

April 2014

# First Report of the Deep Cuts Commission

Preparing for Deep Cuts:  
Options for Enhancing Euro-Atlantic  
and International Security





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## Foreword

Nuclear disarmament is at a critical juncture. New START has bound the United States and Russia to lower their levels of nuclear arms while remaining committed to further nuclear reductions. New START implementation is on track, but the next round of U.S.-Russian reductions is not yet on the horizon. Serious political and military obstacles impede progress. President Obama has offered to mutually reduce deployed strategic warheads by one-third below New START levels, but significant skepticism resides in the U.S. Congress. Moreover, Moscow has shown little enthusiasm for further reductions. The current political impasse threatens future progress toward realizing the vision of a world free from nuclear weapons. In 2015, NPT non-nuclear-weapon states will most likely cite with increased urgency the disarmament obligations of the nuclear-weapon states.

The 21st century brings along a number of new security challenges with a global reach: from the impact of the financial crisis, to the fight against terrorism, to new geopolitical disputes. All such risks and challenges will demand a fundamentally new set of security and cooperation policies. Beyond that, it will be crucial to develop new concepts for reducing nuclear arsenals worldwide. From a European perspective, arms control measures could bring about a number of benefits. Efforts to address U.S. and Russian tactical arms could help to increase predictability and stability. A mutually agreed program of cooperation on missile defense could help to ease Russian concerns about the strategic consequences of U.S. deployments. Reviving conventional arms control in Europe could signify the return to the mutual benefits of lowered defense expenditures and greater stability. Together, a common architecture at lower levels of armaments could significantly improve European and international security.

Realist thinking entails the need to be prepared for changing realities. The issue of nuclear reductions is too important to be left to the next generation. Track II initiatives are therefore a critical supplement to official thinking and a good means of keeping communications channels open. The trilateral German-Russian-U.S. *Deep Cuts Commission* comprises technical analysts, policy experts, and former government officials of the three countries. Theirs is the development of forward-looking but realistic concepts on the way to a world with less nuclear arms. This report is their first contribution and concentrates on options to reduce the arsenals of the United States and Russia. It takes into account the current challenges and gives specific recommendations on how each can be met and overcome.

I hope that their analysis and recommendations can contribute to forging long-term policies toward more cooperation and less nuclear weapons.



Wolfgang Ischinger

## Introduction

*Deep Cuts* mean reducing existing nuclear weapons arsenals far below their current levels. Deep Cuts will require substantial review and revision of current nuclear postures, at least by the United States and Russia allowing these states to ultimately abandon their dependence on excessive stockpiles of those weapons. It will also require adjustments in the ways of thinking among nuclear-weapon and non-nuclear-weapon states alike.

Progress towards *Deep Cuts* is not impossible, although the current political environment is anything but conducive to achieving it. The Russian Federation has declined to engage in negotiations about further reductions, saying it first wishes to monitor the implementation of the New START Treaty and contending that some of its key concerns in related areas are not being addressed appropriately and in a cooperative manner. The discussion of continuing nuclear reductions beyond New START is further complicated by the demand from Moscow that all nuclear-weapon states should participate in such reductions, not just the United States and Russia. Although the U.S. executive branch wishes to pursue further negotiated reductions below the New START limits, partisan gridlock in the U.S. Congress and tensions in the U.S.-Russian relationship make ratification by the Senate of any new nuclear reductions treaty problematic. Changes in the U.S. Government during the next three years at both the presidential and congressional levels will not necessarily make the resolution of current controversies easier.

The recent NATO debate on the rationale for extended nuclear deterrence and the utility of maintaining U.S. tactical nuclear weapons in Europe has provided no additional impetus for advancing the nuclear reductions

agenda. There is likewise no positive boost from the increasingly moribund dialogue on conventional arms control in Europe.

This regrettable state of affairs is not, however, an excuse for inactivity. On the contrary, it constitutes an urgent call for creative thinking, dialogue, and mutual engagement at various levels. Addressing common and individual state concerns in a cooperative and inclusive manner, exploring solutions to these extremely complex issues in a way which restores mutual trust can generate the political will necessary for moving ahead with further reductions in nuclear arsenals. Policymakers need to carefully weigh the costs of inaction against the risks and potential benefits of being proactive.

It is against this background that the *Deep Cuts Commission* was established in 2013 as a trilateral German-Russian-U.S. initiative involving strategy experts, technical specialists, and former military and government officials. In October 2013, the Commission convened for a first two-day workshop in Hamburg, Germany. The workshop was co-organized by the Institute for Peace Research and Security Policy at the University of Hamburg (IFSH), the Washington-based Arms Control Association (ACA) and the Institute of World Economy and International Relations of the Russian Academy of Sciences (IMEMO, RAN). The meetings of the Commission and this report were made possible by the generous support of the German Federal Foreign Office and the Free and Hanseatic City of Hamburg.

This report is based on the workshop's discussions and on Commissioners' prior work in seven thematic sub-groups. All Commissioners endorse this report's underlying assumptions, though they do not necessarily share every single finding or recommendation. The report

consists of an Executive Summary and seven chapters which highlight the current obstacles to further nuclear reductions and give concrete and detailed recommendations on how to tackle each obstacle.

Deliberations within the Commission were guided by the understanding that at least the next step in further reducing nuclear arms below the levels of New START can and should be a bilateral endeavor of the United States and Russia, which still possess over 90 percent of all nuclear arms worldwide. At the same time, the Commission believes that both countries should lead the process of cooperatively engaging other nuclear-weapon states in order to explore and prepare for broadening the process of nuclear reductions.

The next step in reducing nuclear weapons of the United States and Russia should not be made conditional on resolving the current controversies over the deployment of ballistic missile defenses, development of long-range precision-guided conventional weapons systems capable of performing strategic missions, or weaponization of outer space. None of those enhanced capabilities is likely to materialize any time soon. Their eventual impact on strategic stability may occur, if at all, well beyond the lifetime of New START, even considering the possibility of its extension beyond 2021. In a few cases, the impact of the development of some advanced weapons systems may be captured by means of traditional nuclear arms control, in the fashion of New START. At the same time, the parties should engage on all those issues expeditiously, even prior to the opening of eventual U.S.-Russian nuclear arms reductions talks, in order to prepare the ground for further steps.

Finally, the Commission is convinced that no single concern raised in the context of *Deep*

*Cuts* discussions should be ignored, and that the cooperative arms control dialogue needs to be pursued along all paths at the same time in order to allow for a well-balanced agreement to be reached.

Hamburg, Moscow, Washington  
April 2014

## Executive Summary

Four years ago, the United States and the Russian Federation concluded the New START Treaty, which mandates reductions in the number of deployed strategic warheads (to 1,550 each) and their means of delivery (to 700 deployed ballistic missiles and heavy bombers) and put in place a system of information exchanges and on-site inspections to verify compliance. Implementation of New START is on track and both sides are confident their strategic forces will conform to the limits by the 2018 deadline.

Even after New START, however, both nations will still possess nuclear arsenals — deployed and non-deployed, strategic and non-strategic — that far exceed reasonable deterrence requirements. Together, the United States and Russia still account for over 90 percent of all nuclear weapons worldwide. Both continue to rely on nuclear weapons employment strategies that are based on traditional Cold War planning assumptions, with hundreds of nuclear arms assigned to targets in each other's territory and available for prompt launch.

Each country has pledged to achieve further nuclear reductions, in part to meet their obligations and commitments under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), but formal negotiations have not yet begun. Achieving further reductions could enhance national, Euro-Atlantic, and international security to the benefit of all states.

This first report by the trilateral German-Russian-U.S. *Deep Cuts Commission* examines a number of obstacles impeding progress and it offers practical options that would enable the key parties to make headway. A key focus of this initial report from the Commission is how Washington and Moscow can overcome differences on how and when to achieve further nuclear weapons reductions before New START expires in 2021. Presently, Washington wants to begin negotiations on a follow-on agreement that could result in a further, one-third reduction in

strategic forces. Moscow is reluctant to engage on the issue, citing a number of related security concerns, including: U.S. and NATO plans for the deployment of strategic and tactical missile defenses; the development of conventional, high-precision strike weapons; the forces of other nuclear-weapon states; as well as technologies that could lead to weapons based in outer space or targeted against satellites deployed there. While Russia has a far larger number of tactical nuclear weapons (TNWs), Moscow insists upon the removal of U.S. TNWs from Europe, before engaging with the United States and NATO on exploring options to account for and reduce these weapons.

While the current environment does not promise an early breakthrough on further nuclear reductions, this report recommends that all sides should pursue a more energetic dialogue and explore a range of options to overcome and resolve key obstacles. Inaction risks the hardening of each side's existing positions, leading not only to greater difficulties in ultimately negotiating reductions, but also to a rise in tensions and an erosion of strategic stability in the meantime. Possible misunderstandings, non-transparency, and the unnecessary and costly build-up of arms would be the likely results.

Without continuous undertakings to transform their nuclear doctrines and further reduce the role and number of their nuclear weapons, the United States and Russia will find it more challenging to encourage other nuclear-weapon states to exercise restraint and to reinforce global non-proliferation efforts. Additional cuts to U.S.-Russian nuclear arsenals could also allow both countries to delay or scale back costly nuclear weapons modernization programs and free-up resources for other national security and domestic priorities.



This report outlines a number of possible options and measures to tackle the most pressing challenges to achieving deeper nuclear reductions and more stable and secure relations between the United States, Europe, and Russia. Pursuing them in an encompassing and forward-looking manner ultimately depends on the willingness of decision-makers to pursue a strategy of cooperation rather than confrontation. The following options are a short summary of the main arguments made in the ensuing seven chapters.

- Further U.S. and Russian nuclear reductions, below the agreed limits of New START, are possible without jeopardizing either country's security. Both Washington and Moscow could consider further independent, reciprocal strategic force reductions below New START ceilings before the Treaty expires. Ideally, the United States and Russia would initiate talks on a New START follow-on agreement mandating additional significant and stabilizing cuts—for example, to 500 deployed strategic delivery vehicles and 1,000 deployed strategic warheads for each side. With or without formal negotiations, both countries should reinvigorate bilateral strategic stability talks with the goal of pursuing confidence-building initiatives that help to address concerns relating to missile defense, tactical nuclear weapons, conventional high-precision weapons, and outer space weapons.
- Addressing tactical nuclear weapons, the United States and Russia should pursue transparency and confidence-building measures such as data exchanges on the total number of TNW warheads destroyed over the past twenty years. They should also resume the bilateral dialogue of nuclear experts in order to develop non-intrusive verification measures to provide for verifiable and irreversible elimination of nuclear weapons.
- In order to transform their nuclear doctrines, the United States and Russia should enter into a jointly defined and regular dialogue. The agenda should include exchanging declarations of intent regarding nuclear use and the adoption of measures to increase the decision time for political leaders in a crisis by reducing or removing requirements for continuous high alert postures.
- Regarding missile defense, Russia and the United States should intensify efforts to achieve verifiable measures to make missile defense capabilities more transparent, considering exchanges of data on technical parameters and conducting regular joint exercises. Together with NATO, they should explore options for a joint NATO-Russian center for the surveillance and monitoring of missile threats and space objects.
- On conventional high-precision weapons, the United States and Russia should open up a dialogue on threat perceptions, definitions, and possible transparency measures as well as consider additional confidence-building measures (such as launch notification and exchange of data) for existing strategic conventional arms, not currently accountable under New START.
- Modernizing the conventional arms control (CAC) regime in Europe, NATO should arrive at an early proposal for CAC that opens the way for consultations with Russia, concentrating on substantially lower ceilings for already limited conventional equipment, limits for new categories of conventional weaponry, limitations of complex military capabilities, verifiable transparency measures, and specific sub-regional arrangements in regions of heightened threat perceptions.

## 1. State of Affairs — Affairs of States

The United States and Russia have agreed to reduce the number of their long-range strategic nuclear arms under the 2010 New START Treaty by February 2018. Russia is already below two of three established limits (the limits for deployed nuclear warheads and delivery vehicles) and is expected to further reduce its stockpiles as its older ballistic missiles are decommissioned. The United States is expected to reach the limits within the agreed time

frame, but not to fall significantly below them. Speaking in Berlin in June 2013, U.S. President Obama declared that the security of the United States and its allies can be maintained while reducing deployed strategic nuclear weapons by up to one-third. In conjunction, he stated his intention to seek further negotiated cuts with Russia. While the details of this proposal have not been further elaborated, it was met with considerable skepticism in Moscow and among some members of the U.S. Congress. To date, there have only been informal bilateral consultations on the issue.

Moscow has repeatedly insisted that a number of issues of strategic concern should be resolved before any talks on further reductions begin. Those issues include, first and foremost, U.S. plans for deploying a global ballistic missile defense including European components, developing conventional precision-guided weapons, as well as potential weaponization of outer space. From Russia's perspective, these developments and deployments are capable, if not immediately then in the future, of reducing its nuclear deterrence capability vis-à-vis the United States and thus undermining strategic stability. Uncertainty about new U.S. weapons developments in the conventional and the outer space realm fuels the debate in Russia. Moscow views the growing technological edge of the United States with apprehension, causing it to strengthen reliance on nuclear weapons as the single, most important means to offset asymmetries in other areas, including conventional capabilities. Moscow also insists that other nuclear-weapon states in addition to the United States should be part of any future nuclear arms control negotiations.

Concerns related to the maintenance of strategic stability are reinforced by the general deterioration of U.S.-Russian political relations in the past several years over a number of issues.

### New START

The Treaty between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms, also known as the New START Treaty, entered into force on February 5, 2011. Under the Treaty, the United States and Russia must meet the Treaty's central limits on strategic arms by February 5, 2018; seven years from the date the Treaty entered into force. Each Party has the flexibility to determine for itself the structure of its strategic forces within the aggregate limits of the Treaty.\* The aggregate numbers do not exceed:

- 700, for deployed intercontinental ballistic missiles (ICBMs), deployed submarine-launched ballistic missiles (SLBMs), and deployed heavy bombers;
- 1,550, for warheads on deployed ICBMs, warheads on deployed SLBMs, and nuclear warheads counted for deployed heavy bombers;
- 800, for deployed and non-deployed ICBM launchers, deployed and non-deployed SLBM launchers, and deployed and non-deployed heavy bombers.

\* taken from <http://www.state.gov/t/avc/newstart/index.htm>

## Other Issues of Strategic Concern

*European Phased Adaptive Approach, EPAA (under deployment):* ballistic missile defense system by NATO to protect European allies' territories; designed to be adapted according to the actual ballistic threat emerging from the Middle East; consists of three sequenced phases; full deployment in 2018

*Fast long-range conventional precision-guided weapons (under research & development):* non-nuclear high-precision weapons (either ballistic missiles or boost-glide systems) that travel at high speed to hit a specific target within a very short time frame; currently different systems are being tested; deployment most likely not within this decade

*Outer space and anti-satellite (ASAT) weapons (tested and under research):* China and the United States already demonstrated their anti-satellite capability (Russia already did so during the Cold War), using conventional missiles to shoot down own satellites; U.S. research programs include different new systems based on electromagnets and lasers; no deployment of the latter likely within this decade

Backing opposite sides in the Syrian civil war has negatively affected the bilateral relationship, as well as stymied ameliorative action by the United Nations. Accusations in the U.S. press that Russia has conducted flight-tests of ground-based cruise missiles at ranges prohibited by the Intermediate-Range Nuclear Forces (INF) Treaty affect bilateral arms control prospects across the board. Tensions between Moscow and Washington concerning Ukraine and the Crimea will also severely complicate near-term efforts to address weapons-related security concerns affecting Russia, the United

States, and Europe. At the same time, recent events surrounding Ukraine also underscore the fact that Moscow and Washington and its European allies need to reinvigorate stalled efforts to address these issues and concerns, many of which are left over from the Cold War.

U.S.-Russian strains parallel continuing problems with European security issues. NATO's intra-alliance discussions about the further deployment of U.S. tactical nuclear weapons in Europe are stalled. Some alliance members

## Regime of Cooperative Arms Control in Europe

*Conventional Armed Forces in Europe (CFE) Treaty:* established in 1990, the Treaty limits five categories of conventional weaponry and forces movements of the former Cold War blocs; adapted in 1999 to the changing European realities, the Treaty is deadlocked due to disputes between NATO allies and Russia

*Vienna Document (VD):* the VD consists of a series of politically binding confidence- and security-building measures in the conventional military realm, including annual exchange of military information, prior notification and observation of certain military activities, etc.; the VD is operational but its modernization only resulted in minor technical improvements

*Treaty on Open Skies (OS):* establishes a system of unarmed aerial observation flights over the states parties' entire territory; designed to gather information about military forces and activities; mainly being used for monitoring states' compliance with CFE; the OS Treaty is negatively affected by political disputes between Russia and Georgia and pertaining to Cyprus

continue to mistrust Moscow and therefore view military assurances from the United States as critically important. Other allies view Russia more as a partner than an opponent and consider tactical nuclear weapons unnecessary for the alliance.

In addition, the multilateral system of cooperative security in Europe is in decay. Its overarching organization, the Organization for Co-operation and Security in Europe (OSCE), is in large part deadlocked due to disputes between the United States and Russia. The regime of cooperative arms control in Europe, designed to ensure stability in Europe under the auspices of the OSCE, requires urgent revitalization.

Germany has a role in addressing European security issues. It is a responsible NATO ally and participates in the alliance's nuclear sharing arrangement. Through these arrangements, Berlin is involved in discussions on the future of U.S. nuclear weapons in Europe and the planned deployment of missile defense systems by NATO. Germany is a reliable long-term cooperation partner of Russia and its second largest trading partner. Germany is also a champion of cooperative arms control in Europe. The future of the OSCE and the CFE Treaty are important vertices of German foreign and security policy. Berlin has always been interested in a cooperative U.S.-Russian relationship. The benefits of cooperation have helped Germany, together with its allies and partners, to shape a peaceful Europe. Moreover, Germany has emerged as a vocal proponent of international disarmament. Under the framework of the Non-Proliferation and Disarmament Initiative—a group of 12 middle powers—Berlin advances policies and concepts for multilateral nuclear disarmament and non-proliferation.

## 2. Options for Further Strategic Reductions

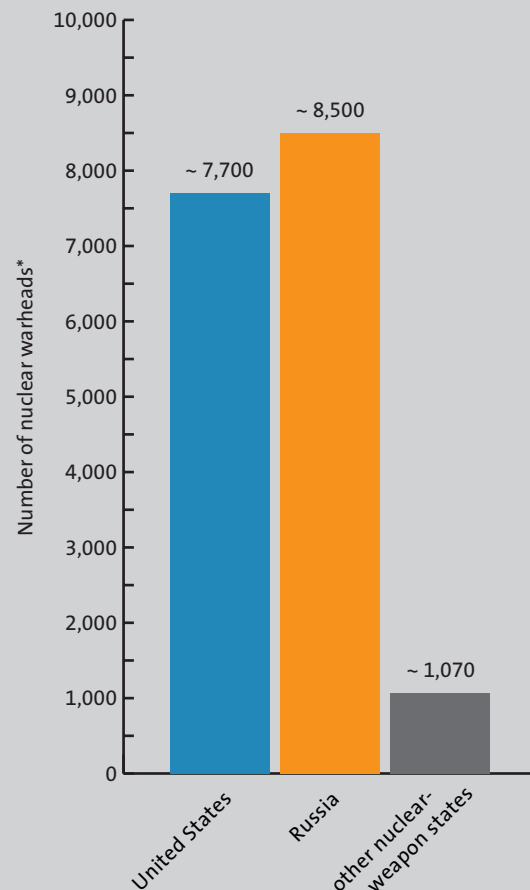
Given the diverging interests between Washington and Moscow about further nuclear reductions and the corresponding issues of strategic concern, there is not yet agreement on *if* and *when* the next step is possible. The United States wants to begin formal negotiations now. Russia wants to wait until closer to the expiration date for New START in 2021. It is also possible for both states to take independent but reciprocal steps in the direction of further nuclear reductions. The latter scenario could be forced by circumstances on the parties, although for different domestic reasons in Moscow and Washington. In Russia, the pace of modernizing Russia's strategic deterrent has not kept up with the pace of retirement of older nuclear systems. As a consequence, Russia is already below two key New START limits. In the United States, budgetary constraints have triggered a discussion about the future scale and architecture of U.S. nuclear forces. There is consequently increasing consideration both inside and outside government about departures from traditional nuclear force structures. Even with the current impasse in starting formal negotiations, actions can be taken to make progress toward further strategic reductions. Given the overwhelming size of U.S.-Russian nuclear arsenals (see table) the need for Russia and the United States to take the lead is obvious. Different options are on the table for achieving further bilateral reductions.

### Options and measures to consider

New START has established a good framework for implementing modest reductions to lower levels of strategic nuclear forces. The Treaty runs until 2021 and can be extended for another five years until 2026. Waiting to take further action on additional nuclear reductions until New START is closer to

expiration might seem to be the option of least resistance in the face of current obstacles to formal negotiations between Washington and Moscow. However, given Russian perceptions that technological trends are affecting strategic stability, a negotiating mechanism is needed to bring these issues to the table in a spirit of cooperative security for mitigation or resolution at an earlier date. Moreover, in spite of political problems between Moscow and

### Worldwide Nuclear Inventories



Source: Hans M. Kristensen and Robert S. Norris. Global nuclear weapons inventories, 1945 – 2013 (Bulletin of the Atomic Scientists 69(5) 75 – 81). \* Numbers include deployed and non-deployed strategic and non-strategic nuclear warheads and nuclear warheads awaiting dismantlement.

Washington, the Obama administration has many declared objectives, such as further reducing nuclear arms by one-third, that Russia would be wise to exploit before encountering potential interruptions and discontinuities attendant to the next U.S. administration taking office in 2017. Whatever leadership changes occur in Washington during the remainder of this decade, it will be easier for the United States to maintain its full allowance of New START limits than for Russia, because U.S. missiles have much more service life remaining than many Russian systems and have more room for uploading warheads from reserve stockpiles.

Another drawback of waiting is the negative impact stalled reductions would have on the disarmament and non-proliferation efforts of other states. Without further movement on U.S.-Russian strategic reductions, non-nuclear-weapon states under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) can be expected to levy broad and deep criticism at Moscow and Washington for not sufficiently living up to nuclear-weapon states' disarmament obligations under the Treaty, particularly in the context of the 2015 NPT Review Conference.

Ideally, Russia and the United States would begin formal New START follow-on negotiations in the near future, which would include a comprehensive dialogue on issues of strategic concern. Such negotiations could seek to achieve:

- significant and stabilizing reductions, establishing, for example, aggregate limits of 1,000 deployed strategic warheads on deployed ICBMs, SLBMs, and heavy bombers, and 500 deployed delivery systems (ICBMs, SLBMs, and heavy bombers) for each side;
- maintenance of a transparency and verification regime, building on the existing New START framework;
- establishment of an ongoing consultative mechanism for regular bilateral discussions on any questions of strategic concern — including but not limited to missile defense, tactical nuclear weapons, conventional precision-guided weapons, nuclear doctrines, and outer space weapons — complementing and extending the already existing frameworks of the New START Bilateral Consultative Commission and the “Working Group on Arms Control and International Security at the U.S.-Russia Bilateral Presidential Commission”;
- intensification of ongoing P5 strategic discussions by raising with China, France, and the United Kingdom any relevant precedents regarding policy or practice arising from the U.S.-Russian bilateral consultative mechanism, preparing the way for extending transparency and verification measures and eventual reductions to other nuclear-weapon states.

Achieving a New START follow-on agreement between the United States and Russia would be beneficial for both countries and the international community as a whole. First, it would enhance mutual predictability. Moreover, it might also allow both countries to reduce the costs of modernizing Cold War nuclear force structures, freeing up resources for more relevant defense needs and for domestic priorities. By demonstrating the political will to undertake a further step toward nuclear disarmament, a New START follow-on agreement would strengthen the credibility and legitimacy of U.S. and Russian efforts to prevent nuclear proliferation.

Even before Washington and Moscow agree to begin formal negotiations on a New START follow-on agreement, measures can be taken to achieve further strategic reductions within the current treaty framework. One option is for the United States to accelerate the pace of planned reductions so that nuclear force levels reach or fall below the New START limits ahead of the 2018 implementation deadline for the Treaty. This measure could be accomplished through executive action by the U.S. President. Russia is already below two of the three numerical limits in the Treaty. The United States could also commit itself to continue reducing below New START limits toward the levels of Russian forces, which would be consistent with the results of the Nuclear Posture Review conducted by the Obama administration. Such reductions could improve the political

atmosphere for initiating formal negotiations with Russia as well as demonstrate U.S. and Russian progress toward achieving lower levels in the lead-up to NPT Review Conference. Whatever the potential outcome of U.S.-Russian deliberations, it would be important, to maintain and extend the mutual transparency mechanism established by New START in order to ensure mutual predictability of the U.S. and Russia's nuclear postures at every stage.

In order to help create the political conditions necessary for achieving further reductions, it will also be critically important to work energetically and constructively in the designated consultative mechanisms toward resolution of any disputes over the implementation of existing arms control treaties.

## Key recommendations

1. Russia and the United States should initiate talks on a New START follow-on agreement mandating additional significant and stabilizing cuts — for example, establishing limits of 500 deployed strategic delivery vehicles and 1,000 deployed strategic warheads for each side.
2. In order to enhance prospects for achieving a follow-on agreement, the United States should accelerate New START-mandated reductions ahead of the 2018 implementation deadline; the United States and Russia could consider further independent, reciprocal force reductions below New START ceilings.
3. Russia and the United States should reinvigorate bilateral strategic stability talks with the goal of pursuing confidence-building initiatives that help to address concerns relating to missile defense, tactical nuclear weapons, conventional precision-guided weapons, and outer space weapons. They should at the same time engage other nuclear-weapon states and encourage them to improve transparency and eventually to freeze or reduce their arsenals, using any useful precedents from the U.S.-Russian experience.

### 3. Addressing Tactical Nuclear Weapons

The United States, NATO, and Russia have different points of departure with regard to tactical nuclear weapons (TNWs), leading to diverging and even contradictory views. The United States is estimated to have approximately 500 deployable TNWs in its inventory and Russia, approximately 2,000.

U.S. President Obama said in June 2013: “We’ll work with our NATO allies to seek bold reductions in U.S. and Russian tactical nuclear weapons.” Russian experts argue that one cannot single out one imbalance while, at the same time, ignoring others. Russia has identified pre-conditions for starting a dialogue about its own TNW arsenal, including the withdrawal of all U.S. TNWs based in Europe to the United States and the dismantlement of the respective infrastructure for their possible re-deployment. The U.S. Senate has linked further negotiated reductions to successful talks with Moscow that would also address the disparity in TNW holdings. Meanwhile, the United States is in the process of refurbishing the B-61 nuclear bomb, which is deployed at bases in five European NATO member states (as well as in the United States). The current plan for refurbishing the weapon calls for developing a new tail kit, which will improve its accuracy, to compensate for a reduction in the yield of the bomb.

During NATO’s Deterrence and Defense Posture Review, some allies recognized that B-61 bombs delivered by dual-capable aircraft no longer have a valid military mission. However, a decision to withdraw TNWs was not adopted, because some NATO members see their continued presence important for purposes of assurance and other NATO members seek to leverage “reciprocal” measures by Russia on TNWs. Although NATO has so far maintained policy consensus on keeping U.S. TNWs in Europe, there is increasing

dissension within the alliance about their future. Given the diverging positions within NATO, new options must be considered. Potential venture points for a cooperative process addressing TNWs exist and should be explored in more depth. NATO’s offer to Russia to consider transparency and confidence-building measures could be a starting point.

#### Options and measures to consider

The United States and Russia could reconfirm their adherence to the 1991 and 1992 Presidential Nuclear Initiatives (PNIs), which led to independent but reciprocal steps, resulting in the dismantlement or withdrawal of thousands of TNWs from forward or surface naval deployment to non-deployed status in centralized storage facilities. However, the implementation of PNIs was never subject to any transparency and verification measures.

The United States and Russia could exchange data on the total number of warheads that were destroyed or are slated to be destroyed pursuant to the PNIs. This could provide an important step toward greater transparency.

The United States and Russia should resume the dialogue of nuclear experts who, until 1998, were working on jointly developing non-intrusive measures to provide for verifiable and irreversible elimination of nuclear weapons.

The United States and Russia could also allow reciprocal visits at naval and air force storage facilities in order to provide reassurance that TNWs have indeed been withdrawn from them to centralized storage facilities and no longer are available for quick re-deployment.



In May 2010, the United States disclosed the total numbers of nuclear weapons in its arsenal for each year from 1962 to 2010, as well as the number of weapons dismantled annually since 1994. Washington also released the aggregate number of operational nuclear weapons. The Russian Federation should consider a similar step in order to build confidence through greater transparency.

Another option would be for Russia and the United States to work towards a common understanding of the term “tactical nuclear weapon.” Without an agreed terminology, subsequent transparency measures for TNWs would be more difficult to pursue. Such an undertaking could lead to establishing a common factual baseline of TNW holdings.

Germany could offer joint visits by NATO and Russian personnel to former storage and deployment sites in the former East and West Germany. Among other advantages, this would permit the testing of procedures for future visits and inspections. Preceding such joint visits, a mutual dialogue should set out the goals for visits and establish the kinds of procedures needed to achieve those goals.

A further measure pertains to NATO’s intra-alliance process of coordination and planning. NATO needs to clarify its nuclear policy by coming to agreement on the circumstances under which it would agree to withdraw U.S. TNWs. Until the Alliance has arrived at a common position on these issues, it will be difficult for either the United States or NATO to engage Russia in productive discussions on TNWs. It is therefore important for NATO to intensify efforts to break the impasse within the alliance on TNW arms control proposals. Given its political weight, commitment to European arms control and stability measures, and status as a current host nation for U.S.

TNWs, Germany is in a unique position to lead alliance efforts to formulate a coherent NATO policy on the role and future of TNWs in Europe. Beyond forging consensus among European allies, it could be helpful in getting Washington to reconsider any form of refurbishment that involves improving the military capabilities of those types of B-61 bombs currently deployed under NATO nuclear sharing arrangements.

Eventually, the United States and Russia would pursue a bilateral reductions agreement, covering TNWs either in a separate category of non-strategic and non-deployed strategic nuclear weapons, or addressing them in a larger category of all nuclear weapons — strategic and non-strategic, deployed and non-deployed. In the latter case, a comprehensive treaty could aim at an aggregate limit for total nuclear warheads including those in reserve, and sub-limits for non-deployed weapons including strategic and tactical (non-strategic) without establishing any limits on delivery systems for TNWs, which have primarily conventional missions.

The inclusion of TNWs into a treaty-based U.S.-Russian nuclear arms control framework would be confronted with a number of challenges. It first would depend on whether or when the United States and Russia begin talks on a New START follow-on agreement. Should they pursue the path of independent reductions, inclusion of TNWs would be less likely. Secondly, the task of a verifiable limitation and reduction of TNWs would have to address the most sensitive question of verifying non-deployed weapons in nuclear storage facilities. It would thus largely depend on the resumption and progress of joint work on methods of non-intrusive verification that was interrupted in 1998.



## Key recommendations

1. The United States and Russia should reconfirm their mutual commitment to the 1991 and 1992 PNIs, undertaking confidence-building measures such as exchanging data on the total number of nuclear warheads destroyed over the past twenty years, and conducting site visits to former but now empty storage facilities.
2. The United States and Russia should resume the U.S.-Russian dialogue of nuclear experts in order to develop non-intrusive measures to provide for verifiable and irreversible elimination of nuclear weapons.
3. Germany should take the lead within NATO to formulate a coherent NATO policy on the role of TNWs in Europe and terms for their withdrawal.

## 4. Transforming Nuclear Doctrines

Two decades after the Cold War, thousands of U.S. and Russian nuclear warheads are still kept at high alert levels ready to retaliate against a possible first strike. Nuclear planning is largely based on the threats U.S. and Russian arsenals pose to each other. U.S. and Russian nuclear doctrines include options for nuclear war-fighting to deter attack and to mitigate damage if an attack occurs. With the end of the Cold War, the political relationship between Washington and Moscow changed fundamentally. Today, neither views the other as enemy, nor does either of them consider an all-out nuclear war a realistic option. However, both countries continue relying on nuclear arsenals that greatly exceed reasonable needs for deterrence. Both could benefit from changing their nuclear doctrines. Instead of operating in short alert modes to prepare for a virtually immediate response to a first strike, they could instead seek a smaller but more secure nuclear deterrent that could ride out an attack.

A mutual transformation of nuclear doctrines would also allow for structural reductions in U.S. and Russian strategic nuclear forces. Both sides could build down, in the first instance, the weapons which are considered most suitable for launching a first-strike attack against an opponent and least likely to survive a first-strike attack by an opponent. Although fixed-silo ICBMs fit most closely these characteristics, it is difficult to devise criteria for first-strike weapons that apply to all countries in all circumstances. These considerations should, however, inform the future evolution of doctrines. Beyond these deliberations, the following options and measures could be pursued.

### Options and measures to consider

Enhancing communications on nuclear doctrines to better understand each other's inten-

tions would be an important first step in transforming doctrines. The United States and Russia could embark on regular mixed civilian/military dialogue between experts on nuclear doctrines (including doctrinal considerations involving non-deployed warheads). Once such a bilateral dialogue is firmly established, the United States and Russia could incrementally intensify discussions of doctrines with other nuclear powers in the ongoing P5 strategic dialogue. In addition, the series of NATO-Russian seminars on "Nuclear Doctrines and Strategies" could be revitalized and possibly institutionalized to become a regular undertaking.

The U.S.-Russian dialogue on nuclear doctrines should concentrate on a number of key questions:

- What are the current U.S. and Russian policies towards nuclear alert modes and what do they mean in practice; where do they potentially differ and with what consequences?
- What measures would allow strategic nuclear forces to safely move away from short alert postures?
- How can potential nuclear adversaries be convinced they can have a safe, secure, and reliable nuclear deterrent at significantly lower numbers?
- What steps can be taken to reduce the likelihood of a pre-emptive disarming strike?

An option to consider would be to exchange a number of declarations of intent, shifting towards a second-strike posture. The United States and Russia could publicly state that, in the current and foreseeable security environment, the threat of a surprise disarming nuclear first strike against one another is very remote, and

that a reliable and credible nuclear deterrent does not require the ability to retaliate immediately but only to have sufficient nuclear forces and requisite command and control systems that would survive an attack. Both governments could also aim at introducing mutual declarations that national command authorities seek to be in a position where they can take hours or days instead of minutes regarding a decision to use nuclear weapons, and back this up with expert-level discussion of ways to ensure that nuclear employment procedures allow sufficient time for analysis and confirmation of specific detected threats. Such declarations could lead to pursuing mutual policies of de-alerting.

Another measure would see multilateralizing the dialogue. Germany should continue to urge harmonization of the nuclear doctrines

of NATO itself and of the United Kingdom and the United States, who have assigned nuclear weapons to NATO. Specifically, NATO should follow the U.S. lead in restricting the core function of nuclear weapons to the deterrence of a nuclear attack. Thus, the Alliance could make clear that it will not use nuclear weapons in response to non-nuclear attack. NATO allies could initiate an internal dialogue on alternatives to the forward-deployment of nuclear assets for extended deterrence and assurance. To initiate the process of multilateral reductions, the United States and Russia could, together with China, France, and the United Kingdom start exploring possibilities for a potential P5 no-first-use policy or options for prohibiting the general use (not the possession) of nuclear weapons.



## Key recommendations

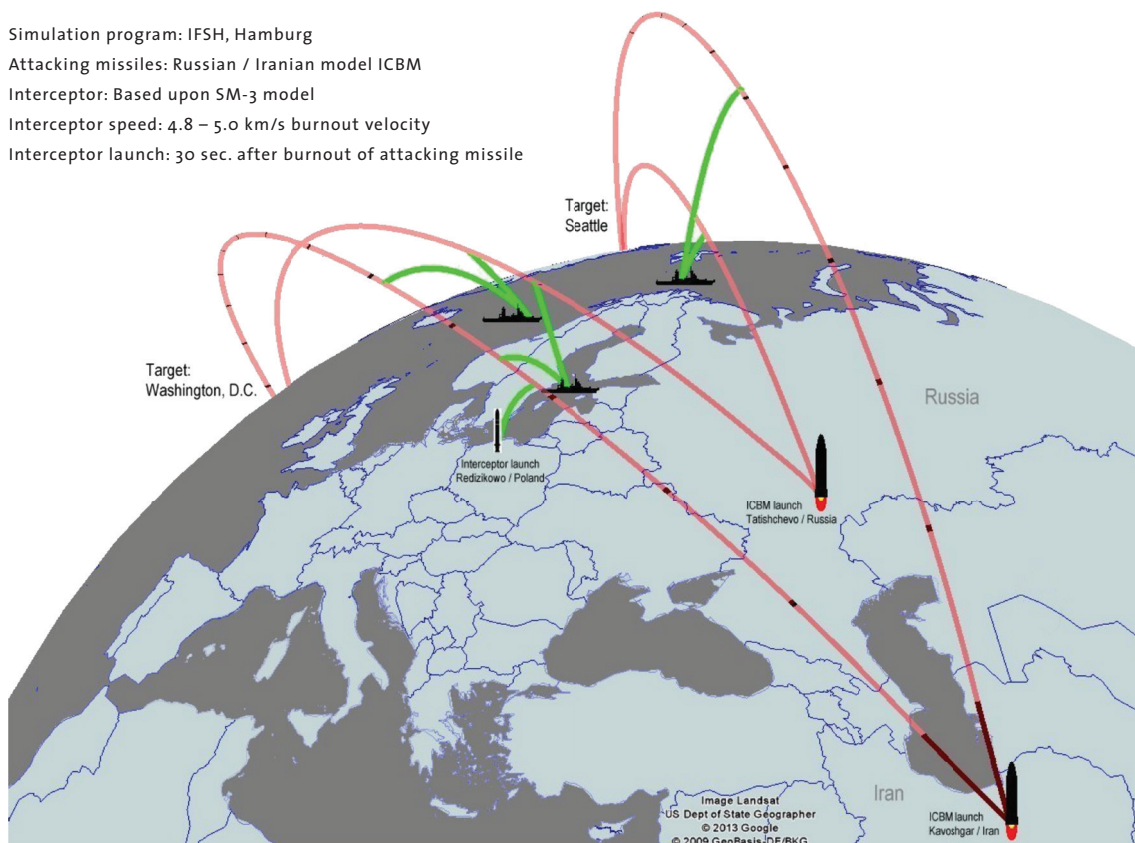
1. The United States and Russia should initiate a jointly defined and regular dialogue on nuclear doctrines and help to deepen the NATO-Russia discussions on doctrines and strategies.
2. The United States and Russia should start a dialogue on their respective nuclear alert modes. Their aim should be to sharpen each other's understanding and to work towards adopting measures to increase decision time for responding to what might be an attack on their nuclear deterrent force.
3. The United States and Russia should exchange declarations of intent regarding nuclear use, underscoring that a reliable and credible nuclear deterrent does not require the ability to retaliate immediately

## 5. Cooperating on Missile Defense

The United States and Russia have deployed rudimentary strategic ballistic missile defense (BMD) systems. So far, neither side has been able to develop a successfully tested and fully operational BMD system against ICBMs. The European Phased Adaptive Approach (EPAA), now limited to defense against missiles of short- to intermediate-ranges (up to 5,500 km), is in an early stage of deployment. Even though NATO insists that the EPAA is not directed at Russia and has invited Russia “to explore jointly the potential for linking current and planned missile defense systems,” NATO proposals for cooperation, such as building data exchange centers, have not been accepted. Nor has Mos-

cow taken up the U.S. offer of a transparency agreement under which the United States and Russia would annually exchange plans regarding their missile defenses for the coming decade, in order to allow the other to see that missile defenses do not pose a serious threat to strategic offensive forces. Instead, Russia insists on legally binding guarantees that the system will not be targeted against Russia’s strategic deterrent — a guarantee that the current U.S. administration is unable to give, as there is little chance that the Senate would consent to ratification of any agreement limiting missile defense.

Simulation program: IFSH, Hamburg  
 Attacking missiles: Russian / Iranian model ICBM  
 Interceptor: Based upon SM-3 model  
 Interceptor speed: 4.8 – 5.0 km/s burnout velocity  
 Interceptor launch: 30 sec. after burnout of attacking missile



Simulation of intercept of Russian and Iranian ICBM heading to the United States © by IFSH

The EPAA in its final stage, as currently envisioned, would be technically incapable of intercepting Russian ICBMs. However, in the sense of kinematic intercept capability, if technical improvements were to occur, such as deploying interceptors with a higher speed than the 4.0 – 4.5 km/sec planned for the SM-3 Block 2A and if Aegis ships were deployed to the Baltic, Norwegian, or Barents Sea, the EPAA might acquire a limited capability against Russian ICBMs launched from some sites in western Russia (see illustration). Even if the dialogue on missile defense is stalled for the moment, re-engaging on the issue could help all sides concerned to achieve more predictability about the further development of their respective systems. Beginning with options for enhancing transparency, later cooperation on the issue is indeed possible.

### Options and measures to consider

Russia and the United States need to intensify efforts to achieve more transparency in the technical capabilities of their respective BMD systems. Accordingly, they could reconsider the idea of exchanging declarations concerning their missile defense capabilities and program plans for the next ten years. While legal measures to back up such an undertaking are currently infeasible on the U.S. side, the possibility of a legal framework at a later stage should not be ruled out. In the meantime, both sides can build trust by continued communication and interaction on the issue. Transparency could start with reciprocal exchanges of information about technical criteria of BMD systems such as their location, numbers of interceptors, and their speed. Additional measures to verify these declarations could help to achieve the desired predictability and trust. An exchange of declarations could be supported by additional joint annual exercises — both command post and in the field — of tactical and theater missile

defenses, targeting offensive missiles with ranges up to 5,500 km.

The United States and Russia could also consider encouraging other states to participate in the declarations exchange and joint BMD activities, thus mitigating the concerns other nuclear-weapon states might have with U.S.-Russian cooperation. As an additional measure, the U.S. Missile Defense Agency's offer to Russia of observing missile interceptor tests could be extended to invite third countries.

As another measure, NATO should make clear that it will scale its missile defense deployments in Europe according to the evolution of nuclear and missile threats from the Middle East. If continued progress is made in resolving the interlinked issue of Iranian nuclear and missile activities, then this commitment should lead NATO to slow or scale back EPAA deployment plans. In this regard, Germany could play an important role in shaping NATO's position on tailoring EPAA to the pace and extent of the emerging ballistic missile threat.

A third, longer-term option would be for NATO and Russia to start considering options for making the EPAA and the Russian missile defense systems compatible. They could aim at setting up a joint study center for the concept of missile defense cooperation and/or a joint early-warning center allowing for real-time exchange of data from radars in the southern periphery of Russia (e.g., at Armavir) and Europe, as well as from space-based sensors, with the aim of creating an integrated system for the surveillance and monitoring of missile threats and space objects to and over Europe. One advantage of such a center would be having NATO and Russian military personnel working side-by-side.

NATO and Russia could make use of precedents established in development of the NATO-Russia Cooperative Airspace Initiative

(CAI). The CAI provides for a system of air-space monitoring between Norway and Russia, Poland and Russia, and between Turkey and Russia and concurrently connects (through data transmission) two coordination centers (one in Warsaw and one in Moscow) with data collection units. The CAI's mandate and facilities could be expanded to include the BMD function as well. In addition, the parties

could explore the beneficial side-effects of joint early-warning for strategic stability and take into account additional economic benefits from joint space monitoring (e.g., in tracking space debris). Over the long term, they could explore possibilities for technological cooperation on BMD, such as building and/or inter-linking common radars and/or early-warning satellites.

## Key recommendations

1. Russia and the United States should intensify efforts to make their BMD capabilities more transparent, considering the options of data exchanges on certain technical criteria and joint annual exercises on the tactical and theater BMD level.
2. NATO should make more explicit the connection between Iran's nuclear and missile threats and the pace and scope of NATO's EPAA deployments.
3. NATO and Russia should initiate discussions about long-term options for a joint NATO-Russian BMD study center and/or a center for NATO-Russian surveillance and monitoring of missile threats and space objects, possibly building on the NATO-Russia Cooperative Air-space Initiative.

## 6. Dealing with Conventional Precision-Guided Weapons

The United States is exploring different options for developing fast, long-range, conventionally-armed precision-guided weapons (PGWs), including through the Conventional Prompt Global Strike (CPGS) program.

Russia appears to have similar plans underway to integrate fast long-range conventional PGW into Russian forces. Given the cost of CPGS weapons and defense budget pressures, CPGS is very unlikely through the mid-term to be anything other than a niche capability. Such a prospect increases the possibility that they could be dealt with effectively in an arms control venue, which would be important for addressing Russia's concerns. Even if programs such as CPGS are to become manifest only in the next decade or later, it is important for the United States and Russia to start a dialogue early on concerning actual capabilities and developments and their potential impact on strategic stability, particularly with a view to future lower levels of nuclear arms.

In addition, “non-prompt” weapons (such as conventional cruise missiles) could also impact strategic stability. For this reason, both sides could gain a great deal of trust if they would start addressing the possible impacts of large-scale deployments of conventional cruise missiles. For militaries on both sides, such a deployment scenario is already now a growing concern. Different avenues to address these issues are available.

### Options and measures to consider

The United States and Russia could embark on regular consultations regarding PGWs, recognizing that confidence-building measures are missing in this realm. Discussions could

address to what degree conventional long-range PGWs (not necessarily CPGS systems only) might pose a problem to strategic stability. These discussions could address Russian concerns about threats emanating from large-scale Tomahawk sea-launched cruise missile (SLCM) deployments and U.S. concerns about increasing Russian cruise missile capabilities.

As another option, the United States and Russia could consider applying confidence-building measures to existing strategic conventional arms as New START is implemented. For example the United States could pledge not to base B-1B bombers—and any other formerly accountable strategic nuclear delivery vehicles—where nuclear weapons are stored and to continue to notify each other about movements of such systems, even though New START does not require such notifications. They could also discuss how to deal with future deployed CPGS systems (including possible boost-glide systems).

The United States and Russia could consider for including other nuclear-weapon states, particularly China, in the discussions about the future of CPGS and confidence-building measures to prevent over-reactions. One such measure might be for the United States and Russia to commit not to target each other's nuclear forces with CPGS, and to extend comparable assurances to China.

Another option pertains to conventional SLCMs. Both could aim at data exchanges under a politically binding agreement as was already the case for nuclear-armed SLCMs under a U.S.-Soviet agreement. They could consider the option of declaring a maximum deployment number for conventional SLCMs and the normal SLCM loads on different classes of submarines and surface ships on an annual basis.





## Key recommendations

1. The United States and Russia should open up a dialogue on threat perceptions, definitions, and possible transparency measures for conventional PGWs, including prompt and non-prompt weapons; discussions could seek to address questions of strategic stability and concerns emanating from large-scale deployments of conventional cruise missiles.
2. The United States and Russia should consider the option of additional confidence-building measures (such as launch notification and exchange of testing data) for existing strategic conventional arms, currently not accountable under New START.
3. The United States and Russia should explore options for confidence-building measures on conventional sea-launched cruise missiles, particularly data exchanges of a politically binding nature (e.g., declaring a maximum deployment number for conventional SLCMs and the normal SLCM loads on different classes of submarines and surface ships on an annual basis).

## 7. Modernizing Conventional Arms Control in Europe

Although there is no direct link between conventional arms control (CAC) in Europe and nuclear arms control in terms of substance, there is one in psychological-political terms. Thus, it is difficult to imagine starting consultations or negotiations on tactical nuclear weapons in the absence of any progress in modernizing CAC.

CAC is characterized by two trends: On the one hand, the major powers concerned — the United States, Russia, France, Germany, and the United Kingdom — no longer harbor mutual existential threat perceptions related to conventional armed forces. On the other hand, CAC, and mainly the CFE Treaty and its successor (ACFE), is in decline. However, the process of decay is not occurring because the relations between the states have become so good that they no longer need arms control. Rather, it is happening because relations between Russia and NATO are not in the best shape. From Moscow's perspective, the key to the continuation of the CAC process lies in taking into consideration the concerns of the Russian side which, in this sphere, are connected with the plans of development of the U.S. / NATO missile defense systems and with the growing quantitative and qualitative imbalances in the sphere of conventional weapons in Europe. As a result, the framework of verifiable transparency, which has accompanied the reductions of conventional armed forces in Europe after the end of the Cold War, is in a process of dissolution. This in itself is a cause for serious concern. As events have shown, Europe is not yet safe against relapses into confrontational behavior, including the use of force.

Therefore, all sides would benefit from modernizing the CAC regime. On the one

hand, this concerns an all-European framework of CAC that could also include those states that are not members of military alliances. On the other hand, some experts and politicians consider that there is a need for specific sub-regional arrangements for regions where heightened threat perceptions still exist. A number of potential avenues are worth considering.

### Options and measures to consider

NATO member states are currently working on a new concept for modernizing CAC. These efforts should be intensified in order to present a substantial proposal at the September 2014 NATO Summit as a basis for consultations with Russia. To achieve this goal, more initiative and leadership by European NATO members is required. The Danish-German-Polish initiative is a first step to be followed by others. A new NATO concept for CAC, which should contain both an all-European framework and sub-regional approaches, requires addressing these issues with continuous and more political backing from key states. Germany should move the issue of CAC up to the highest possible level of bilateral German-Russian relations.

An all-European framework for CAC should combine substantially lower national ceilings for most of the states in the five categories limited by the CFE Treaty with a regime of verifiable transparency measures. The verification regime could be 'lighter' and cheaper than the verification rules provided by the CFE or ACFE Treaty; however, it must represent a cooperative effort. A modernized CAC framework should be open for non-aligned states. Its implementation might

require status-neutral solutions in areas of non-resolved conflicts. States could make an attempt to include new categories of weapons not covered by the CFE Treaty into the framework as well as complex military capabilities beyond single categories of weapons and equipment.

This all-European framework may be supplemented by specific sub-regional arrangements for regions where heightened threat perceptions related to conventional armed forces still govern states' security policy behavior (e.g., the Baltic, Central Eastern European, and South Caucasus region). Such sub-regional arrangements could combine limitations on the

deployment of conventional armed forces in certain regions and earlier mutual pledges by NATO and Russia from 1997 not to station additional substantial combat forces on a permanent basis, along with transparency measures to provide sufficient verifiability.

As an interim measure, NATO and Russia could commit to increased transparency regarding military exercises, tests, and trials below the threshold of the OSCE's Vienna Document. The purposes of such exercises could be publicly announced and could ideally have the clear-cut goal of opposing common regional and global threats (e.g., terrorism, spread of WMD, missile attack by third states, piracy).

## Key recommendations

1. NATO should arrive at an early proposal for CAC in Europe that opens the way for consultations with Russia on modernizing CAC and opening it up for new non-aligned states parties.
2. All parties concerned should strive to elaborate an all-European framework of CAC that combines substantially lower ceilings for CFE-limited conventional equipment with limitations of new weapons categories and complex military capabilities as well as a regime of verifiable transparency measures.
3. States could supplement this framework by specific sub-regional arrangements, which combine earlier NATO-Russia pledges such as not permanently stationing additional substantial combat forces with new instruments such as limitations on the quantity and type of conventional forces.

## The Deep Cuts Commission

The trilateral German-Russian-U.S. Deep Cuts Commission is seeking to devise concepts on how to overcome current challenges to deep nuclear reductions. Through means of realistic analysis and specific recommendations, the Commission strives to translate the already existing political commitments to further nuclear reductions into concrete and feasible action. The Commission is coordinated in its deliberations by the Institute for Peace Research and Security Policy at the University of Hamburg (IFSH), the Arms Control Association (ACA), and the Institute of World Economy and International Relations of the Russian Academy of Sciences (IMEMO, RAN) with the active support of the German Federal Foreign Office and the Free and Hanseatic City of Hamburg. All Commissioners endorse this report's underlying assumptions, though they do not necessarily agree with every finding or recommendation. Institutions are noted for affiliation purposes and do not constitute institutional endorsement of this report.

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Four years ago, the United States and the Russian Federation concluded the New START Treaty. Even after New START, however, both nations will still possess nuclear arsenals that far exceed reasonable deterrence requirements. Both continue to rely on nuclear weapons employment strategies that are based on traditional Cold War planning assumptions, with hundreds of nuclear arms assigned to targets in each other's territory and available for prompt launch. Achieving further nuclear reductions could enhance national, Euro-Atlantic, and international security to the benefit of all states. This first report by the trilateral German-Russian-U.S. Deep Cuts Commission examines a number of obstacles impeding progress and it offers practical options that would enable the key parties to make headway. While the current environment does not promise an early breakthrough on further nuclear reductions, this report recommends that all sides should pursue a more energetic dialogue and explore a range of options to overcome and resolve key obstacles.

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