

EASI

EURO-ATLANTIC SECURITY INITIATIVE

MOSCOW ■ BRUSSELS ■ WASHINGTON DC

FEBRUARY 2012

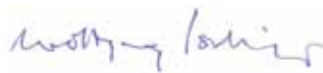
Addressing Nonstrategic Nuclear Forces

No issue in the area of European military security is more important or more vexed than that of nonstrategic (or tactical) nuclear weapons.

It figures centrally as the North Atlantic Treaty Organization (NATO) weighs a new nuclear deterrence and defense posture. It complicates the issue of conventional arms control and impinges on the next phases of strategic nuclear arms negotiations between the United States and Russia. But Russia and the United States remain not only at loggerheads in their views of the issue, the issue itself has yet to be engaged in active official dialogue or negotiations. The Working Group on Nonstrategic Nuclear Weapons, rather than pretending to offer a single “right” approach to resolving the issue, instead lays out the many, complex aspects of the problem, and suggests alternative ways that many of these might be addressed were the United States/NATO and Russia to tackle them.



Igor Ivanov



Wolfgang Ischinger



Sam Nunn

CARNEGIE ENDOWMENT

FOR INTERNATIONAL PEACE

Introduction

With the United States and Russia each reducing its number of deployed strategic warheads to no more than 1,550 under the New START Treaty, further strategic cuts may be difficult without constraining nonstrategic nuclear weapons. U.S. president Barack Obama has called for negotiating cuts in such warheads, and the North Atlantic Treaty Organization's (NATO's) 2010 Strategic Concept calls for including nonstrategic nuclear weapons in the nuclear reduction process.

The Russian government has committed to a step-by-step process of reducing nuclear weapons. Senior Russian officials, however, have stated that before entertaining a new round of nuclear arms reductions, they want to assess how New START is being implemented. Other issues—such as missile defense, conventional forces in Europe, long-range conventional strike weapons, and the “weaponization of space”—should also be dealt with, they assert. Securing Russian agreement to address nonstrategic nuclear weapons will depend in part on whether Russia can be persuaded that the United States and NATO are taking seriously its concerns on these issues.

How these nuclear weapons are handled will bear on the broader context of European security, including emerging new nuclear weapon states, proliferation of enrichment technologies, the risk of theft of nuclear arms and materials, and catastrophic terrorism. Nonstrategic nuclear weapons will also increasingly be seen as an indicator of whether the United States, NATO, and Russia can take a cooperative approach to nuclear threat reduction.

This paper provides an overview of the nonstrategic nuclear weapons issue and lays out possible options for dealing with it, including through reductions. The disparity between the United States and Russia in weapons numbers and in motivations for maintaining nonstrategic nuclear arsenals, however, will complicate their engagement on this issue.

Nonstrategic Nuclear Weapons

For the purposes of this paper, nonstrategic nuclear warheads include all nuclear weapons except for (1) strategic nuclear warheads for intercontinental ballistic missiles and submarine-launched ballistic missiles, and nuclear bombs and air-launched cruise missiles for strategic bombers as defined by New START, as well as (2) nuclear weapons that have been retired from the stockpile, are no longer functional, and are in the queue for dismantlement.

The 2010 U.S. Nuclear Posture Review mandated retiring nuclear warheads for sea-launched cruise missiles. That will leave the United States with a nonstrategic nuclear arsenal comprising 500 B61 gravity bombs, of which some 200 are forward-deployed at six air bases in Belgium, Germany, Italy, the Netherlands, and Turkey for delivery by U.S. and allied aircraft.¹

Russia has an estimated 3,700–5,400 nonstrategic nuclear warheads, of which some 2,000 are deliverable. These include cruise missiles of various ranges, gravity bombs, and warheads for antiballistic missile systems and air defense missiles, and may include short-range ballistic missiles, torpedoes, and depth charges. The Russian inventory has been reduced by at least 75 percent since 1991, down from an estimated 15,000–21,700 weapons at the time (although some question whether Russia has met its unilateral undertaking to fully dismantle all ground-launched weapons).² All of Russia's remaining nonstrategic weapons are said to be in central storage and are not deployed with delivery vehicles.³

NATO and Russian Policy Regarding Nonstrategic Nuclear Weapons

NATO. The Strategic Concept approved by NATO leaders in 2010 states that the alliance will “maintain an appropriate mix of nuclear and conventional forces” and “ensure the broadest possible participation of Allies in collective defense planning on nuclear roles, in peacetime basing of nuclear forces, and in command, control and consultation arrangements,” but it sheds little light on declaratory policy. It also commits NATO to work toward the conditions for a nuclear weapons–free world.

The Strategic Concept does not refer to U.S. nuclear weapons in Europe as providing an essential link between Europe and North America, as did its 1999 predecessor. Some, however, believe that the call for “broadest possible participation . . . in peacetime basing of nuclear forces” makes the same substantive point. In addition, the 2010 concept further states that NATO will “seek to create conditions for further [nuclear] reductions in the future” and that the alliance’s aim “should be to seek Russian agreement to increase transparency on its nuclear weapons in Europe and relocate these weapons away from the territory of NATO members.”

NATO’s deterrence and defense posture is under active review. A central question is how to maintain a credible U.S. extended nuclear deterrent in a manner consistent with Washington’s commitment to reduce the role and number of nuclear weapons. U.S. forward-based nuclear weapons have served for more than five decades as a symbol of the U.S. security link to Europe. Some NATO allies believe this remains essential. Others believe an effective U.S. extended deterrent does not require U.S. nuclear weapons in Europe but could be provided by U.S. strategic forces. Similarly, NATO allies value the consultations in the Nuclear Planning Group, but some fear those consultations would be less meaningful or influential if U.S. nuclear weapons were withdrawn.

One issue that NATO must confront is the replacement of dual-capable aircraft. The German air force currently plans to purchase Eurofighters that are not wired for nuclear weapons to replace its nuclear-capable Tornados. If the German air force drops its nuclear role, that would lessen the chance of maintaining B61 bombs in Germany, and could impact the policy decisions of other nuclear host nations.

Russia. The place of nonstrategic nuclear weapons in Russian military strategy is uncertain. While they are commonly regarded as a means of offsetting conventional inferiority vis-à-vis NATO and China, the 2010 military doctrine sheds little light on the roles and missions assigned to nonstrategic nuclear weapons, treating them only in generic terms. Russian nuclear forces, according to this and other policy guidance, have two types of missions: traditional strategic deterrence, which relies primarily on strategic weapons, and limited use in response to a large-scale conventional attack (known as “de-escalation”).

One reason for having longer-range nonstrategic nuclear weapons stems from the conclusion of Russian military analysts that long-range, precision-guided conventional weapons provide a key advantage for the United States and NATO. To counter this, Russia seeks to acquire similar long-range conventional strike assets and in the meantime relies on limited nuclear use, employing nuclear weapons of comparable ranges. The Russian navy attaches particular importance to nonstrategic nuclear weapons.

NATO’s interest in achieving some constraints on Russian nonstrategic nuclear weapons appears to have convinced Moscow that these weapons and the Russian numerical advantage have value. In some Russian

quarters there appears to be resistance to any measure limiting Russia's nonstrategic arsenal. In others, sentiment seems to favor seeking a high "price" for agreement on even limited arms control measures applying to this category of weapons. In any case, the debate advances slowly. More generally, following the conclusion of New START, nuclear arms control appears to be less of a priority on the Russian side.

Asymmetry of Interest. U.S./NATO and Russian rationales for maintaining nonstrategic nuclear weapons differ. Senior U.S./NATO officers see little military utility to forward-based nuclear weapons beyond that provided by other existing capabilities. Their value is seen largely in political and symbolic terms: that is, providing a security link between the United States and Europe and serving as an element of NATO's deterrent capability. Russian defense planners appear to attach more military significance to their nonstrategic nuclear weapons. They see those weapons as offsetting conventional force disadvantages vis-à-vis NATO and China, serving as a force enhancer should conventional defense fail, and offering possibilities to escalate or to control escalation.

Even Western analysts who understand Russian reasoning (that conventional disadvantages require reliance on nuclear weapons), however, question why Russia maintains so many nonstrategic nuclear warheads. Both the U.S. Senate and NATO have stated that further nuclear reductions must now take into account the disparity in nonstrategic nuclear inventories.

Responding to the Challenge

The range of options for dealing with nonstrategic nuclear weapons includes:

- confidence-building measures,
- unilateral actions, and
- negotiated force limitations and reductions.

Most of these options would have greater impact on the Russian side, since Russia maintains a larger number of nonstrategic nuclear weapons, and reciprocity may be difficult given different interests and stockpile structures. By themselves, the confidence-building and unilateral measures would produce useful patterns of behavior that could be observed but do not lend themselves to verification.

Confidence-Building Measures Regarding Nonstrategic Nuclear Weapons

There are a number of possible confidence-building measures intended to create transparency and build trust between the partners that could be agreed upon in the near term outside of a negotiated accord.

Greater Transparency. The United States and Russia each likely has a good idea of the locations where the other stores its nuclear warheads but less solid information on numbers. Transparency is desirable in itself, and particularly important to some European states. It is also key to monitoring the implementation of unilateral initiatives and other confidence-building measures. And it is essential for any negotiated limits, as well as a precondition for broader arms control agreements.

As one significant step, the United States and Russia might agree to publicly disclose the total number of their nonstrategic nuclear warheads in storage and the number of warheads in the dismantlement queue. The sides might also disclose publicly the types of delivery systems and numbers of warheads for each type of delivery

system. It would be useful if both were to clarify the purpose of their nonstrategic nuclear weapons and why they believe they need to have the number they maintain. Finally, the United States and Russia might further agree to disclose to one another the locations of storage sites for nuclear warheads.

“Demating” Warheads From Delivery Systems. Neither the U.S. nor Russian air force maintains nuclear bombs on aircraft, though the United States stores nuclear weapons in Europe in close proximity to delivery aircraft. Russia reports that it has demated nuclear warheads from other nonstrategic delivery systems. The sides might consider as a confidence-building measure formal statements affirming that nuclear warheads have been demated from their nonstrategic delivery systems and, as a matter of policy, that there is no intention of placing nonstrategic nuclear warheads on delivery systems in the future.

Relocating Nonstrategic Nuclear Warheads Away From NATO-Russian Borders. NATO’s Strategic Concept pledges to seek the relocation of Russian nuclear weapons away from NATO territory. Relocating nuclear weapons away from NATO-Russian borders would require the emptying—and, ideally, closing—of nuclear weapons storage sites close to the Baltic states. It would be more difficult to ask Russia to close nuclear weapons storage sites on the northern Kola Peninsula (near the Norwegian border), as that is where the 12th Main Directorate of the Ministry of Defense has infrastructure to store strategic and nonstrategic nuclear warheads for the Russian Northern Fleet. Relocation should be to sites deeper in Russia but west of the Urals to avoid raising concern in China, Japan, and other Asian states. U.S. nonstrategic nuclear weapons are already located well away from Russia. The closest site is Incirlik Air Base in Turkey, some 800 kilometers from Russian territory.

Consolidation of Nonstrategic Nuclear Warheads at a Smaller Number of Storage Sites. Consolidation at a smaller number of storage sites could improve security, ease monitoring tasks, and further ensure the removal of warheads away from NATO-Russian borders. If Russia continues to reduce the number of its nonstrategic nuclear warheads—as the result of an agreement, of a declared unilateral initiative, or simply by retiring old weapons—there may be opportunities to consolidate weapons at fewer storage sites.

The primary outcome of interest to Moscow would be a consolidation that would lead to the removal of U.S. nuclear weapons from Europe, the only nuclear weapons deployed on the territory of non-nuclear weapon states. For political reasons, consolidation of weapons at a smaller number of storage sites in Europe would be difficult: in every case except for Italy, consolidation would mean closing the only storage site for U.S. nuclear weapons in that country. Closing the site in one country could lead to cascading political pressures to close sites in several or all other European countries. The United States is unlikely to consider this except in the context of a decision to remove U.S. nuclear weapons from Europe. Were these warheads removed, however, an option could be to leave in place nuclear-capable aircraft, infrastructure, and multinational training as a means of continuing direct NATO involvement.

Another option could be for NATO to withdraw the weapons that are earmarked for host-country delivery and retain only nuclear weapons earmarked for delivery by U.S. aircraft. Such a step would end the nuclear-sharing mission whereby non-nuclear NATO allies are equipped and trained to deliver U.S. nuclear weapons in war, an arrangement that some see as out of sync with post-Cold War nonproliferation policy. It, however, would continue a U.S. nuclear deployment in Europe as a symbol of U.S. commitment to NATO and maintain

nuclear consultation arrangements. One question to be considered is whether such an option would be politically difficult for Italy and Turkey were the alliance to leave U.S. nuclear weapons only in those two countries.

Security of Nuclear Warheads. The United States and Russia, drawing in part on their Cooperative Threat Reduction experiences and working through the NATO-Russia Council, could conduct a joint threat assessment of the risk of terrorists or other nonstate actors penetrating a storage site and gaining access to nuclear weapons; a joint security assessment of how site security might be improved to guard against such risks; and a recovery exercise in which U.S./NATO and Russian forces might work together to recover stolen nuclear weapons or fissile material. The United States and Russia could also discuss standards for use-control features on nonstrategic nuclear warheads.

Unilateral U.S. and Russian Actions Regarding Nonstrategic Nuclear Weapons

The United States and Russia might also consider unilateral initiatives regarding nonstrategic nuclear weapons that they could take in the near term, either as confidence-building measures or as steps to facilitate subsequent negotiated agreements.

Unilateral Reductions. Russia may be reducing its nonstrategic weapons in any event, as it retires older warheads, just as the United States is retiring the nuclear warheads for its sea-launched cruise missiles. Moscow might consider codifying this by announcing a unilateral initiative to reduce its nonstrategic nuclear warhead holdings by a given percentage. The United States might entertain a similar initiative.

The two sides could consider parallel unilateral initiatives. For example, each could announce a reduction in its nonstrategic nuclear warhead holdings by a certain proportion or a set number of weapons—although agreeing on a specific percentage or number might prove difficult, because the United States starts with a lower number of nonstrategic weapons. Percentage reductions in Europe may also pose a problem, although many NATO members—including states that favor retaining U.S. nuclear weapons in Europe—might be willing to support a reduction in the number of warheads.

Eliminating Certain Classes of Nonstrategic Nuclear Warheads. The 1991 unilateral Presidential Nuclear Initiatives eliminated or removed to central storage sites whole classes of U.S. and Russian nonstrategic nuclear warheads. Russia might consider such a measure now, if it concluded that it no longer needed one or more classes of its nonstrategic warheads. The United States does not have a similar option; once the nuclear warheads for submarine-launched cruise missiles are retired, the B61 gravity bomb will remain the only nonstrategic nuclear warhead in the U.S. inventory.

No-Increase Commitment. As a minimal step, the United States and Russia might consider announcing that each will not increase the number of its nonstrategic nuclear warheads.

Negotiated U.S.-Russian Limitations and Reductions

If the Russians are prepared to negotiate limits on nonstrategic nuclear weapons, there are a number of approaches that Washington and Moscow might take. In contrast to strategic weapons (the New START Treaty limits deployed strategic warheads, strategic delivery vehicles, and strategic launchers), the sides

would likely seek to limit only nonstrategic nuclear warheads, not nonstrategic delivery systems. This is because those delivery systems generally have primary conventional roles.

The mobility of nonstrategic nuclear warheads argues for global limits on them. A regional limit—such as one that applied to Europe only—could be easily circumvented by moving warheads in from outside of Europe. A Europe limit might be considered as a first step toward a global limit, provided that it did not result in an increase in nonstrategic nuclear warheads located in Asia.

Limit Nonstrategic Nuclear Warheads Alone or as Part of a Broader Cap? The United States and Russia could negotiate a stand-alone limit on their nonstrategic nuclear warheads. This approach would be difficult due to the disparity in numbers and a U.S. requirement for equal limits. Given the estimate that the United States in the near future will have about 500 nonstrategic nuclear warheads compared to Russia's 2,000 deliverable weapons, any limit above 500 would result in reductions only on the Russian side, something hard to accept in Moscow. On the other hand, any limit above 500 would leave Russia with a de facto numerical advantage, assuming the United States would be unlikely to increase the number of its nonstrategic nuclear warheads. Here, however, a limited Russian numerical advantage may not matter militarily, considering the fact that the United States and NATO have already unilaterally reduced nonstrategic nuclear weapons far below Russian levels.

An alternative approach would be to negotiate a single limit covering all U.S. and Russian nuclear warheads (except for those in the dismantlement queue). Within the context of a single limit, each side would be free to choose its mix of deployed and nondeployed strategic warheads and deployed and nondeployed nonstrategic warheads.⁴ A variant of this approach would add a sublimit on deployed strategic warheads. For example, there could be a single limit of 2,500 nuclear warheads for each side, with a sublimit of 1,000 deployed strategic warheads. (These would presumably be accompanied by limits on strategic delivery vehicles and launchers but without limits on delivery systems for nonstrategic nuclear warheads.) Under such a regime, the United States and Russia could each possess, in total, 1,500 nondeployed strategic warheads and nonstrategic nuclear warheads. The Russians might choose more nonstrategic warheads, while the United States might well opt for more nondeployed strategic warheads.

Limit Nonstrategic Nuclear (and Nondeployed Strategic) Warheads to Declared Storage Sites. As a supplement to numerical limits on nonstrategic nuclear warheads and on nondeployed strategic nuclear warheads—or as an alternative approach, should numerical limits prove unachievable in the near term—the sides could attempt to negotiate a provision restricting all such warheads to declared storage sites. This would have to include appropriate accounting and monitoring measures. Such an agreement would formalize current operational practices. As long as the weapons were stored separately from delivery systems, they could not be launched. Of course, the warheads would still represent a latent capacity for augmenting deployed strategic warheads.

Nuclear Warheads on National Territory. A key Russian concern is that all nuclear warheads should be removed to national territory. It is very unlikely the United States would accept this as a precondition for negotiations.

Views differ as to whether such a provision—which would require the removal of all U.S. nuclear weapons from Europe—might be part of an eventual agreement. Some believe NATO should not agree to the removal of U.S. nuclear weapons. Others believe that the possibility should be left open as part of a treaty providing

for significant reductions in and limitations on nonstrategic nuclear weapons. A third view emphasizes the value of a basing-on-national-territory provision as a means of strengthening the Nuclear Non-Proliferation Treaty and blocking future deployments of nonstrategic weapons in third countries.

To preserve the global credibility of its extended deterrence obligations, were the United States to consider such a basing requirement, it might seek a provision allowing for temporary deployment, with notification, of nonstrategic nuclear warheads outside of national territory. Both START I and New START include such a provision for nuclear-capable bombers. The temporary deployment during a crisis would be intended as a political signal of U.S. resolve and commitment; under such circumstances, providing notification would reinforce the political message. The United States and NATO would have to consider, however, that actually redeploying nonstrategic nuclear weapons to Europe in a crisis would be politically difficult.

Monitoring and Verification Challenges. By themselves, many of the confidence-building and unilateral measures would not be verifiable. In a treaty context, limiting nonstrategic nuclear warheads that are not associated with delivery systems would pose new and greater verification challenges that the United States and Russia have not faced previously. To date, arms control agreements have not tried to count warheads that are not associated with delivery vehicles. Monitoring nonstrategic nuclear warhead limits will require that the sides do so.

One set of challenges arises with regard to monitoring storage sites. Both Russian- and U.S.-stored nonstrategic warheads are often collocated with strategic warheads, which might further complicate matters. A verification regime would likely have to include provisions for the inspection of warheads in storage sites and the use of equipment that can confirm whether a weapon contains an amount of highly enriched uranium or plutonium consistent with a nuclear warhead but that cannot reveal sensitive design details. This would be new territory for both sides and would require the application of new monitoring technologies and modalities.

Inspections under a regime limiting nonstrategic (or all nondeployed) nuclear warheads might initially be constrained to declared locations, as neither side is likely prepared at this time to accept an “anytime, anywhere” challenge-inspection system. While there would be some prospect that storage at an undisclosed site might be detected by the other side’s national technical means, the prospect would not be large. But the political price of being caught cheating would be high, and in light of the total numbers of nuclear weapons in current forces, the military advantage of “hiding” some nonstrategic nuclear weapons might not be significant.

With less-than-high confidence in the verification regime for nonstrategic nuclear warheads (and nondeployed strategic warheads), the sides would have to decide if they could accept that risk. They would have to consider the advantages and disadvantages of a regime with monitoring uncertainties versus the current reality in which there are no limits on nonstrategic nuclear warheads and no monitoring measures regarding such weapons.

Linkage to Other Issues

Were the sides to make headway on nonstrategic nuclear weapons issues, it almost certainly would be conducive to progress on other questions on the U.S./NATO-Russian agenda—including missile defense and conventional forces in Europe—just as progress on those questions could facilitate progress on nonstrategic nuclear weapons. Indeed, these issues could be addressed in parallel.

It will likely take several years to negotiate any new nuclear arms reduction agreement, which allows time to address other issues on the security agenda. The sides have in the past often taken the position that “nothing is

settled until everything is settled.” In this case, neither side would have to conclude a new agreement covering nonstrategic nuclear weapons if it were not satisfied that sufficient progress had been made in addressing its fundamental interests on other questions.

Ultimately, the sides will have to determine what value they hope to derive from new arms reduction agreements and what commitment they are prepared to make to achieve those accords. In the meantime, confidence-building measures and unilateral steps on nonstrategic nuclear weapons could build trust and momentum for broader progress on a much wider range of political and security issues.

1 Hans M. Kristensen and Robert S. Norris, “Nuclear Notebook: U.S. Nuclear Forces, 2011,” *Bulletin of the Atomic Scientists*, vol. 67, no. 2 (March/April 2011), 66–76.

2 Hans M. Kristensen and Robert S. Norris, “Nuclear Notebook: Russian Nuclear Forces, 2011,” *Bulletin of the Atomic Scientists*, vol. 67, no. 3 (May/June 2011), 67–74; Alexander Pikayev, “Nonstrategic Nuclear Weapons,” in *Nuclear Proliferation: New Technologies, Weapons, Treaties*, edited by Alexei Arbatov and Vladimir Dvorkin (Moscow: Carnegie Moscow Center, 2009), 104–128.

3 The Russian term “central storage” has not been formally defined but appears to be organizational rather than geographical and refers to storage sites operated by the 12th Main Directorate of the Ministry of Defense rather than the military services. Some sites may be near the bases where delivery systems are stationed; others may be located at some distance from those bases.

4 Assuming that the sides do not mount nonstrategic nuclear warheads on delivery platforms, all such warheads might even be considered and treated as “nondeployed.”

EASI WORKING GROUP ON NONSTRATEGIC NUCLEAR WEAPONS

Steven Pifer (chair, United States). Senior fellow, foreign policy, Center on the United States and Europe. Director, Arms Control Initiative, Brookings Institution.

Robert H. Legvold (executive director, United States). Marshall D. Shulman Professor Emeritus, Columbia University. Director, Euro-Atlantic Security Initiative.

MEMBERSHIP

Robert Berls (United States). Senior adviser, Nuclear Materials Security Program. Director of representative office in Moscow, Nuclear Threat Initiative.

Yevgeny Buzhinsky (Russia). Former department deputy head, Russian Ministry of Defense.

Hans Kristensen (United States). Director, Nuclear Information Project, Federation of American Scientists.

Oliver Meier (Germany). Senior researcher, Institute for Peace Research and Security Policy, University of Hamburg. International representative, Arms Control Association (Berlin).

Robert C. Nurick (United States). Consultant to Department of Defense on nuclear issues. Senior fellow, James Martin Center for Nonproliferation Studies of the Monterey Institute of International Studies. Former director, Carnegie Moscow Center.

Paul Schulte (United Kingdom). Senior visiting fellow at the Center for Defense Studies at King's College, University of London, and at the Center for the Study of Global Governance, London School of Economics and Political Science. Former director of proliferation and arms control, UK Ministry of Defense.

Nikolai N. Sokov (Russia). Senior research associate, James Martin Center for Nonproliferation Studies. Former member of Russian START I and START II negotiating teams.

Detlef Waechter (Germany). Visiting scholar, Nuclear Policy Program, Carnegie Endowment for International Peace. Member, Berlin Federal Chancellery.

Isabelle Williams (United States). Senior program officer and director, Project on Nonstrategic Nuclear Weapons, Nuclear Threat Initiative.

EASI

EURO-ATLANTIC SECURITY INITIATIVE

MOSCOW ■ BRUSSELS ■ WASHINGTON DC

ABOUT THE EURO-ATLANTIC SECURITY INITIATIVE

To move toward the goal of an inclusive Euro-Atlantic Security Community, a unique process was created in 2009 called the **Euro-Atlantic Security Initiative (EASI)** by the Carnegie Endowment for International Peace.

For the first time, former policymakers, diplomats, generals, and business leaders from Russia, the United States, Canada, Central Europe, and European Union nations came together to chart a roadmap of practical action that would allow the region to leave its past behind and to start to build a more secure future based on mutual trust and cooperation.

CO-CHAIRS

Wolfgang Ischinger (Germany). Chair of the Munich Security Conference and global head of government relations at Allianz SE in Munich. Former German ambassador to the United Kingdom and the United States, and state secretary (deputy foreign minister) of the Federal Foreign Office.

Igor Ivanov (Russia). President, Russian International Affairs Council, and professor at the Moscow State Institute of International Relations. Former Russian minister of foreign affairs.

Sam Nunn (United States). Co-chairman and chief executive officer of the Nuclear Threat Initiative and distinguished professor in the Sam Nunn School of International Affairs at the Georgia Institute of Technology. Former senator from the state of Georgia, including service as chairman of the Senate Armed Services Committee.

DIRECTOR

Robert H. Legvold (United States). Marshall D. Shulman Professor Emeritus, Columbia University.

MEMBERS OF THE COMMISSION

Charles Boyd (United States). Starr Distinguished National Security Fellow, Center for the National Interest. Retired general and former deputy commander in chief, U.S. forces in Europe.

Desmond Browne (United Kingdom). Convenor, Top Level Group of UK Parliamentarians for Multilateral Nuclear Disarmament and Non-Proliferation. Convenor, European Leadership Network for Multilateral Nuclear Disarmament and Non-Proliferation. Former British secretary of defense.

Hikmet Çetin (Turkey). Former Turkish minister of foreign affairs.

Oleksandr Chalyi (Ukraine). Ambassador Extraordinary and Plenipotentiary of Ukraine. Former first deputy foreign minister of Ukraine.

Alexander Dynkin (Russia). Director, Institute of World Economy and International Relations.

Viktor Esin (Russia). Former chief of staff, Strategic Rocket Forces.

Herman Gref (Russia). President and chairman of the board, Sberbank. Former Russian minister of economic development and trade.

István Gyarmati (Hungary). President and chief executive officer of the International Center for Democratic Transition and the Tom Lantos Institute. Former diplomat.

Stephen Hadley (United States). Senior adviser for international affairs, United States Institute of Peace. Former national security adviser.

Tedo Japaridze (Georgia). Director of the Center for Energy and Environmental Security, Azerbaijan Diplomatic Academy. Former Georgian minister of foreign affairs.

Donald J. Johnston (Canada). Former secretary-general of the Organization for Economic Cooperation and Development.

Catherine Kelleher (United States). Senior fellow, Watson Institute for International Studies, Brown University, and professor, School of Public Policy, University of Maryland. Former U.S. deputy assistant secretary of defense for Russia, Ukraine, and Eurasia, and representative of the secretary of defense to NATO.

John Kerr (United Kingdom). Deputy chair, Royal Dutch Shell PLC. Former diplomat.

John Kornblum (United States). Senior counsel, Nörr Stiefenhofer Lutz, Berlin. Former chair, Lazard and Company, Germany. Former ambassador to Germany and special envoy for the Dayton Peace Agreement.

Jacques Lanxade (France). Chairman, Académie de Marine, and president, Mediterranean Foundation for Strategic Research. Former chief of the Defense Staff of the Armed Forces of France.

Vladimir Lukin (Russia). Human rights ombudsman of the Russian president. Former ambassador to Washington.

Klaus Mangold (Germany). Chairman, Supervisory Board of Rothschild GmbH (Frankfurt). Former member of the board, DaimlerChrysler AG.

Richard Matzke (United States). President, NESW Solutions. Retired vice chairman, Chevron Corporation.

René Nyberg (Finland). Chief executive officer, East Office of Finnish Industries. Former ambassador.

Adam Daniel Rotfeld (Poland). Former Polish minister of foreign affairs. Co-chairman, Polish-Russian Group on Difficult Matters.

Volker Rühle (Germany). Former German defense minister. Former member of the Bundestag.

Armen Sarkissian (Armenia). Chair of Knightsbridge Group. Founder and director, Eurasia Center, University of Cambridge. Former Armenian prime minister.

Vyacheslav Trubnikov (Russia). Former deputy foreign minister and director of the Foreign Intelligence Service of Russia. Retired general and former ambassador.

CARNEGIE ENDOWMENT

FOR INTERNATIONAL PEACE

ABOUT THE CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE

The **Carnegie Endowment for International Peace** is a private, nonprofit organization dedicated to advancing cooperation between nations and promoting active international engagement by the United States. Founded in 1910, its work is nonpartisan and dedicated to achieving practical results.

As it celebrates its Centennial, the Carnegie Endowment is pioneering the first global think tank, with flourishing offices now in Washington, Moscow, Beijing, Beirut, and Brussels. These five locations include the centers of world governance and the places whose political evolution and international policies will most determine the near-term possibilities for international peace and economic advance.

© 2012 Carnegie Endowment for International Peace. All rights reserved.

The Euro-Atlantic Security Initiative has been made possible by funding from the Robert Bosch Stiftung, the Calouste Gulbenkian Foundation, the Carnegie Corporation of New York, the Hurford Foundation, the Robert & Ardis James Foundation, the Nuclear Threat Initiative, and the Starr Foundation, and by support from the Institute of World Economy and International Relations of the Russian Academy of Sciences and the United World International Foundation.

The statements made and views expressed in this paper are solely the responsibility of its authors.