



Negotiating Toward a Denuclearization-Peace Roadmap on the Korean Peninsula

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Cover Art

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Executive Summary

The second summit between U.S. President Donald J. Trump and North Korean leader Kim Jong Un, on February 27 and 28, 2019, in Hanoi, failed to produce an agreement despite heightened expectations. No deal was better than signing a bad deal, as insufficient preparations increased the risk that a haphazard agreement would compromise American interests and the security of key allies South Korea and Japan. But the failure to agree on a date for the next working-level meeting was not an encouraging sign.

Although both negotiating teams assured the public that diplomacy is still alive, the road ahead remains as uncertain as ever. Official statements from Washington and Pyongyang immediately following the summit revealed that large gaps in understanding still exist on fundamental issues: the desired end state for denuclearization and price tags for bargaining chips in a compromise. Washington needed to know that any denuclearization steps would eventually lead to the complete elimination of Pyongyang's nuclear weapons capability. However, it appears that Kim was unable to indicate to Trump that he would be willing to eventually abandon all of his nuclear weapons and related programs. Hanoi also confirmed that sanctions are effective: Kim wanted United Nations Security Council sanctions applied since March 2016 to be lifted in return for dismantling the Yongbyon nuclear complex.¹ The North's offering price—its Yongbyon nuclear complex alone—was not enough² for Washington to lift these sanctions, because there are key nuclear facilities outside Yongbyon that aid the regime's nuclear weapons development. Despite two summits, in the absence of a real nuclear agreement, North Korea reportedly continues its nuclear development and missile-related activities. Washington in turn must continue to calculate the right quid pro quos to compel Pyongyang to change its strategic calculus. Economic incentives alone will not be enough, because both nuclear weapons and economic prosperity are critical to the regime's legitimacy and survival.³

The way forward will be a test of true colors and political wills for Pyongyang, Washington, and Seoul, which all have competing priorities on objectives and modalities for negotiations.⁴ Their decisions or missteps will affect not only the future of the Korean peninsula but also the larger geopolitics of Northeast Asia, because the North Korea problem is not simply a nuclear one. Both Trump and South Korea's Moon Jae-in face domestic and personal pressures to deliver bold results and leave behind a historic peace legacy within the timelines

prescribed by their respective democracies. Kim, meanwhile, will likely reign for the next 40 to 50 years and has the luxury of time. Still, the Trump administration can achieve substantial—perhaps even historic—results, despite deep skepticism and the difficulties inherent to negotiating with a savvy nuclear-armed regime.

This report examines pathways toward denuclearization and peace on the peninsula by offering a conceptual framework and principles for a political roadmap informed by a technical understanding of nuclear issues, to guide Washington as it navigates a range of options in negotiations until 2020. Recognizing the inevitable linkages between denuclearization and the peace process and the effects the two issues have on each other, this report proposes and emphasizes the need for a comprehensive denuclearization-peace roadmap. The task and key challenge for the United States is to con-

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figure the right tradeoffs to create incentives for North Korea to take denuclearization steps without giving away too many vital rewards too soon, to maintain negotiating leverage. It is important to prevent Pyongyang from pocketing early gains and walking away from the process without making significant progress on denuclearization. Value-based metrics should be used in determining appropriate bargains. In its negotiations with North Korea, the United States should adhere to the following key principles:

1. Engage in proportionate bargaining.
 - First, determine how valuable the denuclearization target is for North Korea and for the United States. At the same time, determine how valuable the U.S. concession is for Pyongyang and for Washington.
 - Second, ascertain whether the tradeoff is proportionate or whether North Korea's asking price outweighs its offer.
2. Categorize U.S. and North Korean concessions along a spectrum of modest to high value.

- U.S. Concessions: Modest concessions include humanitarian assistance; declaration of no hostile intent; declaration of no new sanctions enforcement; and ad hoc, time-bound sanctions exemptions for inter-Korean humanitarian cooperation projects and imports of such necessity items as oil,⁵ among others. High-value concessions would include full diplomatic relations, a peace treaty, and U.N. and U.S. sanctions relief.
- North Korean Concessions: Modest concessions include partial or full-access inspections of and suspension of nuclear activities at Yongbyon, no nuclear or missile testing, and verified closure of the Punggye-ri nuclear test site, among others. High-value concessions would include the verified dismantlement and elimination of all fissile materials and production facilities; verified dismantlement and removal of all nuclear weapons and weaponization programs; and verified dismantlement and elimination of missiles and nuclear-weapons-related delivery systems.

The Road Ahead

The following recommendations are intended to guide policymakers as they negotiate with Pyongyang over the next two years. These recommendations are based on a complete and phased, but concurrent denuclearization model with a clear understanding that while most of the implementing steps suggested could, at best, begin in the timeframe indicated, they will inevitably take years, if not decades, to complete. A phased process is inevitable even if an agreement is reached to eliminate all targets of denuclearization simultaneously, because of the scientific and technical work involved. If a third summit takes place without sufficient time for the two sides to negotiate this roadmap, then the two leaders could at least sign a mini deal that would delineate first steps and establish a negotiating process to execute a roadmap at an early date.

Looking forward, U.S. policymakers should take the following actions:

- **Step 1.** Commit to maintaining direct and regular communications with Pyongyang to sustain a negotiations process amid hiccups, stalemates, and potential walkouts.
- **Step 2.** Conclude a comprehensive denuclearization-peace roadmap in 2019 that would articulate the quid pro quos of every milestone, with timetables, until there are no nuclear weapons capabilities in North Korea and a peace regime is established on the Korean Peninsula.
- **Step 3.** Obtain an interim agreement on fissile materials in 2019—as a first step in implementing the roadmap—that would involve a declaration by Pyongyang of fissile-material production and fuel-cycle-related facilities anywhere in North Korea in exchange for modest U.S. concessions and ad hoc sanctions exemptions on inter-Korean humanitarian projects.
- **Step 4.** Secure an agreement, in 2019 if possible, to abandon nuclear weapons and a declaration by North Korea of its nuclear weapons and nuclear-weapons-related ballistic missile programs in exchange for medium-value U.S. concessions.
- **Step 5.** Obtain a final agreement on fissile materials in 2020 that will declare all of North Korea's fissile-material stockpile in exchange for medium-value U.S. concessions.
- **Step 6.** Begin verified disablement and dismantlement activities in 2020, if possible, of programs involving fissile material, nuclear weapons, and nuclear-weapons-related ballistic missiles in exchange for phased high-value U.S. concessions.
- **Step 7.** Agree on a conversion program in 2020, if possible, that would transition North Korea's nuclear-weapons- and fuel-cycle-related facilities to peaceful uses and redirect employees to non-nuclear-weapons-related jobs.

Introduction

U.S. policy on North Korea is grounded in the aim of deterring Pyongyang from starting another war and using a nuclear weapon. After the regime acquired nuclear weapons capability,⁶ the policy evolved to include eliminating such capability (“denuclearization”). Since the Clinton administration in the 1990s, the ultimate goal of denuclearization has always been and should continue to be eliminating all nuclear weapons capabilities. Interim goals have always been and should continue to be limiting and reducing capabilities. Yet despite repeated attempts to stop and roll back Pyongyang’s nuclear weapons programs, the North’s capabilities have over the long term continued to advance, as the Kim regime has taken advantage of what it sees as America’s strategic weakness: a democratic system lacking policy continuity and beset with gaps in historical memory among officials due to political and seasonal rotations of personnel.

Three preceding administrations—those of Clinton, George W. Bush, and Barack Obama—tried and failed to denuclearize North Korea. President Donald Trump believes he can be the one to finally solve the North Korean nuclear problem, but he must navigate a more complicated negotiating environment than his predecessors. To start, Kim Jong Un is much different from his father, Kim Jong Il. The North under Kim Jong Un has rapidly advanced its nuclear and missile capability to an unprecedented level of sophistication. Pyongyang’s arsenal now includes thermonuclear weapons; inter-continental ballistic missiles (ICBMs) that, though likely lacking accurate targeting, could reach the U.S. homeland; solid-fuel missiles that, compared to liquid-fuel missiles, can be launched faster; and road mobile launchers that make it easier to hide missiles and more difficult for the U.S. to preemptively strike them. Such qualitative and quantitative technological achievements have given Pyongyang confidence that it has leverage in negotiations, greater international standing, and more options for nuclear use in both peacetime and war. Moreover, Kim Jong Un is also bent on developing his country’s economy (the second pillar of his *byungjin* strategic line; the first pillar is nuclear weapons development) while receiving international recognition as a normal leader of a normal, nuclear state.

This more complicated environment was the backdrop for the first-ever summit between a sitting American president and a North Korean leader in June 2018. Meeting in Singapore, the two leaders agreed on a vague four-point statement to begin a new chapter in the U.S.-North Korea relationship that includes working

toward complete denuclearization. But Pyongyang continues to develop its nuclear weapons programs in the absence of a real nuclear deal, even though it is in violation of all U.N. Security Council resolutions banning its nuclear and missile activities and possession. This situation makes it imperative to negotiate a comprehensive denuclearization-peace roadmap with timetables sooner rather than later.

However, the second Trump-Kim summit, held in Hanoi, Vietnam, in February 2019, did not produce any agreement to implement the vision outlined in Singapore. The road ahead is fraught with uncertainty and littered with landmines. For starters, the two sides have yet to agree on the basics: the definition of or goals for denuclearization. For the United States and its allies South Korea and Japan, denuclearization simply means a North Korea without nuclear weapons capabilities, and a peace treaty that would not alter the U.S. alliance with Seoul or military presence in South Korea. For North Korea, however, denuclearization means the removal of U.S. military strategic assets⁷ from the Korean Peninsula, an end to the U.S.-South Korea alliance, and the eventual withdrawal of U.S. military troops from the peninsula.⁸ North Korea has shown that denuclearization under Kim Jong Un also seems to include mutual reductions of nuclear arms, mimicking the approach between the former Cold War nuclear powers.

The failure of the last Trump-Kim summit notwithstanding, Pyongyang, with an eye on lifting sanctions, will likely aim for three broad, long-term objectives: to negotiate a peace regime, denuclearize the entire Korean Peninsula—not just North Korea—and create the conditions to eventually unite the Korean Peninsula under the North Korean flag.⁹ All three objectives share a common end state for Pyongyang: to eventually break the U.S.-South Korea alliance and expel U.S. troops from the Korean Peninsula.

Practical near-term goals for Pyongyang appear to be seeking sanctions relief, achieving economic prosperity and international standing, permanently halting U.S.-South Korean joint military exercises, and removing U.S. strategic military assets (including aircraft carriers, nuclear-powered submarines, missile defense systems, and stealth fighters) from the Korean Peninsula and its environs while embarking on multilateral negotiations for a peace regime.¹⁰ While signaling that there is substantial space for continued negotiations, Kim also warned that if Washington does not fulfill its Singapore promises and lift sanctions, then Pyongyang will embark on a “new path.”¹¹ Trump’s refusal in Hanoi to lift vital U.N. Security Council sanctions in exchange for Kim’s dismantling of only the Yongbyon nuclear complex appeared to be the basis for the lack of results at the second summit.¹²



U.S. President Donald Trump attended a news conference following his second summit meeting with North Korean leader Kim Jong Un on February 28, 2019, in Hanoi, Vietnam. Trump and Kim abruptly cut short their two-day summit as talks broke down and the leaders failed to reach an agreement on nuclear disarmament. (Tuan Mark/Getty Images)

Bold and creative approaches could certainly lead to historic breakthroughs and perhaps even put an end to what has become an intractable problem. It is vital for any deal(s) to continue to serve the interests of the United States and South Korea and lead to stability in Northeast Asia.

Section 1 of this report examines four different models of denuclearization—complete and rapid, complete and phased, incomplete and phased, and elimination by force.¹³ It reviews the general contents of future bargains based on each side's demands and provides a framework for calculating price tags for each bargaining chip and determining proportionate tradeoffs. Based on these models, Section 2 advises the Trump administration to negotiate for complete and phased, but concurrent denuclearization. The section also warns that Washington may eventually be forced to settle for incomplete and phased denuclearization when confronted by typical North Korean negotiating tactics, such as delays and salami-slicing tactics, and the time pressure imposed by a rapidly approaching U.S. presidential election. The section then outlines ways to divide and phase U.S. concessions by categorizing them into modest, medium, and high rewards on the basis of their degree of symbolism, reversibility, and strategic or political importance, as well as ways to phase the steps North Korea needs to take toward denuclearization based on the same value metrics for proportionate bargaining. Section 3 proposes

ways for the United States to negotiate a comprehensive denuclearization-peace roadmap in 2019, outlining the bargains among the three categories agreed upon at the Singapore summit—denuclearization, a new U.S.-North Korea relationship, and a peace regime. The section also suggests that it might even be possible to begin some disablement and dismantlement activities in 2020, and to speed up the process, the different phases of denuclearization could be implemented concurrently. Section 4 offers a comprehensive set of recommendations on how the United States should proceed with negotiations over the next two years, taking into account a multitude of factors and challenges it might face. Finally, the conclusion is a brief discussion on potential outcomes for summity: success, failure, or incremental progress. It acknowledges the risks, challenges, and time involved to aim for denuclearization, but cautions against a government policy that falls short of the elimination of North Korea's nuclear weapons capabilities.

The recommended steps in this report will not be completed within Trump's first term, because of the sophistication of Pyongyang's nuclear arsenal, the size of its nuclear infrastructure, and the usual circumstances that accompany negotiating with a country like North Korea. The conceptual framework and key principles offered here extend beyond a Trump administration with necessary adjustments according to the geopolitical, technical, and security situation of the time.

Section 1. Denuclearization Models and Proportionate Bargaining

For the United States, the desired end state for negotiations with North Korea remains the elimination of its nuclear weapons capability. There are many avenues to achieve this goal as well as a multiplicity of ways to define it. The definition could mean zero North Korean nuclear weapons, materials, and technology—both nuclear weapons and civil nuclear energy—or it could mean that Pyongyang is allowed to possess nuclear

energy as well as nuclear materials and technology for industrial purposes, including medicine and agriculture. This report adopts a definition of denuclearization that eliminates North Korea’s nuclear weapons, materials, technology, and associated programs.

Given this more tightly scoped definition, there are four main pathways to denuclearization: complete and rapid; complete and phased; incomplete and phased; and elimination by force. The table below describes each of these pathways in detail and illuminates the associated pros and cons.

TABLE 1. PATHWAYS TO DENUCLEARIZATION

Model	Description	Pros & Cons
Complete and rapid	<p>All targets of denuclearization are eliminated at once in a short period of time. This is the Trump administration’s current approach, with implementation proceeding in stages, which appears to entail:</p> <ul style="list-style-type: none"> ▪ Declaration and verifiable elimination of fissile materials, nuclear weapons, long-range missiles, chemical and biological weapons, and related facilities, presumably during this presidential term. ▪ Lifting of sanctions after denuclearization. Earlier possibility of humanitarian and symbolic rewards. ▪ No civil nuclear energy program (initial position). 	<p>Pros:</p> <ul style="list-style-type: none"> ▪ Ideal scenario. Ends nuclear and missile programs soon and all at once. ▪ Politically palatable in the United States. ▪ Conducting measures in a cooperative manner could build trust and create incentives for North Korea to denuclearize. <p>Cons:</p> <ul style="list-style-type: none"> ▪ Not feasible in two years. ▪ Late sequencing of rewards reduces incentives for North Korea to take any early, concrete steps. ▪ Elimination of its nuclear energy program could be a deal breaker for North Korea; redirecting employees of current nuclear infrastructure could prove challenging.
Complete and phased	<p>All targets are eliminated in a phased, step-by-step manner over a longer period of time. Compensation or rewards are given at each stage and matched proportionately with each denuclearization step. Some phases can occur concurrently. The phases include:</p> <ul style="list-style-type: none"> ▪ Bans on nuclear and missile testing and transfers of nuclear and missile technology. ▪ Declaration of facilities related to fissile material, nuclear weapons, and missile production; halt in production; verification of declaration; dismantlement of facilities. ▪ Declaration of nuclear weapons, missiles, and fissile-material stockpiles; verification of declaration. ▪ Removal of nuclear weapons, missiles, and fissile materials. ▪ Potential allowance of a civil nuclear energy program, without uranium enrichment and spent-nuclear-fuel reprocessing capabilities. Conversion of nuclear facilities to peaceful use; redirection of employees to non-nuclear-weapons-related jobs. 	<p>Pros:</p> <ul style="list-style-type: none"> ▪ Politically palatable. ▪ Action-for-action structure gives incentives for North Korea to take successive steps to receive benefits. ▪ North Korea is more likely to accept a quid pro quo approach. ▪ The United States can evaluate progress at each phase. ▪ Incremental concessions may be more acceptable to Congress and the public. ▪ Conducting measures in a cooperative manner could build trust and create incentives for North Korea to denuclearize. <p>Cons:</p> <ul style="list-style-type: none"> ▪ Longer timeline required, but phases can occur concurrently to speed up denuclearization. ▪ Could still provide room for North Korea to drag out the process; North Korea might walk away before complete denuclearization.

Model	Description	Pros/Cons
Incomplete and phased	<p>The United States places limits, and possible reductions, on North Korea’s nuclear weapons programs and capability for an indefinite period of time, with a North Korean commitment to eventual denuclearization at an undefined time. Limits and reductions are phased, and compensation is given at each step. For example:</p> <ul style="list-style-type: none"> ▪ Freezes and caps on fissile-material production; ban on nuclear and missile testing; cap on missile production; possible declaration of all fissile-material production facilities anywhere in North Korea (or those at Yongbyon first and eventually others). ▪ Possible reduction in quantity of nuclear weapons and ballistic missiles; possible elimination of ICBMs and nuclear-weapons-related ballistic missiles. 	<p>Pros:</p> <ul style="list-style-type: none"> ▪ Limits or reduces nuclear and missile capabilities; prevents future development. ▪ Assumes constant monitoring and inspections. <p>Cons:</p> <ul style="list-style-type: none"> ▪ North Korea retains limited nuclear weapons and capability and is accepted as a de facto nuclear state indefinitely. ▪ North Korea keeps benefits from each denuclearization stage. ▪ Security concerns of South Korean and Japan remain unresolved and could tempt their nuclear weaponization; possibility of an arms race in Northeast Asia. ▪ Bad precedent for new nuclear aspirants, including Iran. ▪ Undermines U.S. nonproliferation credibility and global nonproliferation regime.
Elimination by force	<p>The United States conducts a bombing campaign using precision munition¹⁴ to destroy nuclear weapons, facilities, and infrastructure in North Korea. This strike might also aim for regime change.</p>	<p>Pros:</p> <ul style="list-style-type: none"> ▪ Potentially deters future North Korean nuclear pursuits temporarily. <p>Cons:</p> <ul style="list-style-type: none"> ▪ Massive collateral damage. ▪ Complete elimination difficult due to hidden stockpiles. ▪ Potential to escalate into large-scale and lengthy military conflict. ▪ Risks lives of allies and Americans in South Korea and Japan. ▪ Regime change highly unlikely to occur from the outside.

Source: Author’s modification of, but largely based on, Robert Einhorn’s three models (rapid and complete, incremental and complete, incremental and incomplete) in “Singapore and Beyond: Options for Denuclearizing North Korea” (Brookings Institution, June 2018). Author’s addition of military force.

Trump's Current Negotiating Approach: Realities and Challenges

The Trump administration has opted to pursue the first pathway to denuclearization: complete and rapid. The current U.S. preference for immediate and sizable results is understandable but ultimately infeasible. This section explains why, focusing on both political considerations and technological factors.

North Korean negotiating tactics will invariably prolong both negotiations and the denuclearization process. Pyongyang will seek to retain its nuclear arsenal for as long as possible and receive as many rewards as possible from the United States by dividing up its demands, nuclear programs, and required denuclearization steps into numerous components—commonly known as “salami-slicing tactics.” Indeed, history affirms this. It took almost two years for the United States to negotiate and conclude the 1994 Agreed Framework with North Korea during the Clinton administration.¹⁵ During the Bush administration, it took the six-party talks about two years to negotiate and agree on the September 2005 Joint Statement, almost two years to negotiate the February 2007 first-phase implementing agreement to shut down and freeze plutonium facilities at Yongbyon, and about eight months to negotiate the October 2007 second-phase implementing agreement to disable those facilities. These negotiations broke down before the six countries were able to begin negotiating the final implementing agreement of dismantlement. The six-party talks demonstrated the need for constant negotiations at every stage of the denuclearization process.

If history repeats itself, Pyongyang during the current negotiations may also demand nuclear reactors from Washington—or perhaps Moscow,¹⁶ Beijing, or Seoul. However, the only conceivable way for Pyongyang even to be considered as a potential recipient of nuclear reactors and power plants would be if it first agreed to completely denuclearize and rejoin the Nuclear Non-Proliferation Treaty (NPT) as part of a future denuclearization agreement with Washington, and then abide by global industry rules (set by the Nuclear Suppliers Group) of accepting International Atomic Energy Agency (IAEA) full-scope safeguards.¹⁷ The Clinton administration was willing to provide North Korea with a civil nuclear energy program, but the Bush administration was opposed to any light water reactors for nuclear energy production, claiming proliferation concerns.¹⁸

Washington may eventually confront a sticking point in negotiations: Pyongyang's desire for a nuclear energy program versus the Trump administration's apparent goal of prohibiting all forms of nuclear materials and

technology.¹⁹ In his 2019 New Year's Day address, Kim Jong Un stressed the importance of nuclear energy as one of the key engines for his country's energy production.²⁰ Even if the Trump administration decides to depart from its current stance (and that of the Bush administration) and concedes North Korea's right to a civil nuclear energy program, minus enrichment and reprocessing capabilities,²¹ the path toward denuclearization will remain long and fraught. Converting nuclear-weapons-related facilities to peaceful uses and redirecting employees of its large nuclear infrastructure to non-nuclear or peaceful nuclear jobs will require significant time.

On the technological front, Pyongyang will need to submit detailed declarations regarding quantities and locations of stockpiles and facilities. Verifying the accuracy and completeness of these declarations, as well as gaining access to suspect sites, will also require a considerable amount of time. This means that negotiations do not end when a nuclear deal is struck—the basic principles and rules for verification throughout the entire denuclearization process will remain the subject of negotiations.

Further extending the timeline for denuclearization, the process to conduct the technical and scientific work needed to disable, dismantle, and remove nuclear weapons, materials, and facilities from North Korea will be long and complex. A Stanford University report estimates denuclearization could take up to 15 years to complete,²² while the Institute for Science and International Security suggests that declaring, verifying, and dismantling the North's uranium enrichment program alone could take up to 30 months.²³

Due to these realities and challenges, the only realistic path forward is a phased process. This course of action will entail sequencing tradeoffs between North Korean denuclearization steps and corresponding U.S. measures. Although a simultaneous action-for-action approach is ideal, in some cases North Korean concessions and U.S. rewards will inevitably operate on different timeframes; for example, energy aid shipments to Pyongyang or the lifting of sanctions can take time to implement and may hit logistical or technical hurdles, as occurred during the six-party talks. Even so, a phased approach holds the most potential to build trust as each party delivers its end of the bargain at every stage. Therefore, complete and phased denuclearization is the right approach for the United States, particularly given that phases could be implemented concurrently to speed up the process.

U.S. and North Korean Demands and Proportionate Bargaining

The fundamental wish lists for both the United States and North Korea have not drastically changed over the decades. For Washington, the goal remains denuclearization, or the elimination of nuclear weapons capabilities in North Korea.²⁴ For Pyongyang, demands for “corresponding U.S. measures” broadly include security guarantees, economic and energy assistance, sanctions relief, normalization of bilateral relations, and a peace regime. Table 2 lays out the general demands made by both sides.

There are many ways to formulate tradeoffs between U.S. and North Korean demands, especially when ongoing negotiations remain fluid. Past negotiations with North Korea have made clear that the challenge for the United States is to propose bargains that give Pyongyang incentives to continue to take denuclearization steps without giving away too many high-value rewards too soon. Disproportionate bargains risk allowing Pyongyang to pocket early gains and walk away from the process without making significant progress on denuclearization. Washington would quickly lose leverage in negotiations.

To avoid this situation, the following principles can serve as a conceptual guide to determine proportionate price tags for bargaining chips:

- *Determine how valuable the denuclearization target is for North Korea and for the United States.* For example, North Korea’s offer in 2018 to destroy the entrance to its Punggye-ri nuclear test site,²⁵ dismantle its Sohae missile engine test facility,²⁶ and accept international experts to its Yongbyon nuclear complex

for dismantlement depending on corresponding U.S. measures²⁷ was advertised as a valuable concession. In reality, it was merely a symbolic gesture of good faith, because Kim Jong Un had already concluded that his state nuclear force was completed and did not require further testing,²⁸ which meant that those facilities were no longer needed. Also, his regime’s main production facilities are believed to be hidden outside of Yongbyon. Therefore, the actual value of these denuclearization targets is low. Fissile materials and ICBMs, by contrast, are valuable for both Pyongyang and Washington.

- *Determine how valuable the U.S. concession is for Pyongyang and for Washington.* For example, North Korea places significant value on American concessions such as winding down U.S.-South Korea joint military exercises, declaring an end to the Korean War,²⁹ signing a peace treaty, and receiving major sanctions relief.³⁰ Because of his personal bias about the presence of U.S. troops overseas and the attendant costs, President Trump gave away joint military exercises too soon, when this major concession should have been reserved as one of his final bargaining chips.³¹
- *Ascertain whether the tradeoff is proportionate or whether North Korea’s asking price outweighs its offer.* Symbolic denuclearization steps should be matched with symbolic concessions, reversible steps with reversible concessions, and strategically important steps with strategically or politically important concessions. For example, it would be politically difficult or impossible to lift vital economic sanctions in return for only a small part of North Korea’s programs, like

TABLE 2. KEY U.S. AND NORTH KOREAN DEMANDS

U.S. Demands	North Korean Demands
<p>Denuclearization covering the following:</p> <ul style="list-style-type: none"> ■ Fissile material production programs (materials, facilities, parts) ■ Nuclear weaponization programs (materials, facilities, parts) ■ Nuclear-weapons-related delivery systems (materials, facilities, parts) ■ Illicit trade and proliferation programs <p>Disarmament covering the following:</p> <ul style="list-style-type: none"> ■ Chemical and biological weapons of mass destruction ■ Offensive cyber capabilities 	<p>Sanctions relief from the following actors:</p> <ul style="list-style-type: none"> ■ United Nations ■ United States ■ European Union ■ South Korea ■ Japan <p>A new bilateral relationship and cooperation with the United States</p> <p>A Korean peace regime and security guarantees from the United States that involves:</p> <ul style="list-style-type: none"> ■ Formally ending the Korean War with a peace treaty ■ Terminating U.S.-South Korean joint military exercises ■ Eventually removing U.S. forces stationed in South Korea ■ Eventually abolishing the U.S.-South Korean alliance

its Yongbyon nuclear complex, when the executive branch, Congress, and the public believe the regime has undeclared nuclear facilities hidden outside of Yongbyon.

- *Scrutinize denuclearization steps that North Korea has previously undertaken and now refuses.* For example, Pyongyang submitted a nuclear declaration (“inventory”) during the six-party talks but refuses to do so today, fearing that such a declaration could furnish the United States with targets for military strikes, release state secrets, and potentially reveal that its technology might not be as sophisticated as publicly advertised. U.S. policymakers should assess the reasons behind any shifts in North Korea’s position and what it would cost to elicit the concession again.

Past negotiations with North Korea have made clear that the challenge for the United States is to propose bargains that give Pyongyang incentives to continue to take denuclearization steps without giving away too many high-value rewards too soon.

Section 2. A Complete and Phased, But Concurrent Approach

The most advisable approach for the United States is to pursue complete and phased, but concurrent denuclearization. A comprehensive denuclearization agreement including the peace process should serve as a roadmap for this approach. This approach would also be politically palatable, because it would reassure key U.S. allies such as South Korea and Japan, as well as the American public and international community, that the ultimate goal is complete elimination.

Implementation would be phased and based on the principle of action for action, which North Korea has also consistently demanded. This approach would create an incentive-based system in which each party could not receive its demand without taking the next step or giving a concession. Compared to rapid and complete denuclearization, this approach would require considerable time because of North Korean negotiating tactics, technical demands,³² and negotiations on basic principles and rules for verification throughout the process.

Implementation of complete and phased denuclearization would begin with one target, or a number of specific targets at a time, and gradually progress to other parts of North Korea’s nuclear and missile programs. To speed up the process, however, the different phases could be conducted concurrently—which would require the two sides to prioritize certain targets for denuclearization. The United States should place primacy on North Korea’s fissile-material production programs, particularly uranium, while giving secondary priority to its ballistic missile programs. From an American perspective, Pyongyang’s ICBM capability and the threat that it poses to the U.S. homeland has ratcheted up the urgency of this target category, but fissile and thermonuclear materials should remain the top priority, because ICBMs without a nuclear warhead serve no real strategic purpose.

The United States should place primacy on North Korea’s fissile-material production programs, particularly uranium, while giving secondary priority to its ballistic missile programs.

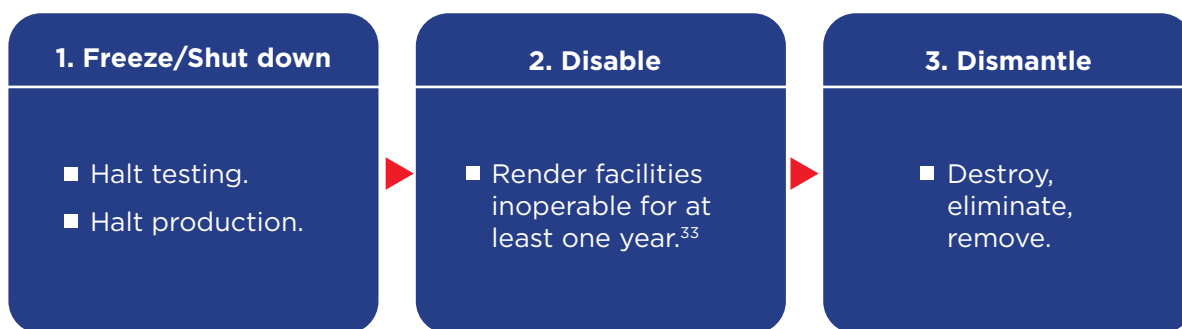
Phasing Denuclearization Steps

There are various ways to divide the targets of denuclearization and specific measures into phases. In general, the phases comprise: freezing, disabling, and dismantling programs and facilities. Specific measures generally include halting testing; declaring, verifying, and suspending fissile-material and missile production; declaring and verifying weapons and materials stockpiles; and verifying the removal and elimination of weapons and materials.

In 2005, the six-party talks agreed on a three-stage process to eliminate North Korea's plutonium program at

its Yongbyon nuclear complex, which was to begin with a freeze and shutdown, proceed to disablement, and then, ultimately, end with dismantlement. The talks broke down before the disablement phase was completed. Today, however, in light of both Washington and Seoul's desire for a speedier timeline, a two-step process in which the phases and specific measures within are eventually conducted concurrently holds significant appeal. The graphics below depict the approach taken during the six-party talks and the concurrent steps that might be possible today.

SIX-PARTY TALKS AND YONGBYON: THREE CONSECUTIVE PHASES



In light of both Washington's and Seoul's desire for a speedier process, a two-phased process in which the phases and specific measures within are eventually conducted concurrently is conceivable.

CONCEIVABLE SCENARIO TODAY: TWO PHASES, CONCURRENT STEPS



Phasing U.S. and North Korean Measures

The Trump administration has stated that it will not lift sanctions until after denuclearization.³⁴ The rationale behind this position is to maintain pressure and retain incentives for denuclearization. If the administration continues this approach, it will need to decide what technological milestone constitutes denuclearization: Is the greenlight for sanctions relief after all weapons and facilities are dismantled, or after all materials, weapons, and facilities are removed from North Korea? Can the United States begin to lift some sanctions once all North Korean nuclear weapons programs are offline and disabled?

Washington will have to offer some rewards to Pyongyang as an incentive to continue advancing toward denuclearization. It is risky to provide too many rewards and big-ticket items early, because Pyongyang can pocket them and walk away before Washington can achieve substantial denuclearization. Therefore, the United States should categorize and carefully sequence its concessions, which requires an understanding of their relative significance.

One way to categorize U.S. rewards to North Korea is by strategic and political importance as well as reversibility. Using these two criteria, modest U.S. benefits could include providing humanitarian assistance (excluding critical vaccines that should not be linked to denuclearization), declaring that the United States has no hostile intent, and declaring the start to a process that will announce a formal end³⁵ to the Korean War. Washington could also consider allowing sanctions exemptions for inter-Korean humanitarian projects and for ad hoc, time-bound imports of necessity items, such as oil,³⁶ for the welfare of the North Korean people, as modest concessions. Providing exemptions and waivers is prudent because once sanctions are actually lifted, they will be difficult or impossible to reimpose for noncompliance, as China and Russia would veto the move at the U.N. Security Council. South Korea’s progressive Moon Jae-in government would also be hesitant to reinstate sanctions, particularly in the absence of a major North Korean provocation. High-value U.S. benefits for North Korea could include a peace regime,³⁷ full diplomatic relations with embassies, and the gradual lifting of all U.S. and U.N. sanctions. Table 3 illustrates potential U.S. concessions by value and type.

TABLE 3. PHASING U.S. CONCESSIONS FOR PROPORTIONATE BARGAINING

Value	Modest <i>(High reversibility, low strategic/political importance)</i>	Medium <i>(Medium reversibility, medium strategic/political importance)</i>	High <i>(High strategic/political importance)</i>
Type of U.S. Concession			
New Relationship	<ul style="list-style-type: none"> ▪ Humanitarian assistance³⁸ ▪ Declaration of no intention to invade or topple regime ▪ Cultural exchanges (e.g., music, sports) 	<ul style="list-style-type: none"> ▪ Exchange liaison offices in both capitals ▪ Lifting of travel ban for U.S. humanitarian visits ▪ People-to-people exchange ▪ Medical, agricultural, science cooperation 	<ul style="list-style-type: none"> ▪ Full diplomatic relations and embassies ▪ Economic assistance/cooperation ▪ Lifting of travel ban for North Korean individuals and entities
Sanctions Relief	<ul style="list-style-type: none"> ▪ Declaration that no new sanctions will be applied ▪ Ad hoc, time-bound sanctions exemptions on humanitarian imports (e.g., oil, fertilizer) ▪ Time-bound sanctions exemptions for ad hoc inter-Korean humanitarian projects (e.g., rail/road survey, forestry) 	<ul style="list-style-type: none"> ▪ Extensive sanctions exemptions/waivers ▪ Sustained inter-Korean projects ▪ Time-bound sanctions exemptions for tours to Mount Kumgang 	Sanctions relief from: <ul style="list-style-type: none"> ▪ United Nations ▪ United States ▪ South Korea ▪ European Union ▪ Japan Inter-Korean economic projects (e.g., Kaesong Industrial Complex and Mount Kumgang tours)
Peace Regime	<ul style="list-style-type: none"> ▪ Declaration of no hostile intent ▪ Beginning of process to eventually declare a formal end to Korean War³⁹ 	<ul style="list-style-type: none"> ▪ Symbolic Korean War-ending declaration that does not change the armistice or U.S. troop presence⁴⁰ ▪ Modification of U.S.-South Korean joint military exercises 	<ul style="list-style-type: none"> ▪ Peace treaty ▪ Peace regime ▪ Discussion on U.N. Command and U.S. military role/presence

Note: The value of these concessions may fluctuate depending on the trajectory of U.S.-North Korea negotiations.

For the United States to engage in proportionate bargaining, it can apply the same metrics to North Korea’s denuclearization steps.⁴¹ Modest North Korean steps would include inspections at Yongbyon, an initial declaration of all fissile-material production facilities anywhere in North Korea, and no nuclear and missile tests. High-value steps would include the verified dismantlement and removal of all nuclear and missile programs. These concessions are depicted more fully in Table 4.

Challenges and Risks

The complete and phased approach certainly has its share of challenges and risks. A phased, step-by-step framework risks giving Pyongyang space to exploit and drag out the process. Progress is dependent on each party continuously taking a step forward in the process in order to receive corresponding benefits. The process could break down if there is a protracted stalemate or if the 2020 U.S. election brings in a new president who

decides to scrap the Trump administration’s approach. This breakdown could then result in Pyongyang’s retaining limited nuclear weapons capabilities and, in effect, being accepted as a de facto nuclear power—and even resuming nuclear weapons development.

Trump’s unpredictability could also abruptly alter the course and desired outcomes of this approach. It will, therefore, be important for the foreign policy establishment to work closely with the president.

Progress is dependent on each party continuously taking a step forward in the process in order to receive corresponding benefits.

TABLE 4. PHASING NORTH KOREAN CONCESSIONS FOR PROPORTIONATE BARGAINING

Value	Modest <i>(High reversibility, low strategic importance)</i>	Medium <i>(Medium reversibility, medium strategic importance)</i>	High <i>(Low reversibility, high strategic importance)</i>
Type of North Korean Concession			
Fissile Material and Production Programs	<ul style="list-style-type: none"> Full-access inspections and suspension of activities at Yongbyon⁴² Inspections and suspension of a few facilities at Yongbyon Initial declaration of all fissile-material production and storage facilities anywhere (Yongbyon and outside) 	<ul style="list-style-type: none"> Verified Yongbyon dismantlement and removal Complete declaration of all fissile-material production and storage facilities anywhere and suspension of activities 	<ul style="list-style-type: none"> Verified dismantlement and elimination of all fissile-material production facilities and materials
Nuclear Weaponization Program <i>(nuclear weapons, facilities, sites, parts, equipment, etc.)</i>	<ul style="list-style-type: none"> No explosive nuclear testing Verified closure of Punggye-ri nuclear test site 	<ul style="list-style-type: none"> Declaration of nuclear weapons and related components, facilities, sites, parts, and equipment Declaration, verification, and accounting of fissile and thermonuclear materials quantities⁴³ 	<ul style="list-style-type: none"> Verified dismantlement (preferably in North Korea), destruction, and removal of all nuclear weapons and weaponization programs
Nuclear-Weapons-Related Delivery Systems <i>(missiles, launchers, facilities, etc.)</i>	<ul style="list-style-type: none"> No missile flight testing Verified dismantlement of Dongchang-ri and other missile-testing facilities 	<ul style="list-style-type: none"> Declaration of ballistic missiles (threats to U.S. and allies) and related facilities and equipment 	<ul style="list-style-type: none"> Verified dismantlement of nuclear-weapons-related delivery systems (threats to U.S. and allies)

Note: The value of these concessions may fluctuate depending on the trajectory of U.S.-North Korea negotiations. The same metrics can be applied to illicit trade and proliferation programs and other WMD programs, including chemical and biological weapons and offensive cyber capabilities.

Section 3. A Denuclearization-Peace Roadmap

This section explores a critical next step in U.S.-North Korea negotiations: a denuclearization-peace roadmap. Such a roadmap should include milestones and timetables depicting the tradeoffs across the main bargaining categories—denuclearization, sanctions, U.S.-North Korea normalization, a peace regime, and inter-Korean cooperation—until there are no nuclear weapons capabilities in North Korea and a peace regime is established on the Korean Peninsula. Even if Kim Jong Un does not make a strategic decision to surrender all of his nuclear arsenal and ambitions in the near future, this roadmap would provide predictability for both sides and place all outstanding issues (not just nuclear) in a framework that Pyongyang can understand. In the absence of a roadmap, piecemeal negotiations or mini deals that focus only on ICBMs or Yongbyon, for example, will allow Pyongyang to dictate the terms, pace, and outcome of the negotiation and denuclearization process.⁴⁴

Structuring a Denuclearization-Peace Roadmap

When negotiating a comprehensive denuclearization-peace roadmap, both Washington and Pyongyang should separately construct matrices to show their preferred formulations of tradeoffs and bring them to the start of negotiations. But the goal would be to agree on a single, comprehensive roadmap.

One way—an ambitious one—to distinguish a denuclearization-peace roadmap from past agreements would be to agree on an end date. A “pause button” could be built in a few years prior to the end date, with each side reserving the right to reassess its plans at that point and have the option to defer completion of the roadmap.⁴⁵ If, for example, Pyongyang decided to pause and forgo completion, then it would not receive the remaining rewards, including sanctions relief, a peace treaty, and full diplomatic relations. If Washington decided to pause and forgo completion, then North Korea would retain some nuclear weapon capabilities. The party that walked away from the comprehensive agreement would bear the onus for breaking the denuclearization-peace process. All measures completed up to the “pause” line would remain in place in perpetuity. Table 5 provides an example of what a denuclearization-peace roadmap could look like for Washington and Pyongyang to negotiate.

The inclusion of the peace track in the above roadmap means that the negotiations process would eventually need to formally include South Korea, China, Japan, and Russia because of their roles in providing North

Korea with various types of assistance and their vested stake in the final outcome, which will shape the future regional order. Devising a strategy to negotiate a denuclearization-peace roadmap thus also requires defining an end state for North Korea that is acceptable to all six stakeholders with their different national interests. For example, Chinese and Russian nuclear experts could be called upon to aid disablement and dismantlement activities in North Korea if Washington and Pyongyang included this arrangement in the scope of a verification and dismantlement agreement. China believes it deserves to be part of peace regime negotiations because its volunteer troops signed the armistice with Washington and Pyongyang at the end of the Korean War in 1953. The inclusion of noncombat troops in the armistice does not legally grant Beijing signatory status to a peace treaty, but the two Koreas would likely permit China’s involvement for political reasons.⁴⁶ Washington would need to coordinate with Moscow, Beijing, Tokyo, and Seoul in providing various assistance programs to North Korea in exchange for corresponding denuclearization measures.

While it is imperative for Washington and Pyongyang to conclude a denuclearization-peace roadmap at the earliest possible date, negotiations remain fluid, and there are several ways to begin the denuclearization process. For example, at the next summit, the two leaders could strike a mini deal before or during working-level negotiations for a roadmap, especially if either or both come under pressure to showcase results to their domestic and international audiences. But any mini deal(s) should be made in the context of an overarching roadmap that commits North Korea to complete denuclearization.



China's Ambassador to the United Nations Liu Jieyi votes against a measure to adopt the agenda of human rights violations in North Korea during a meeting of the United Nations Security Council to discuss North Korea on December 22, 2014, in New York City. The U.N. Security Council was deliberating the human rights conditions in North Korea for the first time. (Kena Betancur/Getty Images)

TABLE 5. A DENUCLEARIZATION AND PEACE ROADMAP—2019 ONWARDS

This table provides a simplified illustration of how the United States and North Korea would engage in trade-offs over time, culminating in the end-states that each desire. The specific U.S. and North Korean concessions that would populate each cell of this table are covered in the previous section on proportionate bargaining. An actual denuclearization and peace roadmap would involve a far greater number of steps than the six in this table, with the timing of modest-, medium-, and high-value concessions determined by the trajectory of negotiations.

Year	Step	Denuclearization	Sanctions	U.S.-North Korea Relations	Peace	Inter-Korean Cooperation
2019	1.	Modest North Korean concessions	Modest U.S. concessions	Modest U.S. concessions	Modest U.S. concessions	Modest U.S. concessions
	2.	More modest North Korean concessions	More modest U.S. concessions	More modest U.S. concessions	More modest U.S. concessions	More modest U.S. concessions
2020 and beyond	3.	Medium-value North Korean concessions	Medium-value U.S. concessions	Medium-value U.S. concessions	Medium-value U.S. concessions	Sustained inter-Korean humanitarian projects
	4.	More medium-value North Korean concessions	More medium-value U.S. concessions	More medium-value U.S. concessions	More medium-value U.S. concessions	Sustained inter-Korean humanitarian projects
Pause: Reasses, then Continue or Stop						
202?	5.	Higher-value North Korean concessions	Phase in High-value U.S. concessions	Phase in High-value U.S. concessions	Phase in High-value U.S. concessions	Phase in High-value U.S. concessions
	6.	High-value North Korean concessions	High-value U.S. concessions	High-value U.S. concessions	High-value U.S. concessions	High-value U.S. concessions
20??	Desired End States	Zero nuclear weapons capability	No sanctions	Normal diplomatic relations	Peace treaty and Peace regime	Normal relations

The cells show examples of possible trade-offs, but exact configurations, with timetables, will depend on the status of negotiations.

BEGINNING THE DENUCLEARIZATION PROCESS

At the very least, the United States should pursue an agreement as the first step of a roadmap that secures a declaration of all fissile-material production facilities anywhere in North Korea, brings about a verified halt in fissile-material production, and yields a permanent halt to nuclear and missile testing. This should be the first phase of denuclearization regardless of whether Washington and Pyongyang are able to conclude a roadmap first and how they formulate a deal (or deals) to begin denuclearization. This first phase would be regarded as an interim agreement that could also include existing North Korean offers—accepting nuclear experts and inspectors at the Yongbyon nuclear complex for dismantlement, as well as the verified closures of the Sohae missile engine test facility and Punggye-ri nuclear test site—even as the United States recognizes these are not significant or credible denuclearization steps.

In this scenario, Washington would need to operate under the assumption that an initial declaration on fissile-material production facilities will be incomplete or inaccurate. It should avoid blaming and shaming Pyongyang for discrepancies, which are not uncommon.⁴⁷ Verification should be conducted in a professional, cooperative manner when asking North Korea to clarify, supplement, or correct its declarations. The two sides would also need to agree on corresponding verification measures that include relevant experts, ideally drawn from the IAEA, the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), and the Organization for the Prohibition of Chemical Weapons (OPCW).

As for mini-deal scenarios, Washington could attempt to secure a limited number of nuclear weapons or ICBMs, if possible, to provide the American public with greater confidence that Pyongyang has made the strategic decision to eventually abandon its nuclear deterrent. This would be a positive gesture by North Korea and not a major concession, because it would not significantly alter North Korea’s arsenal or capabilities.

Challenges

A comprehensive denuclearization-peace roadmap comes with its share of challenges. The process would entail constant negotiations with North Korea and a series of new agreements. The toughest battle will be the verification process. And North Korea could potentially commit the ultimate deception and re-emerge as a nuclear state at some point after denuclearization.

A GRINDING PROCESS

Negotiations would not end with an agreement on a comprehensive denuclearization-peace roadmap. They would inevitably have to continue throughout the implementation of a comprehensive deal. Washington and Pyongyang will need to agree on the scope of denuclearization and institutional arrangements⁴⁸ to conduct verification and dismantlement activities, all of which require constant negotiations and more agreements. For example, every component for inspections and verification—including sites, targets, team composition, equipment, types of activities—would become the subject of a separate agreement between the United States and North Korea. Which country or international organization⁴⁹ would dismantle North Korea's nuclear weapons, how they were to be dismantled, and which country would receive the removed parts and materials will each require a separate negotiation.

The grinding nature of this process will also stem from factors other than North Korean intransigence. Technical, logistical, or political delays in providing U.S. benefits would stall or prolong the denuclearization-peace process. And some steps by their very nature are technically complex and slow to execute. For example, verification measures would be required for all programs and targets of denuclearization.

THE MOST DAUNTING BATTLE: VERIFICATION

The six-party talks demonstrated that agreeing on a verification protocol is the toughest stage in the denuclearization process. Transparency is considered fatal to the tightly controlled regime in Pyongyang.⁵⁰ It remains to be seen in future negotiations whether some of the challenges experienced during the six-party talks still need to be resolved today.⁵¹ One challenge at the time was agreeing on the verification activities nuclear experts were allowed to conduct. For example, Pyongyang was opposed to inspectors taking environmental samples and conducting forensics at the facilities that were to be dismantled in Yongbyon. Negotiations today would require an agreement on the verification measures and the facilities or sites to conduct them.



Clockwise, envoys from Russia, the United States, North Korea, Japan, China, and South Korea meet at the beginning of a round of negotiations, in December 2008, in Beijing, China. The envoys met for talks on mothballing North Korea's nuclear program, amid dire predictions for progress in the negotiations. The six parties also held a series of bilateral meetings in Beijing before sitting down for formal talks. (Elizabeth Dalziel-Pool/Getty Images)

The transparency required of North Korea during verification goes well beyond these measures. Pyongyang would need to provide adequate documentation of its nuclear and missile activities. The United States would not only expect access to the facilities and sites listed in the declarations, but demand access to sites suspected of having links to North Korea's nuclear-missile programs that might have been omitted from the initial list. Moreover, Pyongyang would need to allow inspectors to interview North Korean individuals involved in the country's nuclear establishment to verify documents and declarations.

THE ULTIMATE DECEPTION: NORTH KOREA'S NUCLEAR RESURRECTION

One scenario that is not commonly discussed in the mainstream international discourse is the possibility of North Korea's nuclear resurrection after what would have appeared to be complete denuclearization. Kim Jong Un is expected to remain in power for the next 40 to 50 years, whereas Trump has potentially less than two and at most six years left in office. According to former South Korean National Security Advisor Chun Yung-woo, if Kim decides that Trump is the only American president who is willing to strike a deal with him in unconventional ways, then he might determine that it is worth a few years of nuclear abstinence disguised in the form of "complete denuclearization" to become an economically prosperous and diplomatically normalized state.⁵²

A nuclear resurrection or revival scenario by North Korea would be made possible because Pyongyang could hide nuclear weapons and fissile materials, and would retain nuclear engineers, personnel, and technical know-how. North Korea would in this sense always be a “recessed”⁵³ or “threshold” nuclear state that would never be too far from nuclear weapons. The amount of plutonium required for the bomb dropped on the Japanese city of Nagasaki was roughly the size of a baseball. This means, for example, that the amount of fissile material to build an arsenal of about 30 nuclear weapons could fit in a file cabinet—and it is unlikely that any inspection regime would open every cabinet.⁵⁴ This would be the ultimate deception that permits Pyongyang to finally achieve its end state: an economically thriving but still nuclear-armed state that is accepted by the international community.

The inclusion of the peace track in the above roadmap means that the negotiations process would eventually need to formally include South Korea, China, Japan, and Russia because of their roles in providing North Korea with various types of assistance and their vested stake in the final outcome, which will shape the future regional order.

Section 4. Recommendations

The next year or two will inevitably involve twists and turns that are characteristic of negotiations with North Korea. Given the right strategy and ironclad discipline, a summit-driven process can be effective when dealing with an authoritarian regime such as North Korea. Despite expected risks, pitfalls, and uncertainties along the way, as long as both Washington and Pyongyang remain engaged in diplomacy, Washington can make the most of this diplomatic window and aim for substantial achievements. The following recommendations offer a plan of action for negotiations in 2019 and 2020 as well as a contingency plan for a complete breakdown in diplomatic talks.

1. *Maintain direct and regular diplomatic communications with Pyongyang while managing hiccups, stalemates, and walkouts.* North Korea has tended to walk away from negotiations, albeit temporarily, when its demands are not met. It has even engaged in provocative activities like flight-testing missiles to demonstrate its dissatisfaction. Diplomatic overtures and incentives, including those from neighboring states, have usually brought the regime back to the dialogue table. Keeping this in mind, Washington should:
 - seek direct clarification from Pyongyang about its intentions;
 - avoid negotiating or communicating with Pyongyang primarily through the media and official statements, because these channels are largely aimed at respective domestic constituents and susceptible to misinterpretation;
 - prepare and employ a wide range of economic, diplomatic, and military pressure tools as part of a “comprehensive coercive strategy for denuclearization diplomacy”⁵⁵ to give North Korea incentives to stay engaged in or return to diplomacy, while in concert with U.S. allies maintain readiness and deterrence at all times;⁵⁶ and
 - increase pressure, deterrence, and containment over the long term in the event of a complete breakdown and diplomatic failure.
2. *Negotiate and conclude a comprehensive agreement on a denuclearization-peace roadmap in 2019 with explicit timetables.* This roadmap should articulate the quid pro quos of every milestone until there are no nuclear weapons capabilities in North Korea and a peace regime is established on the Korean

Peninsula. In the context of concluding a denuclearization-peace roadmap, the two sides should:

- specify clear timetables based on political and technical considerations;
 - predicate the roadmap on the principal of proportionate bargaining in which low-value, medium-value, and high-value concessions are reciprocated;
 - pursue various stages of denuclearization concurrently if possible;
 - agree to a “pause button” provision close to the denuclearization finish line in which either party can call “time out,” reassess its plans, and decide to defer movement;⁵⁷
 - phase and synchronize the development of the inter-Korean cooperation track⁵⁸ with this roadmap to serve as benefits for proportionate denuclearization steps until Washington begins lifting important sanctions;
 - consult with or formally include Seoul and Beijing when mapping out a peace regime; and
 - consult with or formally include Seoul, Beijing, Tokyo, and Moscow in negotiations toward denuclearization and the provision of corresponding concessions to North Korea.
3. *Secure in 2019 an interim, first-phase agreement on fissile materials, with timetables, and any additional token gestures.* Fissile materials, namely uranium and plutonium, are key ingredients in the creation of nuclear weapons, and without them, North Korea’s ICBMs can serve no strategic purpose. Washington should prioritize halting fissile-material production as a first step toward implementing the comprehensive denuclearization-peace roadmap. To achieve this first-phase agreement, the United States will need to:
- convince North Korea that its primary insurance policy and a major U.S. concession is retention of its nuclear deterrent during this phase of denuclearization;
 - agree with Pyongyang on the scope of an appropriate declaration of fissile-material production and fuel-cycle-related facilities throughout North Korea;
 - operate under the assumption that an initial declaration will be partial and inaccurate—and avoid blaming and shaming Pyongyang for discrepancies;⁵⁹
 - conduct verification measures in a cooperative manner⁶⁰ when asking North Korea to clarify, supplement, or correct its declarations;
 - secure an agreement on corresponding verification measures and institutional arrangements to conduct those activities including experts from the IAEA and other international organizations based on the scope of verification measures; and
 - match this step with modest-value U.S. concessions.
4. *Attempt to secure a declaration on nuclear weapons and nuclear-weapons-related ballistic missile programs.* This declaration should include all nuclear-weapons-related ballistic missiles and occur in connection with an agreement on abandoning all nuclear weapons. The timing could vary—either 2019 or 2020 depending on the state of play between the United States and North Korea. To obtain this declaration, the United States should:
- secure an agreement from North Korea on verification measures and institutional arrangements to conduct verification activities;⁶¹ and
 - match this North Korean step with medium-value benefits such as medical and agricultural cooperation, people-to-people exchanges, and the start to negotiations on a symbolic Korean War-ending declaration.⁶²
5. *Secure a declaration of all fissile-material stockpiles in North Korea and agree on corresponding measures in 2020 if possible.* This declaration would address the quantities of North Korean fissile materials. In pursuing this declaration, Washington should:
- keep in mind that an exact accounting of North Korea’s fissile-material holdings is difficult, if not impossible to obtain;⁶³
 - engage in verification measures in a cooperative manner; and
 - match this step with medium-value benefits depending on how satisfied the United States is with this declaration.
6. *Begin verified disablement and dismantlement activities in 2020 if possible.* This stage would begin the disablement and dismantlement of programs involving fissile material, nuclear weapons, and nuclear-weapons-related ballistic missiles. Upon entering this stage, the United States should:
- begin phasing in high-value corresponding U.S. concessions to match North Korean measures; and

- begin peace regime talks concurrently with Pyongyang, Seoul, and Beijing, provided there is a clear dismantlement plan with timetables.
7. *Agree on a conversion program for nuclear weapons facilities and a redirection program for nuclear employees in the event that North Korea is ultimately allowed to retain a peaceful nuclear energy program.* In this scenario, Washington and Pyongyang should:
- adhere to key principles adapted from existing Cooperative Threat Reduction (CTR) programs suitable for North Korea⁶⁴ when conducting conversion activities; and
 - agree on North Korea's return to the NPT after it has eliminated its nuclear weapons⁶⁵ and put in place stringent IAEA safeguards and monitoring to ensure that Pyongyang does not cheat in the future.

Conclusion

The summitry and diplomatic process aimed at denuclearization in North Korea and peace on the Korean Peninsula could succeed, fail, or lead to incremental progress. Failure could result in a North Korea with nuclear weapons that succeeds in changing the balance of power in the region, which could then cause South Korea and Japan to re-evaluate their nuclear postures if they are no longer confident in the U.S. extended deterrent.⁶⁶ Success could also cause complications, because the establishment of a peace regime on the Korean Peninsula has sweeping implications for the regional order in Northeast Asia. In particular, Beijing would want a direct seat at the table instead of influencing U.S.-North Korea bilateral negotiations behind the scenes, and might seek to advance an outcome that weakens America's position in the region.

As important as it is to approach the North Korea problem holistically, there are risks of the nuclear talks falling hostage to peace talks if peace negotiations begin before substantial denuclearization has taken place. In contrast to previous negotiations, Kim Jong Un appears to be aiming for an acceleration of peace talks in the name of simultaneous negotiations between the two tracks.

Denuclearization will inevitably be a very long, complicated process because of the time it takes to negotiate agreements and because of the size and complexity of North Korea's nuclear infrastructure. At the same time, however, it would be short-sighted and irresponsible for the United States to abandon the long-term goal of complete denuclearization and live with a nuclear-armed North Korea indefinitely. Many more complex and potentially dire consequences loom globally should acquiescence eventually become America's policy of choice.

Endnotes

1. Those sanctions have restricted profits from exports (worth nearly \$3 billion in annual revenues) that are believed to fund North Korea's nuclear weapons and ballistic missiles programs. See Duyeon Kim, "Summit Datebook 2: After Hanoi, Relieved but Still Curious," *Bulletin of the Atomic Scientists*, March 7, 2019, <https://thebulletin.org/2019/03/summit-datebook-2-after-hanoi-relieved-but-still-curious/>.
2. "Remarks by President Trump in Press Conference, Hanoi, Vietnam," The White House, February 28, 2019, <https://www.whitehouse.gov/briefings-statements/remarks-president-trump-press-conference-hanoi-vietnam/>.
3. On regime legitimacy, see Leif-Eric Easley, "North Korean Identity as a Challenge to East Asia's Regional Order," *Korean Social Science Journal*, June 9, 2017, pp. 51-71, <http://www.kossrec.org/wp-content/uploads/2017/09/4.-Leif-Eric-Easley.pdf>. For more on North Korean beliefs for survival, see "The Full Text of Kim Jong-un's Remarks at the Plenary Session of the Party Central Committee," Korean Central News Agency, April 1, 2013.
4. "Washington warns Seoul not to move too quickly without progress from Pyongyang," *Nikkei Asian Review*, November 21, 2018, <https://asia.nikkei.com/Politics/International-relations/Pompeo-warns-Seoul-not-to-move-too-quickly-without-progress-from-Pyongyang>.
5. This was suggested by a former South Korean senior official during talks in Seoul, February 2019. The rationale would be to provide ad hoc, time-bound exemptions that adjust import quotas on items the North is in dire need of, such as oil, in exchange for a "North Korean denuclearization milestone." The official emphasized that exemptions confined to inter-Korean cooperation projects are better than others that could damage the spirit and integrity of the international sanctions regime, and that there must not be any exemptions on North Korean exports because of the hard currency it could earn from them.
6. "Nuclear weapons capability" in this paper means nuclear weapons, nuclear materials, facilities (production, storage, maintenance, etc.), and delivery systems.
7. Strategic assets can include aircraft carriers, nuclear-powered submarines, missile defense systems, and stealth fighters, among others.
8. North Korea's most recent articulation of this definition of denuclearization was in December 2018 through its state-run media. Pyongyang first used the term "nuclear-weapon-free zone" to mean "denuclearization" in 1956. It is unclear if Kim Jong Un might have some flexibility when it comes to every detail, which is why Kim himself needs to clarify it in Hanoi. For more on North Korea's definition of "denuclearization" and how it has evolved since 1956, see Duyeon Kim, "The Panmunjom Declaration: What it wasn't supposed to be," *Bulletin of the Atomic Scientists*, May 1, 2018, <https://thebulletin.org/2018/05/the-panmunjom-declaration-what-it-wasnt-supposed-to-be/>; Cheon Seong Whun, "Denuclearization: More Than Just Two Divergent Conceptions," *Small Wars Journal*, 2018, <https://smallwarsjournal.com/jrnl/art/denuclearization-more-just-two-divergent-conceptions>.
9. Reuniting (or even communizing) the entire peninsula under North Korean rule has been a national objective for North Korea since its foundation. New Year's Day addresses by North Korean leaders typically imply that this is still its goal.
10. See the full text of Kim Jong Un, "Kim Jong Un's 2019 New Year Address," (January 1, 2019), https://www.ncnk.org/resources/publications/kimjongun_2019_newyear-address.pdf/file_view.
11. For more on what "new path" might mean, see Duyeon Kim, "What North Korea wants from the next US summit," *Bulletin of the Atomic Scientists*, January 23, 2019, <https://thebulletin.org/2019/01/what-north-korea-wants-from-the-next-us-summit/>.
12. "Senior State Department Official Remarks to Traveling Press," Manila, Philippines, February 28, 2019, <https://www.state.gov/r/pa/prs/ps/2019/02/289798.htm>; North Korean Foreign Minister Ri Yong Ho's press conference, Hanoi, March 1, 2019, <https://america.cgtn.com/2019/02/28/dprk-fm-ri-yong-ho-disputes-trump-reason-for-summit-collapse>.
13. Author's modification of Robert Einhorn's three models (rapid and complete, incremental and complete, incremental and incomplete) in "Singapore and beyond: Options for denuclearizing North Korea," Policy Brief, Brookings Institution, June 2018. Author added the fourth pathway, of military force.
14. There is a debate among specialists about the type of weapons that are most effective in carrying out elimination by force: conventional weapons versus nuclear weapons. The conventional wisdom currently posits that conventional weapons (precision munitions) would likely be used if the U.S. chose elimination by force. But some specialists exist argue that the use of nuclear weapons—a nuclear first strike—would be most effective and decisive; for example, see David Barno and Nora Bensahel, "The Growing Danger of a U.S. Nuclear First Strike on North Korea," *War On the Rocks*, October 10, 2017, <https://warontherocks.com/2017/10/the-growing-danger-of-a-u-s-nuclear-first-strike-on-north-korea/>.
15. It took about 1.5 years from the beginning of bilateral talks in 1992. The final stretch of negotiations, however, took about a month, from September to October 1994. See Joel S. Wit, Daniel B. Poneman, and Robert L. Gallucci, *Going Critical: The First North Korean Nuclear Crisis*, Brookings Institution Press, 2005.

16. John Hudson and Ellen Nakashima, “Russia secretly offered North Korea a nuclear power plant, officials say,” *The Washington Post*, January 29, 2019, https://www.washingtonpost.com/world/national-security/russia-secretly-offered-north-korea-a-nuclear-power-plant-officials-say/2019/01/29/d1872588-a99b-4b68-ba34-9ce1b-c95b573_story.html?utm_term=.153b6bc4d7e9.
17. For more on IAEA full-scope safeguards, see International Atomic Energy Agency, “Safeguards and Verification,” <http://www.iaea.org/topics/safeguards-and-verification>.
18. Assistant Secretary of State for East Asian and Pacific Affairs Christopher Hill’s famous slogan was, “No LWRs until pigs fly!” Author’s interviews of then-U.S. Assistant Secretary of State Christopher Hill during the six-party talks and senior South Korean officials, 2006 and 2007.
19. This was the Trump administration’s position from the beginning and at the time of this report’s writing. A senior State Department official also reiterated: “...we are not negotiating the civilian nuclear energy capability” (“Senior State Department Official Remarks to Traveling Press,” February 28, 2019).
20. It is unclear if Kim Jong Un meant that he aims to keep enrichment and reprocessing facilities during denuclearization negotiations with Washington. If so, this would be a grave concern for South Korea and Japan, because it would provide North Korea with nuclear latency—the ability to quickly produce nuclear weapons because of the possession of enrichment and reprocessing technologies.
21. Enrichment and reprocessing capabilities allow a country to produce a nuclear weapon. They are called “dual-use technologies” because they can be used for peaceful nuclear energy programs or nuclear weapons programs.
22. Siegfried S. Hecker, Robert L. Carlin, and Elliot A. Serbin, “A technically-informed roadmap for North Korea’s denuclearization,” Stanford University Center for International Security and Cooperation, May 28, 2018, https://fsi-live.s3.us-west-1.amazonaws.com/s3fs-public/hecker_carlin_serbin_denuc_rlc.pdf.
23. David Albright, “Denuclearizing North Korea,” Institute for Science and International Security, May 14, 2018, http://isis-online.org/uploads/isis-reports/documents/Albright_North_Korea_slides_for_denuclearization_talk_may_14%2C_2018_final.pdf.
24. Previous administrations—particularly the Clinton and George W. Bush ones—focused on Pyongyang’s plutonium production based on the threat assessment and urgency at the time. Today the targets have evolved and expanded to include highly enriched uranium and ballistic missiles. During the Bush administration, addressing the human rights atrocities in North Korea were considered a necessary component to normalizing bilateral relations. Author’s interview of former senior U.S. official, July 2018.
25. Anna Fifield, “North Korea promises to dismantle its nuclear test site in public view, South says,” *The Washington Post*, April 29, 2018, https://www.washingtonpost.com/world/north-korea-wants-outsiders-to-observe-closure-of-its-nuclear-test-site-south-says/2018/04/29/0e2a-1ca8-4b96-11e8-b966-bfb0da2dad62_story.html?utm_term=.4d7aa8103f76.
26. Donald J. Trump, “Press Conference by President Trump,” The White House, June 12, 2018, <https://www.whitehouse.gov/briefings-statements/press-conference-president-trump/>.
27. “Pyongyang Joint Declaration of September 2018,” September 19, 2018, http://www.mofa.go.kr/eng/brd/m_5476/view.do?seq=319608&srchFr=&srchTo=&srchWord=&srchTp=&multi_itm_seq=0&itm_seq_1=0&itm_seq_2=0&company_cd=&company_nm=&page=1&titleNm=.
28. For more on the facilities at Yongbyon, see: Melissa Hanham, “Yongbyon: The heart of North Korea’s nuclear programme,” BBC News, February 28, 2019, <https://www.bbc.com/news/world-asia-47397699>.
29. For more on the significance of a war-ending declaration and its political and legal implications, see Duyeon Kim, “What’s In a Name? Korean ‘Peace’ and Breaking the Deadlock,” *War on the Rocks*, September 14, 2018, <https://warontherocks.com/2018/09/whats-in-a-name-korean-peace-and-breaking-the-deadlock/>.
30. Park Han-na, “Where is NK’s covert uranium enrichment site?” *The Korea Herald*, March 5, 2019, <http://www.koreaherald.com/view.php?ud=20190305000726>; Joseph Bermudez, Víctor Cha, and Lisa Collins, “Undeclared North Korea: Missile Operating Bases Revealed,” Center for Strategic and International Studies, November 12, 2018, <https://beyondparallel.csis.org/north-koreas-undeclared-missile-operating-bases/>.
31. The annual U.S.-South Korea joint military exercises are defensive in nature. Halting them—depriving soldiers of their training—would weaken readiness in the face of a nuclear-armed North Korea, similar to the dropping of one’s shield before a drawn sword. North Korea conducts annual offensive exercises in the winter, and its forces are in offensive positions near the inter-Korean border, whereas U.S. and South Korean forces are in defensive posture and farther from the border.
32. For example, the six-party talks agreed on a political timetable of about three months to disable key plutonium-producing facilities at the Yongbyon nuclear complex, but the technical job took about a year in practice. Author’s interviews of South Korean negotiators, October 2007 and June 2018.
33. This was the working definition of “disablement” during the six-party talks. Author’s interviews of negotiators, 2007.

34. Nike Ching, "US to N. Korea: We Will Maintain Maximum Pressure Until Complete Denuclearization," Voice of America, November 16, 2018, <https://www.voanews.com/a/us-to-n-korea-we-will-maintain-maximum-pressure-until-complete-denuclearization/4661434.html>; Stephen Biegun, Special Representative for North Korea, "Remarks on DPRK at Stanford University," January 31, 2019; <https://www.state.gov/p/eap/rls/rm/2019/01/288702.htm>.
35. Declaring the start to a process that will eventually declare the Korean War over was first suggested by then-South Korean Foreign Minister Song Min-soon in 2006 during the Roh Moo-hyun administration. He emphasized that a war-ending declaration should come after denuclearization. For more, see his memoir, Song Min-soon, "Glaciers Move," Seoul: Changbi, 2016 (Korean language only).
36. This was suggested by a former South Korean senior official during talks in Seoul, February 2019. The rationale would be to provide ad hoc, time-bound exemptions that adjust import quotas on items the North is in dire need of such as oil in exchange for a "North Korean denuclearization milestone." The official emphasized that exemptions confined to inter-Korean cooperation projects are better than others that could damage the spirit and integrity of the international sanctions regime, and that there must not be any exemptions on North Korean exports because of the hard currency it could earn from them.
37. A peace treaty should be the ultimate prize for complete denuclearization, because it is a matter that questions the role and presence of the United Nations Command (UNC), most of whom are dual-hatted with the U.S. Forces Korea.
38. Some humanitarian assistance, such as vaccines for tuberculosis and malaria, must not be linked to any political issue between Washington and Pyongyang. Withholding such vaccines has global health consequences.
39. This idea was first made by then Foreign Minister Song Min-soon in 2006 during the Roh Moo-hyun administration. See "Glaciers Move," Seoul: Changbi, 2016 (Korean language only).
40. For more on how this can be drafted, see Kim, "What's in a Name? Korean 'Peace' and Breaking the Deadlock."
41. The same metrics can also be applied to illicit trade and proliferation programs and other/non-traditional WMD programs.
42. Here, "Yongbyon" means everything within the complex and not just limited areas and facilities designated by North Korea. During the six-party talks, only three facilities were disabled.
43. While this is worth trying, it will be difficult to obtain an exact amount because Pyongyang could argue that any discrepancies with U.S. intelligence estimates are due to their usage in past nuclear tests. Quantities might even be hidden.
44. Kim, "What North Korea wants from the next U.S. summit."
45. Proposed by Robert Einhorn in Seoul during private meetings with senior officials in December 2018 should a denuclearization roadmap include a specific deadline for nuclear zero. However, a denuclearization agreement Einhorn deems more realistic is the incomplete and incremental approach: securing an honest declaration on fissile-materials production facilities anywhere in North Korea, capping fissile material production, and securing a commitment (no deadline) to eventual denuclearization. The incentive and reward for this approach would be that Pyongyang could keep its nuclear deterrent throughout the duration of this phase.
46. Kim, "What's in a Name? Korean 'Peace' and Breaking the Deadlock."
47. Indeed, discrepancies were found in declarations submitted by some of the most cooperative countries, such as South Africa. See Adolf von Baeckmann, Garry Dillon, and Demetrios Perricos, "Nuclear verification in South Africa," *IAEA Bulletin*, January 1995, pp.42-48, <https://www.iaea.org/sites/default/files/publications/magazines/bulletin/bull37-1/37105394248.pdf>.
48. Institutional arrangements could call upon experts from the International Atomic Energy Agency (IAEA), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Organization for the Prohibition of Chemical Weapons (OPCW), and an ad hoc U.N. entity. An example of an ad hoc entity of inspectors is the U.N. special commission (UNSCOM) after the first Gulf War that conducted inspections for nuclear weapons as well as biological and chemical weapons and ballistic missiles in Iraq even though the IAEA was involved. The experts who handle nuclear weapons are different from those who handle fissile materials and components related to the nuclear fuel cycle. The expertise needed to carry out these activities would determine their respective institutional arrangements. For more on how key concepts can be applied to North Korea, see Sam Nunn and Richard Lugar, "What to do if the talks with North Korea succeed," *The Washington Post*, April 23, 2018, https://www.washingtonpost.com/opinions/global-opinions/were-all-preparing-for-the-trump-kim-summit-to-go-wrong-but-what-if-it-goes-right/2018/04/23/77ada258-472c-11e8-9072-f6d4b-c32f223_story.html?utm_term=.1da66f1fb480.
49. Before Kim Jong Un came to power, North Korea had typically wanted only American nuclear experts, and not the IAEA, to conduct inspections and verification activities. Washington will need to find out if this is still the case.
50. Kim, "What's in a Name? Korean 'Peace' and Breaking the Deadlock."

51. The following challenges are the author's compilation based on interviews of officials during the six-party talks in 2007; interviewing North Korean individuals is referenced in Albright, "Denuclearizing North Korea."
52. This scenario was raised by former South Korean National Security Advisor Chun Yung-woo both in an op-ed in a South Korean outlet and at the Center for a New American Security's 2018 Annual Conference, on June 21, 2018.
53. A recessed nuclear state is a country that has the ability to go nuclear or quickly replenish its nuclear weapons capability.
54. Author's interview with Robert Gallucci, 2019.
55. Victor Cha and Katrin Fraser Katz, "The Right Way to Coerce North Korea: Ending the Threat Without Going to War," *Foreign Affairs*, 97 no. 3 (May/June 2018).
56. For examples of pressure tools and ways to maintain readiness and deterrence, see Patrick M. Cronin and Kristine Lee, "Negotiating With North Korea: How Will This End?" Center for a New American Security, February 2019, pp. 19-20, <https://www.cnas.org/publications/reports/negotiating-with-north-korea>.
57. Proposed by Robert Einhorn in Seoul during private meetings with senior South Korean officials in December 2018 should a denuclearization roadmap include a specific deadline for nuclear zero. However, a denuclearization agreement Einhorn deems more realistic is the incomplete and incremental approach: securing an honest declaration on fissile materials production facilities anywhere in North Korea, capping fissile material production, and securing a commitment (no deadline) to eventual denuclearization. The main incentive and reward for this interim arrangement would be that Pyongyang could keep its nuclear deterrent throughout the duration of this phase.
58. The two Koreas need sanctions to be lifted or exempted to engage in and complete their various projects. They have received a few exemptions so far (the 2018 Winter Olympics, a survey to eventually relink rails and roads, and family reunions) but remaining projects of more importance like economic cooperation are at a standstill because of delays in the U.S.-North Korea negotiation track and denuclearization. Based on author's meetings with senior South Korean officials, December 2018 and February 2019.
59. Indeed, discrepancies were found in declarations submitted by some of the most cooperative countries, such as South Africa. See Adolf von Baeckmann, Garry Dillon, and Demetrios Perricos, "Nuclear verification in South Africa," *IAEA Bulletin*, January 1995, pp.42-48, <https://www.iaea.org/sites/default/files/publications/magazines/bulletin/bull37-1/37105394248.pdf>.
60. North Korea needs to understand that the IAEA conducts these measures in a cooperative—not confrontational—manner.
61. The experts who handle nuclear weapons are different from those who handle fissile materials and components related to the nuclear fuel cycle. They should include weapons experts from either a newly created team in the IAEA (which does not have an existing department of nuclear weapons experts), any of the five nuclear weapons states, or an ad hoc U.N. entity. A precedent for an ad hoc U.N. entity came after the first Gulf War, when a U.N. special commission (UNSCOM) inspected nuclear, biological, and chemical weapons, as well as ballistic missiles in Iraq even though the IAEA was involved.
62. For more on how a symbolic war-ending declaration could be drafted, see Kim, "What's in a Name? Korean 'Peace' and Breaking the Deadlock."
63. For example, Pyongyang could claim that certain amounts were used in its six underground explosive tests of nuclear devices, or it might have hidden some amounts from inspectors. This is why an attempt at securing this declaration is separate from securing a declaration on production facilities. The materials accounting process could hold up progress in other areas.
64. For examples on adaptable concepts, see Nunn and Lugar, "What to do if the talks with North Korea succeed." CTR or cooperative conversion activities should be applied, because North Korea's nuclear weapons programs have expanded dramatically and become more complex. The specific and rare technical expertise required to dismantle and decommission a nuclear program coupled with the possibility of some unique technical aspects of North Korean technologies would require North Korean experts to be involved in the reduction and removal process, along with experts from the United States and possibly other outside governments. This situation would require North Korea's cooperation in, for example, documenting a complete and correct inventory of its nuclear holdings, although Pyongyang might want its own engineers to dismantle its nuclear weapons for information-security reasons.
65. North Korea would not be able to sign back on to the NPT while in possession of nuclear weapons, because the NPT only allows the permanent five countries of the U.N. Security Council (U.S., U.K., France, China, and Russia) to obtain nuclear weapons.
66. For more, see Robert Einhorn and Duyeon Kim, "Will South Korea go nuclear?" *Bulletin of the Atomic Scientists*, August 15, 2016, <https://thebulletin.org/2016/08/will-south-korea-go-nuclear/>.

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