There are achievement of energy performance linked to the necessary effects of the current weapons, assessment of the impact of the climate crisis on the supply system by 2023, and risk mitigation by 2024 (U.S. Air Force, 2021).

The third priority, the goal of optimizing energy use and securing alternative energy, is to reduce energy consumption for military supplies, secure energy capabilities to maintain combat power, and reduce the Air Force's impact on the climate crisis through greenhouse gas reduction ( U.S. Air Force, 2021). In particular, the U.S. Air Force presents different goals regarding energy, such as projecting the best combat power in wartime and reducing energy costs in peacetime, but the actions to achieve those goals are the same as the third priority, optimized energy use and alternative energy.

The final status related to the third priority is to increase operational energy efficiency by 5% by 2027, by 7.5% by 2032, and by 2027 through development of aircraft configuration and technical software, full-scale wing body prototype by 2027. Complete and verify the development of alternative energy, reduce costs to at least the same or lesser level through the use of alternative fuel for 10% of aircraft by 2026, and secure alternative energy resources through micro-reactor experiments by 2028 use 100% green fuels by 2030,

achieve 50% green electricity production, 100% electric vehicle replacement for non-tactical vehicles by 2035, and non-internal combustion engines for 100% air operations equipment by 2032. A replacement is proposed (U.S. Air Force, 2021).

#### 4. Korean Government's Climate Crisis Management Policies

Based on the 'Framework Act on Low Carbon, Green Growth' enacted in 2009, the Korean government implemented the 'Five-Year Plan for Green Growth' in the short term and established a strategy with a goal of 2050 in the long term. The above law was abolished as of September 23, 2021, and its place is replaced by the 'Framework Act on Carbon Neutrality and Green Growth to Response to the Climate Crisis (Carbon Neutral Basic Act)'.

Since 2009, Korea's climate crisis policy can be largely divided into the inception phase, expansion phase, and leap phase. In line with the international trend of climate crisis, the institutional foundation is prepared through legislation, and after that, specific strategies and plans are established, and an official organization is formed. It has been developed in the direction of securing sustainability through The specific flow can be checked through the <Table> below.

**Table6. Summary of Korea's Climate Crisis Response Policy**

Division	Details
Embryonic Period (2009~2014)	-Enactment of 「Basic Act on Low Carbon Green Growth」 and establishment of 「National Strategy and Basic Plan for Green Growth」 (2009) -Establishment of 2020 national greenhouse gas reduction target (2014)
Enlarger Period (2015~2019)	-Establishment of 2030 national greenhouse gas reduction target (2015) and roadmap (2016) -Establishment of the 1st climate change response basic plan (2016) -Establishment of the 2nd climate change response basic plan (2019)
Take-off Period (2020~)	-Declaration of carbon neutrality in 2050 and establishment of promotion strategy (2020) -2050 Composition of the Carbon Neutrality Committee (2021) -Enactment of the Framework Act on Carbon Neutrality and Green Growth to Respond to the Climate Crisis (2021) -2050 Carbon Neutral Scenario Preparation and 2030 National Greenhouse Gas Reduction Target Increase (2021) -Reorganization of the Carbon Neutral Green Growth Committee (2022)

Source: 'The Green Growth National Strategy and 5-Year Plan'(2009), 'Framework Act on Carbon Neutral Green Growth'(2021), 'National Carbon Neutral Green Growth Basic Plan for Climate Crisis Response'(2023), Edited by Researcher.

In December 2020, Korea declared its 2050 carbon neutral vision domestically and internationally, and in May 2021, it launched the '2050 Carbon Neutrality Committee', which serves as the center of carbon neutrality.'The Framework Act on Neutrality and Green Growth'(Framework Act on Carbon Neutrality) was enacted, and through the establishment of the '2050 Carbon Neutral Scenario' in October 2021, the direction of carbon neutrality policies for each sector of the national foundation and industry was presented (National Carbon Neutrality and Green Growth Basic Plan, 2023). In addition, in October

2021, the 2030 National Greenhouse Gas Reduction Target (NDC) was raised to 40% reduction compared to 2018, and in October 2022, the 2nd '2050 Carbon Neutral Green Growth Committee' was launched, and the 'Carbon Neutral/Green Growth Committee' was launched and Promotion Strategy was established (National Carbon Neutrality Green Growth Basic Plan, 2023).

The 'Basic Act on Carbon Neutrality and Green Growth to Respond to the Climate Crisis (Basic Act on Carbon Neutrality)', which is the legal basis for Korea's climate crisis policy, was enacted by integrating eight bills related to the climate crisis that were proposed in the 21st National Assembly for one year. 'Special Act on Green New Deal Policy for a Just Transition to a Decarbonized Society', 'Basic Act on Transition to a Decarbonized Society to Respond to the Climate Crisis', 'Climate Crisis Response Act', 'Basic Act on Climate Crisis Response', 'Climate Crisis Basic Act for Response and Just Green Transition', 'Basic Act on Carbon Neutral Green Growth', 'Basic Act on Response to Climate Crisis and Implementation of Carbon Neutrality', 'Act on Establishment of Righteous Transition Fund' fall into this category (Lee, 2021). In addition, the government established the 'National Carbon Neutral Green Growth Basic Plan' based on Article 10 of the 'Framework Act on Carbon Neutral Green Growth to Respond to the Climate Crisis (Framework Act on Carbon Neutrality)'. This plan is established and implemented as an interlocking plan every 5 years during the 20-year planning period from 2023 to 2042 (National Carbon Neutral Green Growth Basic Plan, 2023).

In the national carbon neutral green growth strategy established in 2023, as an achievement of Korea's climate crisis policy, the 2050 carbon neutral goal was set, the 2030 national greenhouse gas reduction target was raised, and 'carbon neutral green growth to respond to the climate crisis' It is significant in establishing the basis for long-term implementation of carbon neutrality and green growth from a long-term perspective through the enactment of the Framework Act. However, the fact that greenhouse gas emissions continued to rise until 2018 in the policy implementation so far, the absence of a systematic monitoring system for goals and implementation plans, the lack of participation of members of society and policy consistency, the passive role of the international community in responding to the climate crisis, and new technologies and there is no development strategy.

## 5. Korean Military Climate Crisis Management Policies

By adopting the 'Paris Agreement' in 2015, Korea participated in limiting the global temperature rise to 2°C by 2100 and to 1.5°C based on the pre-industrial standard. Accordingly, a declaration was made to achieve carbon neutrality by 2050 by reducing carbon emissions more than 45% compared to 2010 by 2030 (Kang & Shim, 2021).

Since 1990, Korea's greenhouse gas emissions have increased by 3.3% per year, emitting an average of about 700 million tons per year. It is expected to reach 761.40 tons. In the case of the Korean military, energy consumption is not directly disclosed, but energy consumption can be inferred through the amount of public utility charges in the 'Defense Statistical Yearbook' published by the Ministry of National Defense. It has increased by about 1.7 times, showing an average annual increase of about 6.6% (Kang & Shim, 2021). Under the Paris Climate Agreement, there are no exceptions for energy consumption in the defense sector and limits on greenhouse gas emissions throughout the country are in place, and clear greenhouse gas emission statistics and mitigation plans in the defense sector are needed.

Nevertheless, in the case of Korea, there is no direct separate plan to respond to the climate crisis like the United States. However, in 2009, the 'Defense Low Carbon, Green

Growth' plan was implemented based on the 'Basic Act on Low Carbon, Green Growth', and through the 'Five-Year Plan for Green Growth', Korea aims to enter the world's 7th largest green power by 2020 and 5th largest green power by 2050. wanted to achieve the goal. As of September 24, 2021, the 'Low Carbon Green Growth Framework Act' was abolished, and the 'Framework Act on Carbon Neutrality and Green Growth for Response to the Climate Crisis' (abbreviated as the Framework Act on Carbon Neutrality, enforced in March 2022) was enacted, and the 'The 5-Year Green Growth Basic Plan' was replaced by the National Carbon Neutral Green Growth Basic Plan.

Additionally, according to the 'Basic Act on Low Carbon, Green Growth' and 'Defense Low Carbon, Green Growth' plan, the Ministry of National Defense also established a 5-year promotion plan and was implementing it. In the 5-Year Growth Plan, the Ministry of National Defense was excluded from the plan. Accordingly, there is no specific climate crisis response policy, and through the contents of the Ministry of National Defense's '22-'26 Mid-term Defense Plan' in 2021, the 'Green New Deal 2.0' policy Carbon neutrality and fine dust reduction in response to climate change (Policy Briefing, 2021).

As for the achievements and effects of green growth plans for each county, which were implemented in accordance with the 'Framework Act on National Defense Low Carbon, Green Growth', policies are changed and there is no additional measurement or research, so the acquisition of related data is limited. In this study, Jeong(2020) conducted an awareness survey on the Army's climate crisis policy targeting officers of the Army's advanced military class. In this study, too, it is pointed out that there was a limitation in that confirmation of data related to the progress of green growth initiatives was limited.

Due to this situation, it was judged that a symmetrical comparison with the case of the United States was impossible because the military's climate crisis-related laws and policies did not exist. So the policy direction based on the 'National Carbon Neutral Green Growth Basic Plan' and the military climate crisis response policy that was implemented in the past were analyzed.

In 2009, the Ministry of National Defense selected 'high efficiency of defense resources, green defense technology as a growth engine, and green citizenship of all soldiers' through the 'Comprehensive Promotion Plan for National Defense Green Growth' as goals, and 3 strategies, 10 policy tasks, 30 The defense green growth policy, which was embodied in 2 practical tasks, was promoted(Lee, 2010). Accordingly, in accordance with the guidelines of the Ministry of National Defense, each service has materialized detailed policies for low-carbon and energy-saving defense operation, recycling of resources, improvement of an eco-friendly working environment and introduction of eco-friendly products, creation of a green defense environment, and education and promotion of military personnel (Republic of Korea Ministry of National Defense, 2010).

'National Defense Green Growth Comprehensive Promotion Plan' is a 5-year plan that started in 2009, and the main focus is on the introduction of low-carbon based eco-friendly and high-efficiency systems and the development of new weapon systems in the field of defense operation and military power construction. The 'Comprehensive Promotion Plan for Defense Green Growth' is based on the vision of 'developing defense green technology for the construction of a green strong military', and aims to 'build military power through development of green defense technology, lead low-carbon green growth with green defense technology, and release green market. Securing new growth engines through preoccupation' was suggested (Comprehensive Promotion Plan for Green Growth for National Defense, 2009). Accordingly, there are two major strategies: greening the R&D system and developing green defense technology. As a result, the policy tasks include 'Establishment of defense green technology research and development base, defense green technology expert training, eco-friendly green energy utilization technology

development, M&S(Modeling & Simulation)-based military operation and military operation system technology development, and low-carbon future energy-based systemic application Technology development' was presented(Comprehensive Promotion Plan for Green Growth for National Defense, 2009).

According to the 'Comprehensive Promotion Plan for Green Growth for National Defense', the Army announced the 'Low-Carbon Green Army Construction' promotion plan, divided into 3 areas such as greenhouse gas reduction, adaptation to climate change, and establishment of a practice-based system, and 17 detailed promotion tasks. selected. In the case of the Army, only three groups presented a 5% reduction target from the 2010 emission target for 2015 for greenhouse gas emissions. Accordingly, in order to reduce greenhouse gas emissions, the expansion of low-carbon vehicles, the expansion of new and renewable energy production and utilization, the greening of defense information resources, and the development of eco-friendly training methods were selected. In relation to climate change adaptation, natural environment protection activities, Reinforcement of civil, government, and military response systems in preparation for disasters, and disease prevention activities related to women's survival were selected. As a practice-based system, development and utilization of carbon management models for military units, cultivation of green skilled manpower and education of soldiers, and publicity of small green army planning was chosen(Lee, 2010).

In the case of the Air Force, 'Air Force Promotion Plan for Implementing Low Carbon Green Growth Policy' was announced, and in the case of the Navy, the announced plan is not confirmed, but individual cases can be found in the 'Defense Green Growth Data Book'.

Through the 'Defense green growth data book' published in 2010, detailed practices of climate crisis management in the military can be confirmed: 14 cases supervised by the Ministry of National Defense, 14 cases by the Army, 9 cases by the Navy, and 19 cases by the Air Force.

In the case of Korea's military climate crisis management policy at the time of 2009, the climate crisis was not regarded as a specific security threat and the policy was planned as part of responding to it. It can be seen as a relatively passive attitude toward the policies handed down after being designated as related ministries. Since then, no additional data on the progress of the 'Five-Year Basic Plan for Green Growth' has been announced, and the 'Framework Act on Carbon Neutral Green Growth to Respond to the Climate Crisis' and the 'National Carbon Neutral Green Growth Basic Plan' the Ministry of National Defense have been excluded from related ministries, Climate crisis management policy can be said to be in a state without a driving force.

## **6. Comparison and Summary of U.S. Military and Korean Military Climate Crisis Policies**

Currently, the United States can be said to be a representative country that responds most quickly and promptly in the military's climate crisis management. This is the Biden government's active climate crisis management policy, strengthening its role as a climate crisis response leader in the international community, and the high level of awareness of the climate crisis as a security threat to the U.S. military itself. It is becoming a strong driving force.

In the case of the U.S. military climate crisis management policy, the results of the climate crisis management policy, such as research reports, guidelines, strategy documents, and concept papers, excluding data not disclosed by the U.S. government for se-

curity purposes, It can be classified and analyzed through, preventive policy, preparedness policy, response policy, and recovery policy, and through this, it can be confirmed which stage and which field the U.S. military climate crisis management policy is focused on.

Among the outcomes of the U.S. military's climate crisis management policy, the outcomes that have the characteristic of a preventive policy are An Abrupt Climate Change Scenario and It's Implication for United States National Security (2003), Joint Operation Environment (2009), Planning Handbook on Climate Change Installation Adaptation and Resilience(2017), United Facilities Criteria(2017), Report on Effects of a Changing Climate to the Department of Defense(2019), Interim National Security Strategic Guidance(2021), Department of Defense Climate Risk Analysis(2021), Department of Defense Defense Installation Exposure to Climate Change at Home and Abroad (2021) and Department of Defense Climate Assessment Tool (2021), etc. Risk and vulnerability assessment, establishment of national roles in the climate crisis, geopolitical security threat level assessment due to the climate crisis, analysis of specific vulnerabilities caused by the climate crisis by military base and provision of recovery plans, facilities based on vulnerability in the climate crisis and the establishment of equipment operational performance standards.

The results of the U.S. military climate crisis management policy, which can confirm the characteristic of the preparedness policy, are Climate Change Adaptation and Resilience (2016), Department of Defense Climate Change Working Group (2021), Department of Defense Climate Adaptation Plan (2021), NATO Climate Change and Security Action Plan (2021), 2022 Army Climate Strategy (2021), U.S. This can be confirmed through Navy Climate Action 2030 (2021) and Department of the Air Force Climate Action Plan (2022). In the above results, specific cooperation and response plans for each scenario were established through Working Groups among departments, specific response plans were established through the delivery of specific climate crisis management policy direction guidelines to each military service, and NATO's military power was reviewed for climate change. It contains contents such as the establishment of specific response plans applying the extreme crisis environment and the new security environment, and the establishment of detailed climate crisis management plans for each the Army, the Navy, and the Air Force.

The results of the U.S. military climate crisis management policy, which can confirm the characteristic of the response policy, are Climate Change Adaptation and Resilience (2016), Department of Defense Climate Change Working Group (2021), Department of Defense Climate Adaptation Plan (2021), NATO Climate Change and Security Action Plan (2021), 2022 Army Climate Strategy (2021), U.S. It can be confirmed as Navy Climate Action 2030 (2021), Department of the Air Force Climate Action Plan (2022). As a result of these outcomes, specific response manuals are prepared for climate crisis considerations for military facilities, infrastructure, and operations, response manuals between related ministries are determined through Working Groups, and individual action guidelines at the Ministry of National Defense, the Army, the Navy, and the Air Force levels are established. It deals with manual and command and control system establishment.

Finally, the results of the U.S. military climate crisis management policy, which can confirm the characteristic of the recovery policy, are Climate Change Adaptation and Resilience (2016), Planning Handbook on Climate Change Installation Adaptation and Resilience (2017), Report on Effects of a Changing Climate to the Department of Defense (2019), Department of Defense Climate Adaptation Plan (2021), 2022 Army Climate Strategy (2021), U.S. There are Navy Climate Action 2030 (2021) and Department of the Air Force Climate Action Plan (2022). The outputs, which have the characteristics of recovery policies, focus on normalizing the role and operations of the military after being exposed



to extreme environments due to the climate crisis and disaster damage, and contain contents such as direction, examples, specific recovery manuals, and necessary recovery forces.

Due to the characteristics of the military organization, the U.S. military climate crisis management policy is top-down policy planning with the government, the Department of Defense, and each military headquarters. It has the characteristic of active policy planning. In addition, it can be confirmed that policy establishment is being made based on scientific and multidisciplinary research. In addition, the climate crisis is not simply recognized as a global environmental preservation and management target at the moral level, but as a major threat to national security in various fields. Accordingly, it can be seen that the policy is being planned to continuously preserve the operational performance and readiness of the military through a balanced response of mitigation and adaptation to the threat of the climate crisis, and the prevention policy, preparedness policy, response policy, and recovery policy. It can be seen that a multidisciplinary approach is being taken together.

Korea's military climate crisis management policy was based on the government's 'Basic Act on Low Carbon, Green Growth' and 'Five-Year Plan for Green Growth' in 2009. However, as can be seen from the reduction of tasks in the '2nd Green Growth Promotion Plan' and the exclusion of related ministries in the '3rd Five-Year Plan for Green Growth', a sustainable climate crisis management policy is not being implemented. As of 2009, the 'National Defense Green Growth Comprehensive Promotion Plan' established the base for research and development of defense green technology, nurtured experts in defense green technology, developed eco-friendly green energy utilization technology, developed low-carbon future energy-based systemic application technology, etc., and utilized green technology and energy. Policy planning was carried out with a focus on that.

Due to the characteristic of the military organization, top-down passive policy planning was carried out for government policies, and the military itself did not review the climate crisis or identify vulnerabilities. This can be judged to be decisively because the level of policy planning to follow the government's stance has been made without recognizing the climate crisis as a major threat to national security.

Therefore, as part of the government's 'low carbon green growth' policy at the time, it was recognized as carrying out policy tasks of the Ministry of National Defense as a related ministry. It consists of policies for the introduction of new technologies and policies for the introduction of new technologies, so it can be seen that most of the 4 stages of crisis management are focused on 'preventive policies'. In addition, in the recent introduction of defense technology emphasizing carbon neutrality, access to renewable energy is being made as part of the application of the 4th industrial revolution technology, but the climate crisis is recognized as a clear threat and there is no policy in response to it. In addition, the Defense White Paper (2023) mentions that the climate crisis is emerging as an international non-traditional security threat, but did not specify the threat as a threat to national security.

In other words, compared to the United States, Korea's climate crisis policy was planned in the absence of 'recognition of the climate crisis as a major national security threat', which is the most core concept compared to the United States. has

On the other hand, in the case of the U.S. military climate crisis management policies, 'climate crisis as a clear national security threat' is assumed as the target, national survival from new environment and threats, maintenance of military operability, and furthermore, the U.S. industrial ecosystem and international status, It is approaching as a survival strategy in various fields of the country, ranging from influence. Therefore, it can be seen that active and active policy planning and implementation are being carried out in each county as a survival strategy that stakes its fortune.

## 7. Conclusions

As a result, the U.S. military climate crisis policy can be said to be a specific policy that comprehensively encompasses prevention policy, preparedness policy, response policy, and recovery policy.

The reason this policy plan is possible is because the U.S. military has regarded the climate crisis as the greatest threat to the country. In the case of Korea, the climate crisis management policy was only planned and implemented as a participating department according to the guidelines of the existing administration. And it is a reality that there is no specific climate crisis policy planned as there is no consideration of the climate crisis as a threat. In the process, the military climate crisis policy in Korea did not have continuity and sustainability, and the military did not play a leading role, and there was no detailed study or review of the military's vulnerability to the climate crisis. However, the climate crisis is an existential threat, and the South Korean military must have specific countermeasures. The policy should be divided into prevention, preparedness, response, and recovery areas, and should be implemented with a detailed plan.

It is time for Korea to prepare for the climate crisis war that is currently taking place around the world by firmly recognizing the climate crisis as a threat.

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