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Policy Paper

Foreword

In 2018, when I drafted this list of counterarguments to the common myths espoused by the large community of those who do not understand nor want to understand nuclear deterrence, the world felt like a much safer place. There was more time to consider how to modernize our conventional and nuclear forces, Russia had not launched a full invasion into Ukraine, there was no global pandemic, and China's military modernization had not reached the level of maturity it has today. The current state of the U.S. military, especially the U.S. Air Force, is in an even more precarious position now. However, this only strengthens the argument for a credible nuclear deterrent. As I wrote in 2018, "There is simply no conventional weapon equivalency to the power and deterrent effects of nuclear weapons."

Gen Kevin P. Chilton, USAF (Ret.)

A handwritten signature in black ink that reads "Kevin P. Chilton".

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Defending the Record on U.S. Nuclear Deterrence

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Introduction

Today, a plethora of misinformation, falsehoods, and often deliberate distortions concerning nuclear deterrence continue to be repeated in public forums. They are written in editorial pages, spoken on the news, and even touted by some members of Congress and their staffs. Left unchallenged, these statements run the risk of becoming accepted as factual by the American public. This article challenges 11 of the more common fallacies. It is also an effort to create "nuclear weapons apologists"—those who know how to defend against arguments challenging the truth and reality of the U.S. nuclear deterrent.

1. "We Are Never Going to Use Nuclear Weapons"

The argument presented is, "If we are never going to use nuclear weapons, why are we wasting so much money sustaining them?" The reality is the United States uses its nuclear weapons for their most fundamental purpose every day: to deter an attack on the U.S. and to assure our allies. Nuclear deterrence is a 24/7 operation conducted by dedicated professionals in our intercontinental ballistic missile (ICBM) fields, in our command and control centers, and aboard our ballistic missile submarines. Our adversaries see our 24/7 alert postures and consequently assess an attack on the U.S. or its allies to be an unthinkable choice. The United States uses its nuclear weapons every day to do the mission they were designed for: to deter.

Of note, the Russians have been using their nuclear capabilities to deter and coerce. Just after invading Crimea, Russia released a video of an exercise showing President Vladimir Putin giving the order to launch a nuclear strike. The next clip shows a ballistic missile launching from a submarine in Murmansk and impacting on the Kamchatka Peninsula 20 minutes later. He was sending a signal using his nuclear capability to warn the world not to challenge his illegal invasion of sovereign Ukrainian territory.¹ Further, after Sweden expressed

interest in joining the NATO alliance, Russia conducted a nuclear exercise aimed against Sweden. In a subsequent white paper, Sweden stated that it was stepping back from its earlier interest in NATO membership because it would upset Russia.²

Again, U.S. nuclear weapons are used every day to deter, while Russia uses its nuclear capability to deter and coerce in support of an expansionist agenda. The differences in these roles for nuclear weapons is profound.

2. “Prompt Conventional Global Strike Can Replace a Portion of the Nuclear Deterrent Force”

Another fallacy is the notion that the deterrence mission can be adequately accomplished by substituting conventional warheads, because of their great accuracy, for nuclear warheads atop our ICBMs. Often referred to as a “prompt conventional global strike” capability, the argument is that such weapons would be precise, and in some cases powerful, enough to destroy certain targets held at risk by today’s nuclear forces. This argument does not appreciate the “long, dark shadow” cast by the destructive power of nuclear weapons and the deterrent effect that “shadow” enables. A nuclear warhead is terribly frightening; a 2,000-pound conventional warhead is not. Consider a single 200-kiloton nuclear warhead carried atop a single ICBM. 200 kilotons of explosive power equates to 200,000 Mark 84 2,000-pound conventional bombs delivered by 12,000 B-1 bombers exploding simultaneously, or 800,000 Mark 82, 500-pound bombs dropped by 8,000 B-52 sorties. If the massive ordnance air bomb (MOAB), the most powerful U.S. conventional weapon, were used, 11,000 MOABs and the same number of C-130 aircraft would be required to deliver them all simultaneously on the same target. Imagining this destructive power combined with the effects of nuclear fallout from a single

warhead that can be delivered within 30 minutes of launch produces the kind of fear in our adversaries that is essential for deterrence.

For those who argue the target is just a building and we can destroy a building with the 2,000-pound conventional warhead on an ICBM, consider the following scenario. Assume the United States does not have an antiballistic missile capability, and North Korea’s Kim Jong Un has the most accurate ICBM ever developed. Indeed, this new missile is so accurate that he knows if he orders a strike with a 2,000-pound conventional warhead, 30 minutes later the missile will hit within the carpet of the Oval Office and destroy the White House. While this new missile-warhead combination is quite capable, do you think it would ever deter a future president from coming to the aid of South Korea to meet our treaty commitment to defend the peninsula? Not likely. However, if Mr. Kim were given a much less accurate missile that could only be assured of hitting within one nautical mile of the White House, but one that was topped with a 20-kiloton nuclear warhead (same size as the warheads that ended World War II), the president’s decision calculus would be vastly different. Conventional forces are certainly an important element of the U.S. deterrent posture, but they are in no way equivalent or even comparable to the power the nuclear deterrent has to strike fear in the heart of a potential adversary.

3. “Conventional Weapon Overmatch Eliminates the Need for a Nuclear Deterrent”

Another argument presented to reduce or eliminate the U.S. nuclear deterrent is the notion that our conventional overmatch in quality and size is adequate for the deterrence mission. What was in essence a promise for the future, the Reagan buildup of the mid-1980s is instructive. The United States was to have a 600-ship Navy; today we sail 275. The Air Force was to grow to 40 combat air wings;

we have fewer than 20 today. The Army planned for 18 armored divisions: we never achieved that level. Some might argue that if we attained the Reagan build-up level of forces (which is far greater than what we have in our armed forces today), no one would dare challenge us. But let's assume for a moment each service already had the planned Reagan force levels. In addition, let's assume there was no sequestration and the Army, Navy, Air Force, and Marines have all of the necessary operations, training, and maintenance funds to field a 100 percent trained and ready force.³ Then, in this unimaginably powerful conventional force scenario let's take away all U.S. nuclear weapons and

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give Venezuelan President Nicolas Maduro 30 nuclear weapons with 30 missiles that can range 30 different cities in the United States. Now, who defers to whom in the Western Hemisphere? When economics, trade, or diplomacy are discussed, who has more influence? Who has the greater ability to deter or, worse yet, coerce? This hypothetical scenario highlights the reality that every dollar spent on a conventional force without the underpinnings of a credible nuclear deterrent is wasted.

There is simply no conventional weapon equivalency to the power and deterrent effects of nuclear weapons. The checkered history of conventional deterrence among "great powers" over the centuries in contrast to the absence of great power war since 1945 may be a coincidence, but it has important implications. The record since then presents historical evidence that nuclear weapons contribute uniquely to the deterrence calculus. So where should the U.S. spend its first dollar on defense? On the triad.

4. "We Do Not Need a Triad"

The critical question to ask in response to the claim that we do not need a triad is, so which leg do you want to eliminate? The submarine leg provides the only stealth force we have—in essence, our assured response. The bombers are the flexible force that can signal our adversaries and assure our allies while encouraging them not to build their own nuclear deterrent. The ICBM is the most stabilizing leg of the triad. Stability, in this context, is defined as a state in which adversaries are never tempted to strike first. If in the future we eliminated all our ICBMs and deployed only a dyad, as has been proposed by some, that would leave only six targets that Russia or China would have to hold at risk in the United States to eliminate our entire nuclear arsenal, save for the handful of submarines deployed at sea that day. After destroying those six targets with just six warheads of the 1,550 accountable warheads they are permitted to deploy by the New Start Treaty, Russia would have 1,544 warheads remaining, and the U.S. would only have a small subset of its force remaining.⁴ Eliminating or even de-alerting the ICBM leg of the triad would yield an unstable relationship with Russia because the resulting vulnerability of our posture in this scenario could very conceivably "invite" a first strike upon the U.S.

The value in the triad is that it complicates the adversary decision calculus. Every day we want Vladimir Putin or some future Russian to know it is going to take two or more warheads per silo to eliminate our ICBM force. That requires at least 800 of the 1,550 available to them dedicated to targets in remote sections of North Dakota, Montana, Colorado, and Wyoming. Significantly, he must consider that more than half his offense would be required to go after missiles that might not be there when the warheads arrive because of our ability to launch under attack. He must conclude that a first strike would not only fail to achieve his

objectives but also would be suicidal. Again, this is the definition of strategic stability: when an adversary understands that no day is a good day to go to war with the United States—nor is he ever tempted to launch first. When people say a dyad is a good idea and eliminating the ICBMs is a good idea because it makes for a safer America, recognize that they do not properly understand this concept of strategic stability. The United States should never want to invite a first strike by decreasing the number of targets an adversary must attack. Deterrence works because the ICBMs are on alert, and strategic stability is maintained because the adversary knows missiles can launch on warning.

5. “Nuclear Forces Are on Hair-Trigger Alert”

In the era of “good cowboy versus bad cowboy” TV shows and movies, “hair-trigger” was used to describe a gun with a filed-down firing mechanism that was so sensitive that it just might discharge whether the holder desired it to fire or not. Critics of our ICBM alert posture use this terminology as a scare tactic. People who described our ICBMs as being on “hair-trigger” alert either do not know what they are talking about or are intentionally attempting to frighten the uninformed into calling for the de-alerting of the ICBM leg.

Here is a more accurate analogy that better captures reality: There is a gun, and it has a really big round in the chamber. But the gun is in a holster and that holster has two locks on it. Now the person wearing the holster does not know the combination to either lock—only the president of the United States has the combinations. If the president tells this person to shoot, he will, but he cannot do it alone. So nuclear forces are not on hair-trigger alert. They certainly are on alert and at-the-ready, and this is necessary to provide the strategic stability described above.

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6. “LRSO Is Destabilizing”

Another fallacious argument is that the long-range standoff weapon (LRSO), or cruise missile, is destabilizing. The fact is LRSO is not destabilizing in the sense of weakening strategic stability, as it does not invite a first strike—indeed, it helps to prevent one. The United States and Russia have had these weapons as part of their respective nuclear deterrent for decades and employed them with conventional warheads in regional conflicts, and neither country has considered striking first as a result. In fact, the cruise missile is even more important today than ever. Today, by U.S. policy, our nuclear weapon labs are not permitted to build new nuclear weapons. Even if this policy changed, our infrastructure to build new weapons has been decommissioned or decayed to what has been called a “decrepit” level by a bipartisan study.⁵

The truth is Russia, China, and even Pakistan (and now perhaps even North Korea) can individually build more nuclear weapons in a year than the U.S. Department of Energy can. It is estimated that Russia can build a thousand a year, and China is building weapons faster than we could with our current infrastructure. This situation creates increased risk if the nation experiences a failure in one leg of the triad. For instance, if the Ohio-class submarines were grounded for a year due to a problem, the result would be a significant and immediate reduction of our deployed strategic deterrent. One option in this case would be to upload multiple independently targetable reentry vehicles on our ICBM fleet, but this action would take years to accomplish. Instead, the United States can have 400 air-launched cruise missiles (ALCM) loaded on 20 B-52 bombers in a matter of days, postured on 15-minute alert. These ALCMs are both lethal threats to our adversaries and highly survivable because of their ability to launch on warning. It is these two characteristics—the ability to

quickly upload and the ability to establish a survivable alert posture—combined with the flexibility and signaling aspects of the bomber that make the cruise missile so effective in contributing to both the deterrence and assurance missions of the triad.

Further, the cruise missile is an incredibly cost-imposing weapon on our adversaries. When a single bomber can launch 20 independently targeted missiles from standoff ranges that ensure the bomber's survivability, the cost to defend against those relatively inexpensive missiles becomes prohibitive. But most important is the hedge the cruise missile/bomber combination provides to sustain the effectiveness of our deterrent should we experience a technical failure in our submarine or ICBM forces or warheads, be surprised by a change in the geopolitical environment, or find Russia cheating on its treaty commitments.⁶ Today's ALCM, which will age out in the next decade, must be replaced on schedule by the follow-on LRSO.⁷

7. "We Cannot Afford Modernization"

Over the past year, several studies have focused on the question of affordability and the cost of nuclear modernization. The Congressional Budget Office estimated \$360 billion over 20 years. A subsequent cost estimate revised the number up to \$480 billion. More recently, the cost was advertised to be \$1 trillion spread over the estimated lifetime of the recapitalized deterrent force. However, the \$1 trillion figure ignores the dual use portion of bomber recapitalization costs, which can be as high as 95 percent devoted to the conventional only mission. The higher cost figure includes refurbishing all of the weapons and building all new delivery systems (submarines, ICBMs, cruise missiles, and bombers), plus all the sustainment costs over their lifetime.⁸ Arguing against recapitalizing the nuclear triad because of sustainment

costs is patently unfair. One does not allow sustainment costs of a new car to override the purchase decision since the need for a car already exists. In today's world and for the foreseeable future, the U.S. will need a nuclear deterrent in the form of a triad. So, including sustainment costs when discussing the cost of recapitalization is simply another attempt to convince the public not to invest in something that remains necessary for national security. Nevertheless, even if one adds sustainment costs to recapitalization costs, the trillion-dollar "bill" spread over 40 years (10 years for development and fielding plus 30 years for operation expenses) equates to only about 4 percent of the current defense budget, assuming an annual flat Department of Defense budget of \$600 billion. One would hope that a flat or decreasing budget is a bad assumption over the long haul, given today's threats (in fact, the most recent congressional authorization for FY 2018 allows for a \$700 billion investment in defense). So if nuclear deterrence is the number-one priority, and every other defense investment depends on it, the cost spread over the lifetime of the programs is most certainly affordable.

Here is something that is even more problematic: the last scientist or engineer to design a new nuclear weapon did so in 1988, and the last ones who tested a nuclear weapon did so in 1992. Most have retired, and many others are already deceased. How will we develop the next generation of scientists, engineers, and manufacturers? Someday there could be a geopolitical change in the world that would require the United States to build a new nuclear weapon with new capability. Today we cannot do that because of our own unilateral, self-imposed policy constraints that do not allow us to design or build new nuclear weapons. Frankly, the no-new-weapons policy puts the nation at risk in the long term.

We should be rebuilding and exercising the infrastructure necessary to sustain our deterrent and, more importantly, developing the human capital required to design and build nuclear weapons for an uncertain future. The cost to do this is modest. The cost of not doing it could be catastrophic to future generations of Americans.

8. “If We Reduce, Others Will Reduce”

We have reduced our nuclear arsenal when we signed verifiable treaties with Russia. Other than Russia, when bound by these treaties, no other country has reduced because

we reduced. The empirical evidence is significant. The United States deployed 13,000 strategic weapons at the height of the Cold War. Today we have 1,550 treaty-accountable warheads. Since the end of the Cold War, the United States has reduced dramatically, yet India, Pakistan, and North Korea all became nuclear weapon states, and China is in the process of significantly growing its inventory.⁹ How effective has this leading-by-example been? How is showing constraint working? History does not support the proposition that if

we reduce, others will follow our lead. Consider also the nations that have tried to acquire nuclear weapons but were forcibly prevented from doing so—namely Syria, Iraq, and Libya.

Further, despite our unilateral 90 percent reduction in theater nuclear weapons since the end of the Cold War, Russia has modernized and increased its theater weapon arsenal to ten times that of the United States.¹⁰ So the effectiveness of the leading-by-reducing approach, to inspire others to show restraint, is simply not supported by reality.

9. “Global Zero Is a Desirable Goal”

Many talk about global zero as a desirable goal. After all, if we could “put the genie back in the bottle,” wouldn’t it be better to have a world without nuclear weapons? Of course, the “genie,” that is, the knowledge of how to build nuclear weapons, cannot be unlearned and put back in the bottle of ignorance. Alternatively, some suggest we should continue to strive to get all nations to agree to reduce their inventories to zero, eliminate their weapon production capabilities, and submit to a near omniscient oversight authority that could compel compliance and ensure that no one was cheating. The analogy offered is the journey toward nuclear zero is described as climbing a mountain shrouded in clouds. At the top is nirvana—the goal—a world without nuclear weapons. Heading up the mountain, each time one gets to a higher camp, more weapons are eliminated. At each camp, the climber pauses to make sure all is right with the world before heading even higher up the mountain and lower in number of nuclear weapons. The thing is, they forget we have already stood on top of that mountain, above the fog, and saw the world very clearly. It was a world where human beings for centuries upon centuries, in war after war, found better and better ways to kill each other—more efficiently, more lethally. Do we want to go back to a world without nuclear weapons? Consider that, by most estimates, World War II caused the death of between 60 million and 80 million human beings. So let us pick a reasonable number of 72 million dead to make the math easy. World War II lasted six years, which means, on average, 12 million people died every year of the war—1 million people a month. This equates to about 32,000 human beings dying in armed conflict every day for six consecutive years. Unimaginable. But then, in 1945, it

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stopped. True, there have been more wars since then: U.S. losses in Korea were equal to one day of deaths in World War II; in Vietnam, one-and-a-half days. Nothing scales like the horror of the Second World War. There is a reason why great powers that own ever-more-lethal conventional weapons have elected not to fight each other: they have been deterred by nuclear weapons.

10. “Nuclear Deterrence is Cold War Think”

Some argue the U.S. nuclear deterrent should be eliminated because its existence represents “Cold War think.” If nuclear deterrence is Cold War think, then one might posit machine guns are World War I

think, and main battle tanks are World War II think, and conclude the U.S. does not need those anymore for the defense of the nation. In fact, nuclear deterrence is not Cold War think. The reality is nuclear deterrence underpins the national security of the United States and will continue to do so for the foreseeable future. It remains relevant and necessary today to deter the existential threats

to our nation posed by both Russia and China and by lesser but certainly horrific threats posed by the Democratic People’s Republic of North Korea. It also helps to deter non-nuclear attacks that could have catastrophic consequences, such as attacks involving biological weapons.

The term Cold War think is a pejorative typically proffered by those who have never thought seriously about, let alone studied, deterrence theory or by those who have run out of ways to defend their position. It is generally the last throwaway line of argument from an uninformed antinuclear ideologue.

11. “No One Would Ever Use a Nuclear Weapon against the United States”

Those who would use this argument seem willing to risk the very existence of the nation on the basis of their speculation and without forethought. However, this is not a wager military planners should ever risk. The U.S. military must ensure national survival through deterrence provided by a safe, secure, capable, reliable, flexible, and vigilant nuclear posture. It is our duty to assume the worst and then take steps to ensure it never happens.

Additionally, we must deter attacks on our friends, allies, and fielded U.S. military forces deployed abroad. This will become more challenging as Russia, China, and North Korea appear to include the possible employment of nuclear weapons in their planning; indeed, Russia and North Korea openly discuss nuclear weapons as instruments to be used in future conventional conflicts with the U.S. and NATO.¹¹

Summary

These 11 statements are a few of the false arguments and positions directed toward the U.S. nuclear deterrent, often by those who would wish to see this deterrent weakened or eliminated for purely ideological reasons. However, other serious scholars and students of deterrence theory present thoughtful and debatable positions that address issues pertaining to the size, capability, and posture requirements needed to provide the United States with a deterrent that will ensure no one would ever consider a nuclear attack on the United States, our military forces, or our friends and allies. It is the responsibility of members of the profession of arms to truthfully defend the record when false arguments are espoused and seriously consider those that are truly worthy of consideration. Only then can an informed debate begin on the subjects surrounding the U.S. nuclear deterrent. 🌟

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Endnotes

- 1 Since the writing of this article in 2018, Putin has continued these tactics. After a more recent test launch of a nuclear-capable ballistic missile, Putin was quoted as saying, “It was food for thought for those who try to threaten Russia.” See [“Russia releases video of intercontinental ballistic missile launch,” BBC News video](#), April 20, 2022.
- 2 Sweden became a member of NATO on March 7, 2024 despite Russia’s past nuclear saber-rattling. [“Sweden officially joins NATO,” NATO news](#), March 7, 2024.
- 3 This essay was originally written before the COVID-19-induced economic crisis, and sequestration refers to the 2011 Budget Control Act (BCA) spending caps on discretionary funding, which had a significant impact on defense dollars. For more about the impacts of sequestration on U.S. defense budgets, see David Reich, [“Sequestration and Its Impact on Non-Defense Appropriations,”](#) Center on Budget and Policy Priorities, February 19, 2015; and David A. Deptula and Mark A. Gunzinger, [Decades of Air Force Underfunding Threaten America’s Ability to Win](#) (Arlington, VA: The Mitchell Institute for Aerospace Studies, 2022).
- 4 Since this writing, Russia has officially suspended its participation in New Start. See [“Putin: Russia suspends participation in last remaining nuclear treaty with U.S.,” Reuters](#), February 21, 2023.
- 5 William J. Perry and James R. Schlesinger et al., [America’s Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States](#) (Washington, DC: United States Institute of Peace, 2009.)
- 6 Since this writing, Russia has withdrawn from its treaty commitments entirely. See [“Putin: Russia suspends participation in last remaining nuclear treaty with U.S.,” Reuters](#), February 21, 2023.
- 7 For the latest on LRSO development, see John A. Tirpak, [“LRSO Nuclear Missile’s Development Extended, Funding Deferred,” Air & Space Forces Magazine](#), March 23, 2024.
- 8 The study that calculated the over \$1 trillion price tag was identified to have many flaws in its methodology, as identified here—in other words, it included many costs that would be incurred regardless of whether nuclear modernization was abandoned or not, such as the development, acquisition, and operations and maintenance costs of dual-use systems and command and control systems for over 30 years. See the original study at Jon B. Wolfsthal, Jeffrey Lewis, and Marc Quint, [The Trillion Dollar Nuclear Triad](#) (Monterey, CA: James Martin Center for Nonproliferation Studies, January 2014). For a full counter-assessment of not just the “cost” of the nuclear enterprise but more importantly the relatively small savings associated with cutting nuclear programs from around the same time, see Todd Harrison and Evan B. Montgomery, [The Cost of U.S. Nuclear Forces: From BCA to Bow Wave and Beyond](#) (Washington, DC: Center for Strategic and Budgetary Assessments, August 2015).
- 9 For an update of China’s expansion of nuclear forces, see Hans M. Kristensen et al., [“Chinese nuclear weapons, 2024,” Bulletin of the Atomic Scientists](#), January 15, 2024. The *Bulletin of the Atomic Scientists*, which usually provides conservative estimates of China’s nuclear forces, said in this latest report, “Within the past five years, China has significantly expanded its ongoing nuclear modernization program by fielding more types and greater numbers of nuclear weapons than ever before.”
- 10 For an update of Russia’s modernization of nuclear forces, see Hans M. Kristensen et al., [“Russian nuclear weapons, 2024,” Bulletin of the Atomic Scientists](#), March 7, 2024. The *Bulletin of the Atomic Scientists*, which usually provides conservative estimates of Russia’s nuclear forces, said in this latest report, “Russia is nearing the completion of a decades-long effort to replace all of its strategic and non-strategic nuclear-capable systems with newer versions. In December 2023, Russian Defence Minister Sergei Shoigu reported that modern weapons and equipment now make up 95 percent of Russia’s nuclear triad—an increase of 3.7 percent from the previous year. . . . As of early 2024, we estimate that Russia has a stockpile of approximately 4,380 nuclear warheads assigned for use by long-range strategic launchers and shorter-range tactical nuclear forces. . . . In addition to the military stockpile for operational forces, a large number—approximately 1,200—of retired but still largely intact warheads await dismantlement, for a total inventory of approximately 5,580 warheads.”
- 11 This article was originally published in 2018. For an update on the status of Russian nuclear doctrine, see Heather Williams et al., [“Russian Nuclear Calibration in the War in Ukraine,”](#) CSIS brief, February 23, 2024. Furthermore, China’s seemingly strict definition of “no first use” has wavered significantly in the past decade both in military writings and political speeches. See Sari Arho Havrán, [“China’s No First Use of Nuclear Weapons Policy: Change or False Alarm?”](#) The Royal United Services Institute for Defence and Security Studies, October 13, 2023; and Tong Zhao, [Political Drivers of China’s Changing Nuclear Policy: Implications for U.S.-China Nuclear Relations and International Security](#) (Washington, DC: Carnegie Endowment for International Peace, July 17, 2024).

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