

US Tactical Nuclear Weapons in Europe after NATO's Lisbon Summit: Why their Withdrawal is Desirable and Feasible

International Relations
26(1) 78–100

© The Author(s) 2012

Reprints and permission: sagepub.
co.uk/journalsPermissions.nav

DOI: 10.1177/0047117811430675

ire.sagepub.com



Tom Sauer

University of Antwerp

Bob van der Zwaan

Energy Research Centre of the Netherlands

Abstract

The article describes how over the past two decades the role of US forward-deployed tactical nuclear weapons has gradually declined, and explains the logic behind their decreased importance. The main arguments in favor of the continuation of the process of their removal from Europe, until they have been entirely eliminated over the next couple of years, are listed, and the reasons for NATO's desire to nevertheless prolong its reliance on these weapons are investigated. Further, the political feasibility of their complete withdrawal and the political practicalities of such a withdrawal are analyzed.

Keywords

missile defense, NATO, non-strategic nuclear weapons, nuclear deterrence, nuclear disarmament, nuclear proliferation, tactical nuclear weapons

Introduction

While their precise number is secret, it is commonly yet informally and only approximately known that at present some 200 US nuclear weapons are based in Europe, as a

Corresponding author:

Tom Sauer, Associate Professor, Universiteit Antwerpen, Sint-Jacobstraat 2, B-2000 Antwerp, Belgium.

Email: tom.sauer@ua.ac.be

tenacious remnant of the Cold War, which ended more than two decades ago. Yet a fundamental shift in thinking about the role of nuclear weapons in defense policy has been taking place over the past few years. The only sustainable way to prevent nuclear proliferation today seems to be to delegitimize this category of weapons and finally entirely eliminate them. Indeed, it is increasingly recognized that the proliferation of nuclear weapons is much harder in a world theoretically free of such weapons. This understanding – although not shared by everyone – has now reached the foreign policy establishment, especially (but not only) in the United States. The most visible indicator of this change of thinking was a seminal op-ed by former Secretaries of State Henry Kissinger and George Schultz, former Secretary of Defense William Perry and former Senator Sam Nunn in the *Wall Street Journal*.¹ This bipartisan group recommends the elimination of nuclear weapons, not as a utopian idea, but as a realistic political ambition. More politically relevant, on 5 April 2009 in Prague, US President Barack Obama made an impassioned speech in which he declared his wish to rid the world of nuclear weapons. He declared:

Some argue that the spread of these weapons cannot be stopped, cannot be checked – that we are destined to live in a world where more nations and more people possess the ultimate tools of destruction. Such fatalism is a deadly adversary, for if we believe that the spread of nuclear weapons is inevitable, then in some way we are admitting to ourselves that the use of nuclear weapons is inevitable ... So, today, I state clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons.²

This is evidence that there is a growing conviction among nuclear-weapon states that their existing nuclear policies must be drastically altered.

One category of nuclear weapons that has not been restricted by a formal arms control treaty is tactical nuclear weapons. Tactical (or sub-strategic)³ nuclear weapons are sometimes categorized as being less destructive than strategic nuclear weapons. Such a distinction, however, is misleading, since many tactical nuclear weapons (probably the majority) are more destructive than the Hiroshima bomb. Linton Brooks, former director of the US National Nuclear Security Administration (NNSA), once said: 'By any rational definition, all nuclear weapons are "strategic".'⁴ A better criterion to distinguish between tactical and strategic nuclear weapons is the range of their delivery vehicles. Tactical nuclear weapons are usually meant for short-range delivery, such as ballistic missiles or cruise missiles with a range up to 500 km, as well as tactical aircraft (equipped with gravity bombs), which typically have a maximum range of some 1350 km.⁵

Currently, the overall size of the US arsenal of operational tactical nuclear weapons is thought to be approximately 500, with another 800 presumed to be in an inactive stockpile. These weapons include gravity bombs and warheads usable on sea-launched Tomahawk cruise missiles. The latter will be dismantled according to the US Nuclear Posture Review of 2010. Russia possesses an estimated 2500–5500 tactical nuclear weapons, which at present are all supposed to be stationed on Russian territory. This number is gradually shrinking, mostly because of aging. Short-range delivery systems – in contrast to intermediate-range systems – do not have a well-defined role in Russian defense policy. There is a broad belief that they can in principle be taken away quite easily without negatively affecting or undermining Russia's national interest.⁶

This article focuses on one particular class of tactical nuclear weapons: those stationed outside a state's own borders, and in particular the approximately 200 remaining American tactical nuclear weapons based in Europe. Below we first describe the role and numbers of American nuclear weapons that have been forward-deployed in Europe in recent decades. We proceed by presenting the arguments in favor of, and against, withdrawal of these tactical nuclear weapons. Most importantly, we next analyze the political feasibility of a possible withdrawal, and end by examining how the corresponding political decisions could be made, what remaining obstacles there may be, what political compromises may (or may not) be feasible, and which interim steps could or should (not) be taken.

A gradually diminishing role for US nuclear weapons in Europe

During the Cold War, the United States deployed tactical nuclear weapons in Europe for deterrence purposes against the conventional superiority of the Warsaw Pact nations. The thinking at the time was that the threat of a relatively small provocation escalating into US–Soviet mutually assured destruction would deter the Soviets from initiating a conflict in Europe – for example, by invading a NATO state. The first American nuclear weapons in Europe arrived in 1953 through bilateral ‘Programs of Cooperation’ between the United States and host nations within the framework of the Atlantic Alliance. Such programs were signed with Belgium, France, Germany, Greece, Italy, the Netherlands, Turkey and the UK.

As a response to the end of the Cold War, the implosion of both the USSR and the Warsaw Pact, and the removal of Soviet tactical nuclear weapons from the territory of Eastern European countries and the newly independent states that were formerly part of the USSR, one could have expected the complete withdrawal of all American nuclear weapons from Europe.⁷ Surprisingly, this did not happen. A Russian proposal to negotiate a bilateral treaty on tactical nuclear weapons in 1991 proved unsuccessful. The 1991–2 Presidential Nuclear Initiatives (PNI), which were unilateral/reciprocal measures that allowed fast and drastic reductions without a formal arms control agreement and therefore without verification, removed only half the number of tactical nuclear weapons.⁸ President Bush Senior reduced the number of gravity bombs in Europe from 1500 to 700. President Gorbachev, and later President Yeltsin, promised to eliminate 50 per cent of their tactical warheads for aircraft, 33 per cent of nuclear warheads for surface ships and submarines (except for submarine-launched ballistic missiles), and all warheads for tactical land-based missiles, artillery shells and mines.

In 1999 an expanded NATO had a second opportunity to rectify the status quo, as recommended at the time by Ivo Daalder, who is currently US ambassador to NATO.⁹ Despite German and Canadian proposals for a no-first-use policy, however, NATO's policy remained the same. The NATO Strategic Concept of 1999 stipulated:

Nuclear weapons make a unique contribution in rendering the risks of aggression against the Alliance incalculable and unacceptable. Thus, they remain essential to preserve peace¹⁰... The fundamental purpose of the nuclear forces of the Allies is political: to preserve peace and

prevent coercion and any kind of war. They will continue to fulfill an essential role by ensuring uncertainty in the mind of any aggressor about the nature of the Allies' response to military aggression.¹¹

The 1999 Strategic Concept also explicitly mentioned nuclear weapons in Europe as an indispensable transatlantic link:

A credible Alliance nuclear posture and the demonstration of Alliance solidarity and common commitment to war prevention continue to require widespread participation by European Allies involved in collective defense planning in nuclear roles, in peacetime basing of nuclear forces on their territory and in command, control and consultation arrangements. Nuclear forces based in Europe and committed to NATO provide an essential political and military link between the European and American members of the Alliance. The Alliance will therefore maintain adequate nuclear forces in Europe.¹²

Thus, despite the biggest overhaul in the international political system in half a century, and despite eight years of Democratic administration, US nuclear weapons remained in Europe.

During the last decade, the United States has further reduced the number of nuclear weapons stationed in Europe from 500 to about 200 today. This included the withdrawal of all tactical nuclear weapons from Greece in 2001.¹³ Also withdrawn were 130 nuclear bombs from the German airbase of Ramstein in the period 2005–7, together with the 110 bombs at Lakenheath in the UK around the same time, both as a result of US National Security Presidential Directive 35 (NSPD-35) of May 2004.¹⁴ The remaining US nuclear weapons in Europe were modernized between 1998 and 2003. The US Nuclear Posture Review in 2010 committed to further modernizing the B61 free fall bomb to keep all options open.¹⁵

Since President Bush Junior left office, at least three opportunities have been missed for the complete withdrawal of US tactical nuclear weapons from Europe. President Obama regards nuclear disarmament as one of his foreign policy priorities, and he has succeeded in changing US nuclear weapons policy to a certain extent. It is striking, however, that the tactical nuclear weapons in Europe have so far not been subjected to further reduction or elimination. It seemed logical, for an administration that wanted to book a successful Nuclear Non-Proliferation Treaty (NPT) Review Conference in May 2010, to remove these weapons, since they were regarded by many analysts as low-hanging fruit. Instead, as shown by the Nuclear Posture Review released in 2010, the Obama administration made no decision on tactical nuclear weapons. The reasons are, first, that it wanted to discuss the issue multilaterally with its allies in the framework of the NATO Strategic Concept Review. Second, it did not want to endanger the ratification of the New START treaty in the US Senate. While this may be understandable, the end result remained the same: a growing discontent in several host and other nations over the continued presence of these weapons in Europe.

A second missed opportunity was the May 2010 NPT Review Conference. While Germany made explicit mention of tactical nuclear weapons, it did not want to break ranks with its NATO allies by removing them unilaterally. In the document agreed at the end of the conference there was no mention of tactical nuclear weapons, mostly as a

result of resistance from Russia and the United States. Instead, the final document referred to 'all types of nuclear weapons', rather than explicitly listing categories such as tactical weapons. In this respect one could argue that the Review Conference constituted a step backwards, since the last successful conference prior to 2010 generated a document, published in 2000, that explicitly referred to tactical nuclear weapons.

When raising the topic of the removal of tactical nuclear weapons over the last few years, government officials have usually deferred the issue to the 2010 NATO Strategic Concept Review. But meanwhile this has become the third, and most crucial, missed opportunity to withdraw the last remaining American tactical nuclear weapons from Europe. Nuclear weapons were one of the most contentiously debated subjects in the review.¹⁶ In February 2010 a joint letter was sent by Belgium, Germany, Luxemburg, the Netherlands and Norway – three of which are host nations – to NATO's Secretary-General Anders Rasmussen, asking him to put the issue on the agenda of the informal NATO meeting of Ministers of Foreign Affairs in Tallinn in April 2010. But at a press conference in Tallinn on 22 April, Rasmussen suggested that US tactical nuclear weapons should remain in Europe: 'My personal opinion is that the stationing of US nuclear weapons in Europe is part of deterrence to be taken seriously.'¹⁷ At the meeting several NATO member states allegedly made clear to Rasmussen that they disagreed.¹⁸ In Tallinn the member states agreed to disagree, except for five principles formulated by US Secretary of State Hillary Clinton: (1) as long as nuclear weapons exist, NATO will remain a nuclear alliance; (2) to uphold the principle of sharing nuclear risks and responsibilities; (3) to continue to reduce the role and numbers of nuclear weapons; (4) allies must broaden deterrence with, for example, missile defense; and (5) in future reductions, the aim should be to seek Russian agreement to relocate these weapons away from NATO territory and to include tactical nuclear weapons in the next round of arms control discussions between the United States and Russia. While rather conservative, these principles left openings for possible change in the future: they did not say that the remaining tactical nuclear weapons had to stay. In contrast, NATO's Expert Group, which helped prepare NATO's Strategic Concept, included Clinton's principles, and even recommended under current security conditions 'the retention of some US forward-deployed systems on European soil'.¹⁹ The paragraph about nuclear-weapons policy in the final communiqué of the NATO Defense Ministers in June 2010 was ultimately deleted because of disagreements.

Despite many calls to withdraw the remaining American tactical nuclear weapons from Europe, the NATO Strategic Concept itself, approved at the Lisbon Summit in November 2010, basically kept to the existing policy. The text was a compromise between the advocates of change – like Germany – and opponents of change – like France and several East European member states. For the first time the Strategic Concept declared that member states were resolved to seek a safer world for all and to create the conditions for 'a world without nuclear weapons in accordance with the goals of the Nuclear Non-Proliferation Treaty', but with the caveat, added by France, that it should be 'in a way that promotes international stability, and is based on the principle of undiminished security for all' (para. 26). Further, it stated that 'as long as nuclear weapons exist, NATO will remain a nuclear alliance' (para. 17). In other words, NATO will not give up its nuclear weapons unilaterally. The existing policy was further confirmed by the quote: 'Deterrence, based on an appropriate mix of nuclear and conventional capabilities, remains a core element of our

Table 1. Estimated numbers of US tactical nuclear weapons forward-deployed in Europe, 2010

Country	Airbase	Number of tactical nuclear weapons
Belgium	Kleine Brogel	10–20
Germany	Büchel	10–20
Italy	Aviano	50
	Gheddi Torre	10–20
Netherlands	Volkel	10–20
Turkey	Incirlik	60–70
Total		150–200

overall strategy.’ But at the same time, ‘the circumstances in which any use of nuclear weapons might have to be contemplated are extremely remote’ (para. 17). ‘The supreme guarantee of the security of the Allies is provided by the strategic nuclear forces of the alliance, particularly those of the United States’ (para. 18). The idea of extended nuclear deterrence therefore has not been abandoned.

While tactical nuclear weapons were specified in former Strategic Concepts, they are no longer explicitly mentioned in the current one, which perhaps constitutes a modest indication of change. On the other hand, the present Strategic Concept says ‘we will 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 agreements’ (para. 19). In theory such broad participation in nuclear matters can continue even if tactical nuclear weapons are withdrawn.²⁰ Indeed, it is stated that ‘we will seek to create the conditions for further reductions in the future’. This point, however, appears to be directly linked to Russia’s attitude:

In any future reductions, our 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. Any further steps must take into account the disparity with the greater Russian stockpiles of short-range nuclear weapons. (para. 26)

As we will explain later, this sentence can be (and has been) interpreted in different ways. Furthermore, the Lisbon Summit declaration explicitly calls for a review of ‘NATO’s overall posture in deterring and defending against the full range of threats to the Alliance’. NATO’s Defense and Deterrence Posture Review, which includes nuclear weapons, missile defense and conventional weapons, was set up at the beginning of 2011 and has to be finalized before the NATO Summit in May 2012.

The current number of US gravity bombs based in Europe is estimated at around 150–200.²¹ These are B61-3 and B61-4 gravity bombs with a destruction power ranging from 0.3 to 170 kt for delivery by US or NATO aircraft, deployed in five NATO countries.²² Table 1 summarizes the breakdown of these nuclear weapons by country and indicates the airbases where they are presumably stored. While the data reported in Table 1 are probably fairly good estimates, more accurate information regarding the precise numbers of US nuclear weapons in Europe is kept confidential by NATO, the United States and the respective host countries. The fact that the general public in Europe is not allowed to know whether weapons of mass destruction are stationed on their soil

can be considered problematic from a democratic point of view. It may undermine NATO's legitimacy in these countries in the long term.

All five European countries currently possessing US tactical nuclear weapons (Belgium, Germany, Italy, the Netherlands and Turkey) are in charge of nuclear strike missions for their national air forces through so-called dual-key arrangements. This means that in times of peace the weapons remain under US custody in the host nations. In times of war, the weapons can be transferred to the host nations, which are then capable of using them. The two states on NATO's southern flank (Italy and Turkey) – which together possess two out of three US nuclear weapons based in Europe today – are further involved in the nuclear burden-sharing of NATO by hosting US airplanes and the nuclear warheads assigned to them.

Arguments in favor of withdrawal of US tactical nuclear weapons from Europe

We find that advocates of withdrawal of US tactical nuclear weapons from Europe employ essentially one or more of a set of four different (categories of) reasons: (1) the withdrawal of US nuclear weapons from Europe fits perfectly into the current nuclear disarmament logic; (2) there is insufficient military justification for keeping them in Europe; (3) the presence of these weapons cannot be legitimized on the grounds of their possible use as anti-terrorism tools, but rather involve major security risks themselves; (4) it is costly to maintain them.

Disarmament logic

Nuclear weapons are by definition weapons of mass destruction, and their use contradicts modern international humanitarian law.²³ The effectiveness and therefore credibility of nuclear deterrence has always been questioned because of its disproportional nature. Most would agree that the nuclear taboo, i.e. the norm implying that it is immoral and illegitimate to use such destructive military devices, which do not discriminate between military and civilian fatalities, has not ceased growing over the past decades. Each day that these weapons are not used, it becomes harder to imagine their future use.²⁴ It would therefore appear logical that NATO supports this trend towards denuclearization, including and perhaps starting with the withdrawal of US nuclear weapons from Europe. In their seminal plea, Henry Kissinger, George Schultz, William Perry and Sam Nunn explicitly included the suggestion to eliminate 'short-range nuclear weapons designed to be forward-deployed' as a concrete step towards a nuclear-weapons-free world.²⁵ Also, Article 6 of the NPT requires that the nuclear-weapons states eventually give up all their nuclear weapons, regardless of their type.

If nuclear disarmament stalls, the fight against nuclear proliferation will become harder. In 2009 former IAEA Director-General Mohamed El Baradei criticized NATO's nuclear policy:

Imagine this: a country or group of countries serves notice that they plan to withdraw from the Nuclear Nonproliferation Treaty (NPT) in order to acquire nuclear weapons, citing a dangerous

deterioration in the international security situation. 'Don't worry', they tell a shocked world. 'The fundamental purpose of our nuclear forces is political: to preserve peace and prevent coercion and any kind of war. Nuclear weapons provide the supreme guarantee of our security. They will play an essential role by ensuring uncertainty in the mind of any aggressor about the nature of our response to military aggression.' ... The international uproar that would follow such a move is predictable. Yet the rationale I have just cited to justify nuclear weapons is taken from NATO's current Strategic Concept.²⁶

What El Baradei and other specialists and decision-makers increasingly recognize is that as long as nuclear-weapons states and nuclear alliances cling to nuclear weapons, it will be fundamentally impossible to stop the spread of the weapons to more countries. Only in a world without nuclear weapons does the fight against nuclear proliferation have a real chance of being won.

The withdrawal of forward-deployed tactical nuclear weapons would constitute a meaningful act *vis-à-vis* the non-nuclear-weapons states.²⁷ *Mutatis mutandis*, a failure of NATO to withdraw them would have a negative impact on the prospects for international agreement to tighten up non-proliferation norms. The non-nuclear-weapon states argue that the practice of hosting foreign nuclear weapons in any case conflicts with the spirit – perhaps not the precise letter – of the NPT. In particular, their deployment can be interpreted as contrary to Articles I and II of the NPT, although some of these weapons were stationed before the writing of the treaty. Article I forbids nuclear-weapons states to transfer, directly or indirectly, nuclear weapons to other states.²⁸ Article II stipulates that non-nuclear-weapons states may not receive nuclear weapons from other countries.²⁹ The final document of the 2000 NPT Review Conference – including the often-quoted 'thirteen steps' – called for making tactical nuclear weapons 'an integral part of the nuclear arms reduction and disarmament process'.

Another important reason to consider removing tactical nuclear weapons from Europe is that the United States is today the only nuclear-weapons state that deploys short-range nuclear weapons in other countries, a point that non-nuclear-weapons states continue to raise. This shows states without nuclear weapons that such weapons have some security value, and does not discourage those states from developing them: in fact it could lead to imitation and an increase in danger from nuclear weapons. It has been suggested that US forward nuclear deployment might inspire other nuclear-weapons states, such as China, India, Pakistan or Russia, to deploy some of their nuclear weapons in partner countries. If Iran acquires nuclear weapons, for example, it could be argued that Saudi Arabian leaders may become tempted to consider hosting Pakistani nuclear weapons. If US tactical nuclear weapons were withdrawn from Europe, it would become harder for other nuclear-weapons states to defend stationing their nuclear weapons abroad.

The withdrawal of US nuclear weapons from Europe may also be a likely necessary condition to convince Russia to take action on their (much larger) number of tactical nuclear weapons. As a minimum response to such a (unilateral) decision by the United States, Russia could reciprocate by moving its own tactical nuclear weapons deeper into Russia.³⁰ Sergey Kislyak, the Russian ambassador to the US, admitted that the withdrawal of US nuclear weapons from Europe would be a serious factor in

changing Russia's position on consolidating, reducing or eliminating its tactical nuclear weapons.³¹

No military justification

Advocates of keeping US tactical nuclear weapons in Europe stress that as long as nuclear weapons exist their deterrence role remains useful.³² If nuclear deterrence is questioned, however, then a fortiori it is possible to cast doubt upon extended nuclear deterrence (that is, through forward-deployed nuclear weapons). Yet clear alternatives often exist to extended deterrence by means of nuclear weapons: in the US–Europe case deterrence with modern conventional weapons and with US troops stationed in Europe seem to be a more credible form of NATO's solidarity clause than the nuclear umbrella.³³

If one has to choose between strategic and tactical nuclear weapons, the military would most probably opt for the former as the best pick in terms of credibility. Strategic nuclear weapons are generally considered more accurate, and therefore more reliable. As a result, NATO's extended nuclear deterrent would basically be left unaltered if US tactical nuclear weapons were removed from Europe. US strategic nuclear weapons, in combination with those from France and the UK, can continue to fulfill NATO's deterrence role. As former State Department and Pentagon official Wayne Merry pointed out: 'If Japan and South Korea, in a much more challenging security environment, accept so-called "over the horizon" American nuclear guarantees as sufficient for their security, why cannot Europeans?'³⁴

With the enemy long gone since the end of the Cold War, US tactical nuclear weapons in Europe have essentially become obsolete. Militarily speaking, the current dual-capable aircraft are unable to reach Russia or the Middle East without refueling. Moreover, it has become clear that Russia has neither the intention nor the capabilities to attack Europe. There is a crucial difference between Georgia (which has been invaded by Russia) and the Baltic states: the latter are members of NATO; the former is not. While Eastern European states may still feel slightly uncertain at times, essentially for historical reasons, they can be reassured through a host of other means.³⁵ The optimal strategy today is probably to improve overall relations between NATO and Russia, as NATO Secretary-General Rasmussen has confirmed. Nuclear weapons almost certainly do not serve any military purpose against other potential threats or contingencies that NATO may face – terrorism, cyber attacks, or ethnic wars. US Vice-Chairman of the Joint Chiefs of Staff, General James Cartwright, admitted that NATO nuclear weapons do not serve a military function not already addressed by other US military assets.³⁶ US National Security Council Coordinator for Arms Control and Weapons of Mass Destruction Terrorism, Gary Samore, repeated the same message in April 2011.³⁷

With a quasi-consensus that these weapons are militarily obsolete, how can they be politically useful? The United States European Command (US EUCOM) 'no longer recognizes the political imperative of US nuclear weapons within the Alliance'.³⁸ In 2009, German Foreign Minister Walter Steinmeier was less diplomatic, stating that these weapons 'are absolutely senseless today'.³⁹ At the Munich Security Conference in the beginning of 2010 his successor, Guido Westerwelle, argued that 'the last remaining nuclear

weapons in Germany are a relic of the Cold War'.⁴⁰ Even hawks like Karl-Heinz Kamp of the NATO Defense College admit that 'the critics of the US nuclear presence in Europe have a point when they state that the current strategic rationale for nuclear bombs on European soil is at best doubtful'.⁴¹

Security risks

According to a Blue Ribbon Review set up by the US Air Force in 2008, most US nuclear-weapon storage sites in Europe do not meet US Defense Department security standards.⁴² The review revealed that nuclear weapons in Europe are regarded by the US Air Force as becoming progressively less important, which leads to diminishing attention to them by personnel as well as to waning expertise.⁴³ This is particularly worrisome in view of potential terrorist threats. For example, in 2001 Kleine Brogel Air Base in Belgium figured on the target list of Nizar Trabelsi, a Muslim extremist with ties to Al Qaeda.⁴⁴ In view of this, a recent incident becomes especially worrying: in January 2010 peace activists climbed over the fence of the Kleine Brogel Air Base, walked around for more than an hour without meeting any hindrance, reached the nuclear-weapons storage bunkers, videotaped them, exited through the entrance to the base and succeeded in smuggling out the videotape and posting it on the internet.⁴⁵ If peace activists are able to undertake such an action, others with more malign intentions can undoubtedly do so as well.

Maintenance costs

The costs of keeping tactical nuclear weapons in Europe are split between the United States and the host nations. The US finances the production, transport and safe storage of the nuclear weapons on the bases, and furnishes personnel for maintenance, custody and safety. The host nations provide land for storage sites and infrastructure for US personnel, and pay for owning and operating the dual-capable aircraft, and for external perimeter security. The total costs for the US alone consists of some \$US200 million per year per air base.⁴⁶ One US military official stated: 'We pay a king's ransom for these things and ... they have no military value.'⁴⁷ The US Air Force prefers to spend money on more valuable weapons. Indeed, in February 2004, the DOD Defense Science Board recommended that the Secretary of Defense 'consider eliminating the nuclear role for Tomahawk cruise missiles and for forward-based, tactical, dual-capable aircraft' because 'there is no obvious need for these systems, and eliminating the nuclear role would free resources that could be used to fund strategic strike programs of higher priority'.⁴⁸

If B-61 gravity bombs remain in Europe, they will most likely need to be upgraded.⁴⁹ Failure to upgrade them may force the United States to remove the weapons from its arsenal after 2017.⁵⁰ The budgetary aspects are also important for the European host nations, especially after the financial and economic crisis of 2008–11. Moreover, in the foreseeable future many of the host nations, such as Germany and the Netherlands, have to take decisions about a new fighter plane. This is a major driver behind the demand for withdrawal in Germany, which is opting for the non-dual-capable Eurofighter as the successor of the nuclear-capable Tornado. Some observers believe that NATO is therefore on a path of nuclear disarmament by default.⁵¹

Arguments against withdrawal of US tactical nuclear weapons from Europe

Opponents of the withdrawal of US tactical nuclear weapons from Europe argue essentially along two lines of thought: (1) the solidarity around which NATO is built consists fundamentally of burden-sharing obligations; (2) extended deterrence still functions as a brake against further nuclear proliferation.

NATO solidarity and burden-sharing

Often members of the political establishment assume that tactical nuclear weapons should stay in Europe because they constitute a quintessential link between the United States and Europe. According to them 'the nuclear arsenal in Europe serves to put the US homeland at risk to nuclear attack if NATO is forced to resort to using Europe-based nuclear bombs to defend its borders'.⁵²

Several remarks can be made in this respect. First, nuclear coupling may indeed have been a suitable means to link Europe to the United States during the Cold War. Given the changed circumstances of today, however, it is hard to believe that the current and future relationship between the United States and Europe depends more on the presence of US nuclear weapons on European territory than it does on a host of other ties, including economic, financial, historical and social connections. In any case, US nuclear weapons in Europe did not prevent a transatlantic crisis within NATO during 2002–3 over the pending war in Iraq. On the other hand, considerable solidarity has been shown among NATO allies by sending joint combat troops to missions abroad, without preconditions, such as the Balkans, Afghanistan and Libya. Forward-deployed tactical nuclear weapons, however, played no role in these instances of demonstrated solidarity. One could turn this argument around: if the strength of NATO depends on the presence of a declining number of US nuclear weapons in Europe, what does this imply in terms of the vitality of NATO? Second, it is possible to imagine other kinds of burden-sharing. Even during the Cold War, not all NATO member states agreed to install tactical nuclear weapons on their territory, including Spain and Norway. The NATO states receiving US nuclear weapons have always constituted a minority, and today there are only five out of 25 non-nuclear member states hosting such weapons. This cannot exactly be called a balanced example of burden-sharing. Third, with limited defense budgets NATO will increasingly need to exploit opportunities to specialize in the future. By that logic it may appear rational for France, the UK and the United States to specialize in NATO's remaining nuclear-weapons tasks, and for the current five nuclear-weapons host nations to spend their limited financial means on non-nuclear specialized tasks.

Extended deterrence as a brake against further nuclear proliferation

Some experts claim that thanks to US nuclear weapons stationed in Europe some host nations have agreed not to develop their own nuclear weapons.⁵³ The states most cited are Turkey and, to a lesser extent, Germany. This argument, however, is flawed. In NATO there is no proof that it was extended deterrence that prevented nuclear proliferation.

Germany is legally bound not to develop nuclear weapons because of its constitution, and German public opinion has always been very much anti-nuclear. According to Harald Müller, observers regularly underestimate how deeply rooted Germany's non-nuclear status is in its political culture:

Any German government that sought to effect a change in the country's nuclear status would risk public protest ranging all the way up to civil-war-style conditions compared to which the events surrounding the shifting of Castor [civilian nuclear spent fuel] containers would probably appear trivial.⁵⁴

The 2011 German decision to close all German nuclear reactors is another indication of the German anti-nuclear political culture.

Likewise, it is also doubtful whether Turkey would have developed its own nuclear weapons if the United States had not stationed them in the country. There is increasing pressure today to create a Nuclear Weapon Free Zone in the Middle East, as formally declared during the NPT Review Conference in May 2010. This is pushing Turkey to rethink its current policy vis-à-vis US nuclear weapons based on its territory. More and more Turkish experts are in favor of withdrawal.⁵⁵ In the unlikely case that the Turkish government believed that possessing nuclear weapons was of vital interest for the nation, it is doubtful whether the presence of the remaining number of US nuclear weapons would really makes any difference in its calculation.

Political feasibility of withdrawal

On the basis of the above we conclude that the arguments in favor of withdrawing US tactical nuclear weapons from Europe are convincing, while the arguments in favor of keeping them are relatively weak. Hence, our overall assessment is that complete withdrawal is recommended over the next couple of years. We thus believe that the question is not if, but when and how, these weapons can best be removed.

If withdrawal is desirable, is it also politically feasible? The United States is not against withdrawal in principle. US officials have apparently communicated this view to their European counterparts.⁵⁶ According to Hans Kristensen of the Federation of American Scientists (FAS), 'the US would move these weapons tomorrow if this were just its own decision'.⁵⁷ The United States, however, prefers the European host nations to take the initiative.⁵⁸ If the European host nations asked for them to be withdrawn, the United States would not resist. Even the US military – which is responsible for these weapons in Europe on a day-to-day basis – would like to see them removed.

In Europe also, at the level of both the general public and the authorities in charge, a clear demand exists for the withdrawal of US tactical nuclear weapons from their host nations. In Belgium, for instance, polls show that three-quarters of the population is in favor of withdrawal.⁵⁹ The Belgian peace movement organizes protests at the Kleine Brogel Air Base on a regular basis. Members of the Belgian Parliament have participated in climbing over the fence at the base – even an acting Flemish Minister once climbed it. The anti-nuclear Mayors for Peace movement is popular in Belgium. In 2011, 355 mayors (out of a total of 589) signed up to this movement, including the mayor of Peer, the

community hosting the Kleine Brogel Air Base. On 13 July 2005, the Belgian Parliament adopted a resolution asking for the gradual withdrawal of tactical nuclear weapons from its territory. The Flemish Parliament adopted a similar resolution on 24 February 2010.

A number of top-level decision-makers in Europe, however, have tended to be rather quiet on the subject of US forward-deployed nuclear weapons, at least until recently. In the years directly following the fall of the Berlin Wall, it might have come across as rather ungrateful if European countries had immediately renounced the hosting of US tactical nuclear weapons. But more than 20 years later, it has become hard to defend such politeness. Former Dutch Prime Minister Ruud Lubbers has suggested that:

it is time to end the current practices ... in which the governments of those European NATO Allies consider it impolite and a lack of gratitude for the past to table this with the US; in which the US consider it vice versa not done (polite, appropriate) to table it with the European Allies.⁶⁰

In October 2009 an initiative by German Foreign Minister Guido Westerwelle seemed to offer a concrete opportunity to break the circle of thinking of the previous two decades. Westerwelle succeeded in including a paragraph in the German government declaration of 24 October 2009 stating that 'in the context of the talks on a new Strategic Concept for NATO we will advocate within NATO and towards our US allies a withdrawal of remaining nuclear weapons from Germany'. This was the first time that a government of one of the host nations explicitly and unequivocally spoke out in favor of their withdrawal.

Political practicalities of withdrawal

While the case in favor of withdrawal of US tactical nuclear weapons from Europe, as well as public support for it, seems abundantly clear, politics sometimes follows another logic. Former British general Hugh Beach explains that the continuing presence of these weapons is due more to 'institutional paralysis than to logic: the desire to demonstrate America's continued commitment to European security and some vague concept of risk and burden sharing among NATO allies'.⁶¹ It is not uncommon for large organizations like NATO to have difficulty in adapting to changes in circumstances, even if these are fundamental. Bureaucratic processes tend to keep the status quo. At a certain point in time, however, the status quo may endanger national interests.

The opponents of withdrawal consist of public officials in their respective ministries of defense, who regularly meet in the NATO High Level Group. Likewise, there is a similar (but less status quo minded) circle in the various ministries of foreign affairs, who get together intermittently either in their respective capitals or at NATO headquarters in Brussels. Most of these representatives have lived through the Cold War, and firmly believed in nuclear deterrence at the time. For instance, two NATO officials who oppose withdrawal are Michael Rühle⁶² and Guy Roberts. As Roberts testifies:

Unfortunately, the weapons we've invented cannot be un-invented. We must live with them ... Living with destructive technologies is our lot, the modest punishment we must bear for progress. The bomb is with us to stay. It is, after all, the ultimate guardian of our safety.⁶³

Simon Lunn, who has interviewed many officials on this subject, concluded that there are tensions ‘between the nuclear practitioners who deal with these issues on a daily basis and [members of] the policy world who have to deal with the political consequences of their recommendations’.⁶⁴

Opponents of withdrawal will require compensation in one way or another when the time comes. The devil, therefore, is in the detail. A number of political practicalities remain to be resolved: (1) should withdrawal be unilateral or as a result of negotiations with Russia?; (2) should withdrawal be publicly announced or done in secret?; (3) should opponents of withdrawal be compensated, and if so how?; (4) should withdrawal of the remaining nuclear weapons be done in one sweep or rather be spread over time through interim measures?; (5) and should withdrawal be decided by consensus within NATO?

Under negotiation with Russia or unilaterally?

Today tactical nuclear weapons remain the only category of nuclear weapons without any formal arms control agreement. This explains why the Obama administration wants to include these weapons in the next round of arms control negotiations. Should the remaining US nuclear weapons in Europe be withdrawn before the start of these talks? From the point of view of the negotiations, it may seem logical to wait, and include them in ‘discussions’ with Russia, as suggested by the New Strategic Concept, and earlier by the Group of Experts preparing NATO’s New Strategic Concept.⁶⁵ Domestic politics in the US is another important factor: Republicans prefer a clear linkage.⁶⁶

A major difficulty, however, is the asymmetry in numbers. Russia possesses many more tactical nuclear weapons than the US and will not agree to exchange them for NATO’s much lower numbers. US Principal Deputy Under-Secretary of Defense for Policy James Miller also points out ‘the difficulty of bringing Russia to the bargaining table with 180 [*sic*] NATO sub-strategic warheads on offer against the estimated 3–5,000 Russian warheads in that category’.⁶⁷ Russia may link tactical nuclear weapons to strategic nuclear weapons in reserve, a revision of the CFE (Conventional Armed Forces in Europe) treaty, missile defense, or a combination of these items. Russia may also want to bring British and French nuclear weapons into the discussion. Furthermore, there will certainly be accounting issues, since a treaty will not only have to deal with delivery vehicles but also with the weapons themselves. This will necessitate the elaboration of verification procedures, including the control of storage sites. Negotiations for a treaty on tactical nuclear weapons, and probably including other weapons systems, will thus not be easy. According to former US official Steven Pifer, ‘the next arms control treaty is not going to be a 10-month affair; it’s probably going to be a two- or three-year negotiation’.⁶⁸

Another asymmetry exists: the United States has tactical nuclear weapons deployed on the territory of other states, which is not the case for Russia. Different Russian officials – including the Duma International Affairs Committee Chairman Konstantin Kosachgov,⁶⁹ General Staff Chief Nikolai Makarov,⁷⁰ Russian ambassador to NATO Dmitry Rogozin, and Russian Deputy Prime Minister Sergei Ivanov⁷¹ – have already

taken the position that US nuclear weapons should be withdrawn before talks about tactical nuclear weapons in general can be held.

The unilateral withdrawal of US nuclear weapons from Europe may have several benefits. It may induce Russia to reciprocate with a gesture, for instance in the form of removal of its tactical nuclear weapons deeper into Russian territory.⁷² By consolidating tactical nuclear weapons on US territory, bilateral negotiations about the remaining tactical nuclear weapons will probably become less intricate, because at least one asymmetry will have been addressed and because it may have created goodwill on the part of Russia. Withdrawing nuclear weapons unilaterally has the advantage that it does not have to be approved by the US Senate. US EUCOM concluded that ‘there is no military downside to the unilateral withdrawal of nuclear weapons from Europe’.⁷³ Unilateral withdrawal has also been standard practice over the last few decades: for example, in 2001 from Greece. Even NATO’s Expert Group – led by Madeline Albright – did not recommend formal negotiations with Russia on tactical nuclear weapons. A face-saving solution may be a unilateral withdrawal without calling it that, just like the ‘reciprocal’ Presidential Initiatives of 1990–1. Interestingly, the Obama Nuclear Posture Review called for ‘formal agreements *and/or parallel voluntary measures*’.⁷⁴

Publicly or secretly?

Forward-deployed nuclear weapons can be withdrawn secretly, as happened in the past in Germany, Greece and the UK. The advantage from the foreign policy establishment’s point of view of removing these weapons secretly is that the public are not given the opportunity to immediately ask for more disarmament measures. It prevents what some would call a ‘slippery slope towards more disarmament’.⁷⁵ This fear was probably among the main reasons why France was against withdrawal during the deliberations for the New Strategic Concept of NATO in 2010. France is afraid that once US tactical nuclear weapons are removed, the focus and debate will turn to its own nuclear capacity.⁷⁶

Some national representatives seem afraid of a public debate on these issues.⁷⁷ As Oliver Thränert put it: ‘a full-scale debate about US nuclear withdrawal from Europe could trigger a controversy that would undermine NATO cohesion. Many members could lose confidence in the Alliance’s defense commitments in general, and the US commitment to defend Europe in particular.’⁷⁸ Paul Schulte argues along somewhat different lines:

Whatever concessions might be made over forward-based US nuclear systems and dual-capable aircraft would not end anti-nuclear pressure and dispute within NATO. Anti-nuclear activists would continue to campaign to abolish all nuclear forces and to end the US nuclear guarantee, which some see as immoral and provocative.⁷⁹

A disadvantage of the secret track is that it incurs opportunity costs. The nuclear-weapons states and alliances can score disarmament points in the eyes of non-nuclear-weapons states and world public opinion by undertaking withdrawal openly. For this reason, many experts advocate public withdrawal.

Issue linkage and compensation as a political compromise?

Paradoxically, in the past many arms control measures have been supplemented by an arms build-up in other areas, because of bureaucratic or industrial pressure. Examples abound:⁸⁰ the Limited Test Ban Treaty (1963), for instance, led to an expanded underground testing program in the United States; SALT-I led to accelerated defense spending for Trident and the B-1; the agreement of SALT-II accelerated the development of the MX, and START-I launched the B-2.⁸¹ More recently, the US Defense Authorization Law linked approval of the New START by the Senate to modernizations to the existing nuclear arsenal.⁸² Today the Obama administration is spending more money on nuclear labs than the administration of George W. Bush.

In the case of withdrawal of US nuclear weapons from Europe two kind of compensation could be created. 'Atlanticists' will insist on a replacement of the (symbol of the) transatlantic link. The most obvious candidate is missile defence.⁸³ Offensive weapons would be replaced by defensive weapons, which could perhaps more easily be sold to a skeptical European public. As Thränert argues:

An effective missile defense system could substitute for nuclear sharing as a means to keep the United States committed to European defense ... The aim would be to have a NATO missile defense as a substitute for the US nuclear presence in Europe by the time the decision to modernize nuclear forces would need to be made.⁸⁴

Obama's Nuclear Posture Review seems to suggest the same:

Contributions by non-nuclear systems to US regional deterrence and reassurance goals will be preserved by avoiding limitations on missile defenses in New START and ensuring that New START will not preclude options for using heavy bombers or long-range missile systems in conventional roles.⁸⁵

From a strategic point of view, missile defense perhaps does not seem to be a very good option. The main reason is that the projected missile technology is essentially not yet ready. This also applies to the less-advanced SM-3 missile defense interceptors on Aegis ships that the Obama administration aims to install.⁸⁶ Despite these misgivings, however, NATO adopted missile defense as a new mission at the Lisbon Summit in 2010. In contrast to earlier rumors though, missile defense was not regarded as the formal replacement of US tactical nuclear weapons. Quite likely France did not want to make such a link.⁸⁷ Nevertheless, in practice missile defense may ultimately replace US tactical nuclear weapons in the future.

'Europeans', on the other hand, hope that the withdrawal of US nuclear weapons from Europe will increase the likelihood of a 'Euro-bomb'. It is no secret that France is interested in the Europeanization of these weapons, through which it could not only legitimize but also possibly ascertain co-financing of its *force de frappe*. Advocates of such a strategy have already linked this option to the withdrawal of US nuclear weapons from Europe.⁸⁸ Whether by chance or not, and certainly partly as the result of budgetary constraints, in November 2010 France and the UK signed two treaties by which they agreed to intensify their nuclear-weapons cooperation. From a disarmament point of

view, however, the Euro-bomb scenario appears to go against the (slow but general) trend of de-legitimizing the existence of nuclear weapons.

Complete removal or interim steps?

Instead of complete removal, a consolidation could take place in one or two of the existing bases, most likely in Italy and/or Turkey, as was proposed by a NATO report in 2006.⁸⁹ However, a recent Royal United Services Institute (RUSI) paper argues: 'If the three northern European countries were to withdraw from deploying nuclear-capable aircraft, the retention of Italy⁹⁰ as the only [dual-capable aircraft] country would make little political or operational sense'.⁹¹ One possibility could still be to use this option as a bargaining instrument with Russia. Alternatively, complete removal could be undertaken while retaining the nuclear infrastructure as long as Russia does not react positively to the withdrawal. It seems that a majority of specialists recommend that the weapons should be withdrawn in one sweep, without any interim steps, except maybe the option of keeping the infrastructure, as long as Russia does not reciprocate, so that nuclear weapons could be easily redeployed if Russia's response proves disappointing.

Decision-making within NATO: unilaterally or by consensus?

To date, it appears that NATO Secretary-General Rasmussen has been able to convince all members to reach a consensus on this sensitive issue. Yet a few caveats need to be made. First, it was generally not by consensus that these nuclear weapons arrived in the host nations in the first place. The transfers involved bilateral agreements between the United States and the host nation in each individual case, and not a deal between all NATO member states. Logically, this would imply that their withdrawal could also be regulated via a form of bilateral decision-making, as has already been the case with Germany, Greece and the UK. Second, it seems easier to introduce new weapons systems like missile defense for use by NATO (through consensus) than to withdraw existing systems (by consensus). Third, decision-making by consensus may be a recipe for inertia (as in the past) or bad compromises.

It has been argued that, in case of further inertia due to the absence of a political consensus within NATO, the European host nations can and should take unilateral measures. Eben Harrel argues in *Time Magazine*: 'If Obama[']s Nuclear Posture Review] fails to address the issue – and if NATO doesn't come to an agreement – countries may choose to take their own steps to get rid of the weapons.'⁹² The host nations can unilaterally de-certify the dual-capable aircraft by 'the removal of all mechanical and electronic equipment ... and the denuclearization of facilities on national air bases intended for storage and maintenance of nuclear weapons'.⁹³ In case of further inertia, unilateral decisions by some host nations cannot be further excluded. Paul Ingram warns:

Premature closing down of options for an easy life [for NATO] will only store up trouble for the future – trouble that could lead eventually to governments reluctantly taking unilateral decisions in response to domestic pressures without adequate consideration of broader Alliance security ... Highly public disagreements that pitch governments against parliament and public, or governments against governments, could be extremely damaging.⁹⁴

Concluding remarks

We conclude that the time is ripe to withdraw US nuclear weapons from Europe. The arguments of the few opponents, do not seem to weigh, in our opinion at least, against the benefits of their withdrawal. The political climate – with a US president who has the subject of Global Zero high on his personal agenda and is much preoccupied with the nuclear-weapons threat – today seems better than it has been in years, if not decades. We believe that the question is not if, but how and how fast, NATO will change its nuclear policy. If NATO is not able to have a serious internal debate about this policy, and if it is not able to adapt itself to globally changing circumstances, the above deliberations make us wonder to what extent the Atlantic Alliance is a political – instead of a purely military – organization. The withdrawal of tactical US nuclear weapons from Europe may be the beginning of a much more fundamental adaptation of the Alliance and the start of its necessary and imminent reinvention.

Notes

- 1 George Schultz, William Perry, Henry Kissinger and Sam Nunn, 'A World Free of Nuclear Weapons', *Wall Street Journal*, 4 January 2007.
- 2 President Obama's speech in Prague on 5 April 2009, available at: www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/.
- 3 In this paper we will use the term 'tactical'.
- 4 Linton Brooks, 'Diplomatic Solutions to the "Problem" of Non-Strategic Nuclear Weapons', in Jeffrey Larsen and Kurt Klingenger, *Controlling Non-Strategic Nuclear Weapons: Obstacles and Opportunities*, USAF Institute for National Security Studies, June 2001, pp. 207–8. Quoted by Isabelle Facon and Bruno Tertrais, *Les armes nucléaires 'tactiques' et la sécurité de l'Europe* (Paris: Fondation pour la Recherche Stratégique (FRS), 2008), p. 9.
- 5 The US also includes nuclear warheads for intermediate-range sea-launched cruise missiles in this category. Neither the US nor Russia any longer possesses nuclear warheads for short-range or intermediate-range *land*-based missiles. The latter have been eliminated by the Intermediate Nuclear Forces (INF) Treaty. For a good overview of the broader topic of tactical nuclear weapons in the US and Russia, see Miles Pomper, William Potter and Nikolai Sokov, *Reducing and Regulating Tactical (Nonstrategic) Nuclear Weapons in Europe* (Monterey, CA: Center for Nonproliferation Studies, 2009).
- 6 Pomper et al., *Reducing and Regulating Tactical (Nonstrategic) Nuclear Weapons in Europe*, p. 15.
- 7 Ivo Daalder, 'Nuclear Weapons in Europe: Why Zero is Better', *Arms Control Today*, 23(1), 1993, pp. 15–18; *Report of the Canberra Commission on the Elimination of Nuclear Weapons*, Part II (Canberra: Department of Foreign Affairs and Trade, 1996); US National Academy of Sciences, Committee on International Security and Arms Control, *The Future of US Nuclear Weapons Policy* (Washington, DC: National Academy Press, 1997), pp. 23, 39; John Steinbruner, 'Russia Faces an Unsafe Reliance on Nukes', *Los Angeles Times*, 3 March 1997; William Potter, 'Unsafe at Any Size', *Bulletin of the Atomic Scientists*, May/June 1997, p. 27.
- 8 For the texts, see *SIPRI Yearbook 1992* (Stockholm: Stockholm International Peace Research Institute (SIPRI), 1993), pp. 65–73, 85–92.
- 9 Ivo Daalder, 'NATO and Nuclear Weapons: Toward a Re-examination', in Susan Eisenhower, *NATO at Fifty* (Washington, DC: Center for Political and Strategic Studies, 1999), p. 166.
- 10 *NATO Strategic Concept* (Washington, DC: NATO, 1999), para. 46.

- 11 *NATO Strategic Concept*, para. 62.
- 12 *NATO Strategic Concept*, para. 63.
- 13 Some claim that the reason was the arrival of a new fighter plane without a nuclear-capable capacity. See, for instance, Eben Harrell, 'Are US Nukes in Europe Secure?', *Time*, 19 June 2008.
- 14 Jean-Marie Collin, *Les armes nucléaires de l'Otan* (Brussels: Group for Research and Information on Peace and Security (GRIP), 2009), p. 7.
- 15 Hans Kristensen, 'B61 LEP: Increasing NATO Nuclear Capability and Precision Low-Yield Strikes', Federation of American Scientists Security Blog, 15 June 2011, available at: www.fas.org/blog/ssp/2011/06/b61-12.php.
- 16 Raymond Knops (rapporteur), *US Non-Strategic Nuclear Weapons in Europe: A Fundamental NATO Debate*, NATO Parliamentary Assembly Report, 2010; Paul Ingram, *Nuclear Options for NATO* (London and Washington, DC: British American Security Information Council (BASIS), 2010); Steven Pifer et al., *US Nuclear and Extended Deterrence*, Brookings Arms Control Series, paper 3 (Washington, DC: Brookings Institution, 2010); Oliver Meier, 'Experts Hedge on Nuclear Posture', *Arms Control Today*, 40(5), 2010, 36–8.
- 17 'US Urged to Remove Tactical Nukes in Europe', NTI Global Security Newswire, 22 April 2010.
- 18 Oliver Meier, 'NATO Chief's Remarks Highlights Policy Rift', *Arms Control Today*, 40(4), 2010, pp. 35–7.
- 19 Madeline Albright and Jeroen van de Veer (chairs), *NATO 2020: Assured Security, Dynamic Engagement* (Brussels: NATO, 2010). Interestingly, it also recommended a change in NATO's declaratory nuclear policy in the sense of no longer targeting non-nuclear-weapon states, as long as they are in compliance with the Non-Proliferation Treaty.
- 20 Karl-Heinz Kamp, *NATO's Nuclear Posture Review: Nuclear Sharing instead of Nuclear Stationing*, research paper 68 (Rome: NATO Defense College, 2011).
- 21 Robert Norris and Hans Kristensen, 'US Tactical Nuclear Weapons in Europe', *Bulletin of the Atomic Scientists*, 67(1), 2011, pp. 64–73.
- 22 Compare this with the 14 kt Hiroshima bomb.
- 23 Jacob Kellenberger, 'Bringing the Era of Nuclear Weapons to an End', available at: www.icrc.org/eng/resources/documents/statement/nuclear-weapons-statement-200410.htm.
- 24 Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons Since 1945* (Cambridge: Cambridge University Press, 2007).
- 25 Schultz et al., 'A World Free of Nuclear Weapons', p. A15.
- 26 Mohamed El Baradei, 'Five Steps Towards Abolishing Nuclear Weapons', *Süddeutsche Zeitung*, 4 February 2009.
- 27 However, the nuclear-weapon states (and their allies) should not expect immediate non-proliferation returns as a result of their disarmament actions. The argument is that nuclear elimination (or at least major changes in the nuclear-weapons policies of the nuclear-weapons states) will make a fundamental difference with respect to proliferation, not little disarmament steps in the direction of 'global zero'.
- 28 Article I of the NPT states:

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly, and not in any way to assist, encourage, or induce any non-nuclear weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

29 Article II of the NPT states:

Each non-nuclear weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

30 As was recommended by a US Strategic Command conference in July 2009.

31 Sergey Kislyak interviewed by *Arms Control Today*, 38(10), 2008.

32 James Schlesinger, *Report of the Secretary of Defense Task Force on Nuclear Weapons Management* (Washington, DC: Department of Defense, 2008); William Perry and James Schlesinger, *America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the US* (Washington, DC: US Institute of Peace, 2009); David Yost, 'Assurance and US Extended Deterrence in NATO', *International Affairs*, 85(4), 2009, pp. 755–80.

33 Paul Nitze, 'Replace the Nuclear Umbrella', *International Herald Tribune*, 19 January 1994; Michael McGwire, 'Is There a Future For Nuclear Weapons?', *International Affairs*, 70(2), 1994, p. 213.

34 Wayne Merry, 'Rid Europe of "tac nukes"', *Open Democracy*, 21 September 2009.

35 Ronald Asmus et al., *NATO, New Allies and Reassurance*, policy brief (London: Centre for European Reform, 2010).

36 See: www.cfr.org/publication/21861/nuclear_posture_review.html.

37 'Pursuing the Prague Agenda', *Arms Control Today*, 41(4), 2011, p. 10.

38 Quoted by the US Secretary of Defense Task Force on DOD Nuclear Weapons Management, December 2008, p. 59, available at: www.cdi.org/pdfs/PhaseIIReport.pdf.

39 'Russia Requires 1,500 Nuclear Warheads, Military Official Says', NTI Global Security Newswire, 10 June 2009.

40 Knops, *US Non-Strategic Nuclear Weapons in Europe*.

41 Karl-Heinz Kamp, *NATO's Nuclear Weapons in Europe: Beyond 'Yes' or 'No'*, research paper 61 (Rome: NATO Defense College, 2010), p. 3.

42 US Air Force Blue Ribbon Review, *Nuclear Weapon Policies and Procedures*, released 12 February 2008, available at: www.airforce-magazine.com/SiteCollectionDocuments/TheDocumentFile/Current%20Operations/BRR020808ExecSummary.pdf.

43 'Review Questions Security Over US Nukes in Europe', NTI Global Security Newswire, 19 June 2008.

44 Marc Sageman, 'Confronting al-Qaeda: Understanding the Threat in Afghanistan', *Perspectives on Terrorism*, 3(4), 2009, p. 9.

45 'Peace Activists Trespass at Belgian Base Housing U.S. Nukes', NTI Global Security Newswire, 17 February 2010; Tom Sauer, 'Op Bommenjacht in Peer', *De Morgen*, 11 February 2010.

46 Maarten Rabaey, 'Onrust over Kernkoppen Kleine Brogel', *De Morgen*, 20 June 2008, p. 3.

47 Quoted by US Secretary of Defense Task Force on Nuclear Weapons Management (Washington, DC: Department of Defense, 2008), p. 59.

48 Defense Science Board, *Report of the Defense Science Board Task Force on Future Strategic Strike Forces*, February 2004, quoted in Oliver Meier, 'An End to US Tactical Nuclear Weapons in Europe?', *Arms Control Today*, 36(6), 2006, pp. 37–40.

49 Hans Kristensen, 'B61 LEP: Increasing NATO Nuclear Capability and Precision Low-Yield Strikes', Federation of American Scientists Strategic Security Blog, 15 June 2011.

50 'US Lawmakers Cut Funding for Nuke Project', NTI Global Security Newswire, 13 August

- 2009.
- 51 Steven Pifer, *NATO, Nuclear Weapons, and Arms Control*, Brookings Arms Control Series, paper 7 (Washington, DC: Brookings Institution, 2011);
- 52 Franklin Miller, George Robertson and Kori Schake, *Germany Opens Pandora Box*, policy brief (London: Centre for European Reform, 2010), p. 2.
- 53 William Perry and James Schlesinger, *US Nuclear Weapons Policy*, Independent Task Force report 62 (New York: Council on Foreign Relations, 2009), p. 91.
- 54 Harald Müller, *Nuclear Weapons and German Interests: An Attempt at Redefinition*, report 55 (Frankfurt: Peace Research Institute (PRIF), 2000), p. 10.
- 55 Rachel Oswald, 'Polish, Turkish Experts Open to U.S. Withdrawing Nukes from Europe', NTI Global Security Newswire, 31 March 2011; Mustafa Kibaroglu, 'Turkey, NATO and Nuclear Sharing', in Paul Ingram and Oliver Meier (eds), *Reducing the Role of Tactical Nuclear Weapons in Europe* (Washington, DC: Arms Control Association, 2011), pp. 31–8.
- 56 Pomper et al., *Reducing and Regulating Tactical (Nonstrategic) Nuclear Weapons in Europe*, p. 27.
- 57 Robert Burns, 'US Cautious on Removing Nuclear Arms from Europe', Associated Press, 14 March 2010.
- 58 Daniel Hamilton et al., *Alliance Reborn: An Atlantic Compact for the 21st Century* (Washington, DC: Atlantic Council of the US, 2009), p. xi.
- 59 For instance, a poll by the Flemish Peace Institute in 2007.
- 60 Ruud Lubbers, *Fourth Follow-Up: Moving Beyond the Stalemate: Addressing the Nuclear Challenge by Supranational Means*, briefing paper (The Hague: Clingendael International Energy Programme, 2009), p. 2.
- 61 Hugh Beach, unpublished paper, 2009, p. 5.
- 62 Michael Rühle, *Good And Bad Nuclear Weapons*, policy paper 3 (Hamburg: Körber-Stiftung, 2009).
- 63 Guy Roberts, 'The Continuing Relevance of NATO's Nuclear Deterrence Strategy in an Uncertain World', in Hannes Swoboda and Jan Marinus Wiersma (eds), *Peace and Disarmament: A World Without Nuclear Weapons?* (Brussels: Party of European Socialists, 2009), p. 65.
- 64 Malcolm Chalmers and Simon Lunn, *NATO's Tactical Nuclear Dilemma*, occasional paper (London: Royal United Services Institute (RUSI), 2010), p. 16.
- 65 Albright and Van de Veer, *NATO 2020*, p. 43.
- 66 See, for instance, the former Bush appointee Stephen Rademaker, 'The Kremlin's Trump Card', *Moscow Times*, 28 June 2010.
- 67 Quoted by Hans Kristensen, 'Tac Nuke Numbers Confirmed?', FAS Strategic Security Blog, 7 December 2010, available at: www.fas.org/blog/ssp/2010/12/tacnukes.php.
- 68 Remarks by Steven Pifer at the Carnegie Endowment for International Peace (Washington DC) on 10 May 2011 (transcript by Federal News Service).
- 69 'Obama Hopeful for New START Pact's Prospects in Senate', NTI Global Security Newswire, 9 April 2010.
- 70 'Nuclear Arms Treaty headed to U.S., Russian Lawmakers Next Month', NTI Global Security Newswire, 21 April 2010.
- 71 'Clinton, Lavrov Discuss Arms Control Talks', NTI Global Security Newswire, 8 March 2010; 'New START Enters into Force', NTI Global Security Newswire, 7 February 2011.
- 72 Japan, however, does not like seeing Russian tactical nuclear weapons removed from the west to the east of Russia.
- 73 Quoted by US Secretary of Defense Task Force on DOD Nuclear Weapons Management, December 2008, p. 59, available at: www.cdi.org/pdfs/PhaseIIReport.pdf.

- 74 *US Nuclear Posture Review* (Washington, DC: Department of Defense, 2010), p. 30 (my emphasis).
- 75 For the concept of the slippery slope, see Sean-Lynn Jones, 'Lulling and Stimulating Effects of Arms Control', in Albert Carnesale and Richard Haass (eds), *Superpower Arms Control* (Cambridge, MA: Ballinger, 1987), chapter 9.
- 76 Judy Dempsey, 'NATO Document Addresses Nuclear Disarmament', *New York Times*, 30 September 2010.
- 77 Yost, 'Assurance and US Extended Deterrence in NATO', p. 778. See also Susi Snyder and Wilbert van der Zeijden, *Withdrawal Issues* (Utrecht: IKV-Pax Christi, 2011).
- 78 Oliver Thränert, 'NATO, Missile Defense and Extended Deterrence', *Survival*, 51(6), 2010, p. 68.
- 79 Paul Schulte, *Is NATO's Nuclear Deterrence Policy a Relic of the Cold War?* (Brussels: Carnegie Endowment for International Peace, 2010), p. 8.
- 80 Here we limit ourselves to examples from the United States, but similar examples exist in other countries.
- 81 Paul Stockton, 'The New Game on the Hill', *International Security*, 16(2), 1991, pp. 146–7, 154; James Fellows, *National Defense* (New York: Random House, 1981), p. 169.
- 82 Bill Gertz, 'Inside the Ring', *Washington Times*, 17 December 2009.
- 83 For instance, as suggested in Michael Codner, 'What the Obama Administration's Change of Policy Means for Europe, and the UK', *RUSI Journal*, 154(5), 2009, p. 17; Facon and Tertrais, *Les armes nucléaires 'tactiques' et la sécurité de l'Europe*, p. 41; Martin Butcher, 'Missile Defences Unite NATO Internally, and with Russia', *NATOMonitor*, blog, 23 December 2009, available at: <http://natomonitor.blogspot.com/2009/12/missile-defences-unite-nato-internally.htm>; Kevin Kallmyer, 'Missile Defense', *Center for Strategic and International Studies Nuclear Notes*, 1(1), 2011, pp. 1–7.
- 84 Thränert, 'NATO, Missile Defense and Extended Deterrence', p. 72.
- 85 Quoted by Ian Davis, *Barack Obama's Nuclear Reset*, NATO Watch briefing paper 8, 7 April 2010. Available at: www.natowatch.org/sites/default/files/NATO_Watch_Briefing_Paper_No.8.pdf.
- 86 George Lewis and Theodore Postol, 'A Flawed and Dangerous U.S. Missile Defense Plan', *Arms Control Today*, 40(4), 2010, pp. 24–32; Tom Sauer, *Eliminating Nuclear Weapons: The Role of Missile Defense* (London: Hurst and Co.; New York: Columbia University Press, 2011).
- 87 Oliver Meier and Paul Ingram, 'A Nuclear Posture Review for NATO', *Arms Control Today*, 40(8), 2010, pp. 8–15.
- 88 Interview of Werner Bauwens (official at the Belgian Ministry of Foreign Affairs) by André Dumoulin, *Le débat belge sur les armes nucléaires tactiques* (Paris: FRS, 2008), p. 9; Facon and Tertrais, *Les armes nucléaires 'tactiques' et la sécurité de l'Europe*, p. 63. Atlanticists, however, do not like the idea of a Euro-bomb. See, for instance, Oliver Thränert, *US Nuclear Forces in Europe to Zero? Yes, But Not Yet* (Brussels: Carnegie Endowment for International Peace, 2008).
- 89 Jeffrey Larsen, 'Is There a Future for Non-Strategic Nuclear Weapons', *Defense Studies*, 6(1), 2006, pp. 52–72.
- 90 For Italy's view, see Laura Spagnuolo, *Italy's Tactical Nuclear Weapons* (London and Washington, DC: BASIC, 2011).
- 91 Chalmers and Lunn, *NATO's Tactical Nuclear Dilemma*, p. 4.
- 92 Eben Harrell, 'What to Do About Europe's Secret Nukes?', *Time*, 2 December 2009.
- 93 Hans Kristensen, *US Nuclear Weapons in Europe* (New York: National Resources Defense Council, 2005), pp. 6–7.
- 94 Ingram, *Nuclear Options for NATO*, pp. 2, 4.

Tom Sauer is Assistant Professor in International Politics at the University of Antwerp in Belgium. His major research interest is nuclear arms control and proliferation. He has published *Nuclear Arms Control: Nuclear Deterrence in the Post-Cold War Period* (1998), *Nuclear Inertia: U.S. Nuclear Weapons Policy after the Cold War* (2005) and *Nuclear Elimination: The Role of Missile Defense* (2011). He has been a BCSIA Fellow at Harvard University, and a Visiting Fellow at the (W)EU Institute for Security Studies in Paris.

Bob van der Zwaan is Senior Scientist at the Energy Research Centre of the Netherlands in Amsterdam, and Columbia University's Lenfest Center for Sustainable Energy (Earth Institute) in New York, and is adjunct professor at Johns Hopkins University's School of Advanced International Studies (SAIS) in Bologna. Previously he was a Research Associate at Harvard University's Belfer Center for Science and International Affairs. He is a member of the Council of the Pugwash Conferences on Science and World Affairs, and has written extensively on climate change and energy technology in peer-reviewed scientific journals.