Prior to the 2010 meeting of Alliance Foreign Ministers in Tallinn, NATO Secretary-General Anders Fogh Rasmussen said that the Alliance continues to need a credible nuclear deterrent for »as long as there are rogue regimes or terrorist groupings that may pose a nuclear threat to us«. But while NATO representatives emphasize that nuclear deterrence remains necessary, there is also a mood within the Alliance to evaluate in greater detail the role nuclear weapons can and should play. In contrast to the relatively straightforward approach dictated by the circumstances of the Cold War, NATO will now have to forge a common view on how deterrence works, against a much more uncertain backdrop.

In 2009, the Secretary-General established a Group of Experts to lay the groundwork for a new NATO Strategic Concept to update the 1999 Strategic Concept, NATO’s core mission statement at present. There appears to be an emerging pattern of reviewing the Strategic Concept of NATO roughly every ten years, so the task facing the experts is to establish guiding principles for Alliance nuclear policy over the next decade, rather than looking far into the future.

Aspects of the 1999 document – which was largely developed by 16 countries, as opposed to the 28 members of the enlarged NATO in 2010 – now have a very conservative feel. For example, the document asserts that NATO will need nuclear weapons in perpetuity as a symbol of the US commitment to Europe. This is at odds with the fact that many Allies already regard trans-Atlantic solidarity as both normal and permanent. Whether nuclear weapons can really provide the necessary symbolism in those countries that have a less relaxed view is an open question. These are often the same countries whose participation in key aspects of nuclear policy is excluded under commitments given to Russia by the Alliance at the time of its most significant enlargement.

Given that roughly 20 percent of NATO members have now expressed their view that nuclear policy needs to be revised, a simple »cut and
The paste« from the 1999 document seems unlikely to be acceptable. The United States has also reviewed its wider defense policy, as well as its nuclear posture. In addition, there is a renewed interest in Europe, in the United States, and elsewhere in probing the prospects and options for nuclear arms control and nuclear arms reductions.

It is, thus, an interesting time to consider the role of nuclear weapons in creating a sense of security in and for the members of NATO. For the past year, SIPRI and FES have conducted in-depth consultations and organized public dialogue meetings in countries across NATO to gauge opinion on the choices that NATO will face with regard to its nuclear policy and to stimulate a European debate on the issues. This article draws on the results of that process of dialogue and consultation, but it is not a summary, nor does it claim to represent the views of the by now hundreds of individuals who have participated in that discussion.

New Threats and the Appropriateness of Nuclear Deterrence

While serious clashes can still occur at the periphery of Europe, territorial defense against the threat of invasion by the armed forces of states is no longer the principal military security concern of countries in NATO. The Alliance has no enemies that it identifies by name and there is no country that is currently regarded as a threat to military security. However, this does not mean that there are no security concerns occupying the minds of NATO leaders.

A number of countries, including some located not too far from Europe, have made steady progress over an extended period to build technical capacities that can be the basis for nuclear weapon programs. There are also a number of countries – in most cases the same ones – that have sustained engagement in the development of missile delivery systems of different types, including ballistic and cruise missiles of different ranges. Analysis of the information gathered by the United Nations related to Iraqi weapon programs, as well as the unmasking of the A.Q. Khan network, have shown how clandestine procurement techniques have become more sophisticated and trafficking has become more difficult to prevent.

Within the decade covered by the next Strategic Concept it is possible that one or perhaps more than one new nuclear weapon state armed with ballistic missiles could be present at the borders of the Alliance. The still
unexplained destruction of a facility in Syria by Israel is an indicator that unexpected problems could emerge fairly quickly.

Across Europe there is an emerging concern about the general tendency of political development in Russia. Russian discontent over the post-Cold War political settlement has been manifest throughout the ten years since President Vladimir Putin took high office. However, a growing number of analysts now believe that this discontent has crystallized into a long-term strategy to overturn the common security system that was created between 1990 and 1995 and replace it with a more traditional model characterized by power politics and spheres of influence.

This concern need not be translated into a sense of increased military threat from Russia, but the armed conflict in Georgia in August 2008 has underlined the need for a more positive collective response that can be the basis for continuous improvement in relations rather than aiming to limit the damage from specific crises.

In summary, problems that the members of NATO expected to unfold over a 25–30 year time frame are already appearing at the borders of the Alliance.

During the Cold War, defense, deterrence, political engagement to defuse crises, broader political engagement (or détente), military confidence-building measures, and arms control all worked together as part of the effort to build security in and for NATO. While the balance between the instruments was different at different times, there was never a moment at which all efforts were focused on one of them.

This mix proved to be successful in meeting the military security challenge posed by a single, large adversary in the past. However, whether these instruments can address current needs is less certain. In what has become a famous article in the Wall Street Journal, four senior US statesmen pointed out that not only is the effectiveness of nuclear deterrence decreasing in respect of traditional military security scenarios, but the logic of deterrence may increase the hazard if applied in the new and more uncertain security environment.1 However, the other security policy tools are equally unproven in the new environment. Prevention using non-proliferation instruments has a mixed record of success. With regard to defense, even the advocates of missile defense recognize the limitations of what can be achieved with existing technologies.

The level of confidence in containing risks through mutual self-restraint – in other words, arms control – has fallen in recent years. It is not clear that trust in multilateral arms control can be recovered in spite of the renewed commitment by the United States to work for progress in this area. The only arms control framework that brings together NATO members with many of the countries around the periphery of the enlarged Alliance – the CFE Treaty – is limited to heavy conventional weapons that were critical to military capability during the Cold War but less salient today. Moreover, the role of the CFE Treaty has been increasingly uncertain since Russia suspended its participation in 2007.

As of today, all Allies continue to see a role for nuclear weapons as one part of a mix of capabilities that are needed to guarantee their security in an uncertain and fragmented international environment.\(^2\)

The consolidation and reduction of nuclear forces in France, the United Kingdom, and the United States – the three NATO Allies that own nuclear weapons – has been continuous since the early 1990s. At the same time, all three countries have continued to invest in research, development, and production to keep nuclear forces safe, secure, and functional. In future, the strategic nuclear arsenals of these three NATO Allies will be numerically smaller, but the weapons retained will be modern, very effective, and capable of dealing a devastating blow to any adversary.

Given the changes in the nature of security problems sketched above, the need for all aspects of security policy to be re-evaluated is recognized and, although NATO will remain a nuclear alliance during the forthcoming decade (the period for which the upcoming Strategic Concept is probably valid), there are aspects of nuclear policy that seem ripe for discussion.

To achieve the fundamental purpose of preventing coercion and any kind of war, the strategic nuclear forces of the United States, France, and the United Kingdom are all, in their different ways, considered to contribute to the overall deterrence and security of all of the NATO Allies. However, in these three countries there has been some evidence of diverging views about the future role of nuclear weapons.

Two of NATO’s nuclear weapon states (the United Kingdom and France) appear to favor an approach based on what Michael Quinlan, a

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prominent former official in the UK, dubbed »deterrence to whom it may concern«. A nuclear deterrent force would be maintained but without detailed planning for how it might be used in any specific contingency. It would be a significant break with the past if the United States were also to adopt this view.

The United States has assumed that there is a need for three connected elements in its nuclear strategy: the existence of nuclear forces; a set of plans to employ those forces against specific, identified targets; and evidence that the deterrent signals being sent to the identified targets have been detected and interpreted correctly. These elements have played a critical role in US force planning, largely dictating the numbers and types of nuclear weapons in the arsenal.

In the United States, a »new strategic triad« has been suggested so that in the future nuclear weapons would be one element alongside advanced conventional capabilities and so-called non-kinetic capabilities (including new capabilities such as cyber weapons), missile (and other) defenses, and enhanced resilience if an attack does take place. The underlying approach on which this change would be based has not been explained or discussed in Europe outside a very small and closed group of experts. Whether this approach is intended to strengthen the security of the United States or whether the underlying philosophy is intended for wider adoption within NATO has not been made clear; neither has its feasibility or desirability been debated.

An issue that has begun to be debated inside the Alliance is whether nuclear deterrence can be tailored to a discrete and narrower set of circumstances than was the case in the past and, if it can, how this can be accomplished and what the implications would be. This discussion has been under way inside the United States for some time. The 2006 Quadrennial Defense Review (QDR) Report already proposed moving to »tailored deterrence for rogue powers, terrorist networks and near-peer competitors«. However, the QDR did not define tailored deterrence or examine the organizational and operational challenges it presents.

The idea behind the tailored approach to deterrence remains a conditional response, imposing a cost on the party to be deterred for taking (or not taking) particular actions. However, making tailored deterrence the basis for NATO policy pre-supposes agreement on who is to be deterred

from doing what, as well as a confidence that the addressee will both
understand the signals that are being sent and take them on board. Fur-
thermore, NATO is trying once more to move relations with Russia (the
traditional target for deterrence signaling) onto a different basis. The
views of many Allies are unknown and untested on the question of what
deterrence might accomplish in any context other than Russia.

In the first instance, NATO will have to reach a collective view on
whether deterrence has a role to play in managing potential threats
emerging from the slow but continuous incremental development of
ballistic missile arsenals in the Middle East and Gulf. If so, this would call
for a different level and quality of collective engagement on strategic
matters with the countries around the periphery of the enlarged Alliance.
Alternatively, this might not be seen as a matter that engages the Alliance
collectively, although following that path could put at risk the solidarity
which has been seen as NATO’s main strength.

In recent documents and statements, the United States has pointed to
the need for consultations on how to ensure the credibility of the US ex-
tended deterrent, but has also emphasized that the objective is to provide
assurance, while reducing the role of nuclear weapons. Therefore, it is
not surprising that the need to maintain US nuclear weapons in forward
deployment in NATO is being questioned as support is growing for sus-
taining a conventional US presence and progressively developing theatre
ballistic missile defenses.

Apart from credibility (that is, any potential adversary must believe
that under certain conditions nuclear weapons could really be used)
NATO official documents also underline that nuclear forces need to meet
several other tests. First, they must be safe, secure, and reliable since pub-
lic support would quickly drain away if NATO nuclear weapons came to
be seen as a danger to our own societies through the accidental release of
radiation or because they might fall into the wrong hands. Second, there
is a military-technical test in terms of which weapons must be capable of
being deployed and used, and appropriate for countering anticipated
threats.
Short-range Nuclear Weapons: 
Eroding Solidarity – Decreasing Sense of Urgency

The political context for the deployment of nuclear weapons in Europe has changed significantly in recent years. Nuclear policy was characterized by a high degree of solidarity among the Allies when a large number of nuclear weapons were present in Europe, distributed across many countries. With the drawdown and consolidation of armed forces and equipment has come a realignment and closure of facilities. As a result, the number of countries directly engaged in the nuclear mission has been shrinking continuously since the end of the Cold War.

Traditionally, NATO has been willing to confirm that nuclear weapons owned by the United States are stored in Europe but unwilling to provide additional details or clarifications. However, it is widely believed that B-61 nuclear gravity bombs are currently stored in five countries: Belgium, Germany, Italy, the Netherlands, and Turkey. Unlike the past, when nuclear weapons might have been delivered by a wide range of tube artillery, short-range rockets and missiles, as well as land and sea mines, the only nuclear delivery system for these weapons at present would be dual-capable fast jets.4 In some cases, these would be flown on their missions by the United States Air Force and in other cases by pilots from the air force of the country on whose territory the weapons are located.

It is believed that, in recent years, the number of participants in the nuclear mission has continued to shrink, with Greece and the United Kingdom the most recent countries to effectively withdraw from the sharing arrangements. Recent political statements by senior government figures suggest that additional countries would like to withdraw from the sharing arrangements.5 If the sharing arrangements involved only

4. NATO has confirmed that, by 2003, the number of different types of nuclear system deployed in Europe had been reduced from 13 in 1971 to one (US gravity bombs carried on dual-capable aircraft). NATO’s Nuclear Forces in the New Security Environment, NATO Fact Sheet. Available at: www.nato.int/issues/nuclear/sec-environment.html.

two countries, Italy and Turkey, then a domino effect leading all NATO countries to give up the nuclear task might become unavoidable.

Besides the fact that Allies are progressively giving up the nuclear mission, there are also barriers that prevent some NATO members from participating in nuclear sharing arrangements. In December 1996, NATO Foreign and Defense Ministers made a unilateral announcement that NATO has »no intention, no plan, and no reason to deploy nuclear weapons on the territory of new member countries, nor any need to change any aspect of NATO’s nuclear posture or nuclear policy, and that it does not foresee any future need to do so.« This commitment was reiterated in the document that established a new basis for cooperation between NATO and Russia, and that document also elaborated and explained that »this subsumes the fact that NATO has decided that it has no intention, no plan, and no reason to establish nuclear weapon storage sites on the territory of those members, whether through the construction of new nuclear storage facilities or the adaptation of old nuclear storage facilities.« Nuclear storage sites are understood to be facilities specifically designed for the stationing of nuclear weapons, and include all types of hardened above- or below-ground facilities (storage bunkers or vaults) designed for storing nuclear weapons.

Given these developments, it is a very open question whether NATO nuclear policies currently meet the self-imposed test of solidarity and burden-sharing. It appears more likely that, as a number of recent analyses have concluded, the main reason for retaining US nuclear weapons in Europe is an inertia on both sides of the Atlantic, given that the weapons have been described as having an »almost dormant status«.

The countries that participate in the nuclear sharing arrangements will also face some decisions of a military-technical kind in the not too distant future. It is believed that the aircraft available to drop the US-owned B-61 nuclear bomb are the Tornado IDS, operated by Germany and Italy, the F-16C/D and MLU versions, operated by Belgium and the

Netherlands, and the F-15E and F-16C, operated by the US Air Force.\(^9\)
Given that these aircraft types will come to the end of their operational lives in the next 10 years, there are genuine doubts over whether European air forces will have a dual-capable aircraft available to replace them. As far as the American F-35 fighter aircraft (formerly known as the Joint Strike Fighter or JSF) is concerned, there are two uncertainties: will there be a dual-capable variant and, if so, will any country participating in the NATO sharing arrangements buy it?

Apart from the F-35, the other possible contenders to replace existing European fighter aircraft in a ground attack role seem unsuited to the nuclear task within NATO. Although it could carry the B-61 bomb, a nuclear mission for the Swedish Jas-39 Gripen would be excluded by the Swedish government. The French Rafale F3 is dual-capable and has a nuclear mission in France. However, the United States would need to grant access to the relevant parameters of the B-61 to allow a release mechanism to be designed and fitted, while the French government would need to grant access to the relevant aircraft technology. It seems unlikely that either government would be willing to share the relevant technical data, while the French companies involved might also be reluctant to release technical data to the United States. The FGR4 ground attack version of the Typhoon would be the only other European alternative, but this aircraft is not currently tasked with a nuclear mission. There do not appear to be any initiatives to develop a dual-capable version of the Typhoon.

The United States is also currently grappling with a set of difficult issues related to the future of the B61 nuclear bombs assigned to dual-capable aircraft. In September 2009, the US Congress proposed that, once the requirement for a B61-12 version was confirmed, the Department of Energy was authorized to continue with a B61-12 upgrade study.\(^10\) However, the US Department of Defense (which did not request that funds be allocated in the Congressional legislation) had not decided how to proceed with possible modernization of the B61 bomb at the time of writing.

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9. NATO documents confirm that the US Navy has completely eliminated the nuclear role for its carrier-based aircraft.
The nuclear weapons that are available for delivery by dual-capable aircraft play an essentially political role as symbols of the commitment by the United States to defend its European Allies. There are few people either inside or outside the official structures who believe that the weapons could play a direct role in the defense of NATO. The location of the weapons and the nature of the delivery systems mean that any use of the weapons would have to occur at the periphery of the enlarged Alliance. The weapons could not be used in more distant locations (even if there was a meaningful task for them to carry out there) because there is no way to fly distant missions from their current bases and no temporary storage facility available for the weapons in a distant theatre.

Changes in the way NATO operates have raised a question over whether the nuclear weapons based in Europe would be an instrument of solidarity in a crisis or whether they would in fact become a rather divisive issue. Prior to 1991, NATO peacetime contingency plans included identified targets for standing nuclear forces, but with the end of the Cold War this type of planning was discontinued, and nuclear forces no longer targeted any specific country in peacetime.

Cold War conditions required a complex and integrated peacetime plan for immediate implementation once a conflict began. In a more benign threat environment there has been no need for rigid planning and plans are developed and adapted continuously to meet contingencies. Any connection between nuclear forces and recent NATO plans seems remote at best and probably does not exist.11

The absence of a detailed plan means that, in a crisis, NATO would have to reach agreement on when and how nuclear weapons might be used, including changes in alert status and deployment patterns in a crisis. These mechanisms would normally require a consensus among the 28 Allies in order to reach a decision. However, in nuclear matters France has made clear that it intends to remain outside some of the relevant

11 The United States was already moving to a system called »adaptive planning« by the time of the 2001 Nuclear Posture Review. »The current nuclear planning system, including target identification, weapon system assignment, and the nuclear command and control system requirements, is optimized to support large, deliberately planned nuclear strikes. In the future, as the nation moves beyond the concept of a large, single integrated operational plan (SIOP) and moves towards more flexibility, adaptive planning will play a much larger role« (emphasis added); Nuclear Posture Review Report, January 8, 2002: 29. Available at: www.globalsecurity.org/wmd/library/policy/dod/npr.htm.
decision-making bodies and so it is not clear exactly how French perspectives might be included in collective decisions.

If proposals to use nuclear weapons to signal to an adversary during a crisis created disagreements among Allies, then the political symbolism would not demonstrate solidarity in the face of an external threat. It could actually achieve the reverse effect and persuade a potential adversary that the Alliance was in disarray.

NATO threat assessments have raised the general issue of how the Alliance can reduce the impact of civil wars around the periphery of the enlarged NATO, including those that occur at or close to the borders of nuclear weapon states. These conflicts have spillover effects on the Alliance, even if NATO is not directly involved. Russian military action in Georgia, which is not a NATO ally, heightened concern in several parts of NATO about a growing vulnerability to Russian military pressure. This is perhaps greatest in the Baltic states and in Poland, given that Russia continues to carry out major exercises in close proximity to these countries.\(^{12}\)

NATO will have to find a response to address the reasonable concerns of Allies who feel that they are exposed to risk. However, for reasons stated earlier, it is unlikely that the presence or absence of US nuclear weapons in Europe can provide much assurance. A number of non-nuclear initiatives could, taken together, strengthen the solidarity inside NATO.

The pattern of exercises involving Allies and organized under the NATO umbrella could be modified so that activities become more regular and more tailored to the security environment of exposed countries. These exercises could demonstrate that NATO is still able to concentrate very significant conventional firepower in a particular place and at fairly short notice. The exercises could be made part of a dedicated effort to strengthen military planning for any contingencies arising at the periphery of the enlarged NATO.

**Nuclear Arms and Engagement with Russia**

NATO has discussed how to defend effectively against attacks by ballistic missiles for a number of years. However, the nature of the debate changed

\(^{12}\) In 2009, about 12,500 troops from Russia and Belarus took part in major exercises involving aircraft, armor, and other heavy weapons in southern Belarus, about 125 kilometers from the Polish border, and in Kaliningrad (which borders Poland and Lithuania).
significantly in 2009 when the Obama Administration revised US policy regarding missile defense. Unlike the previous administration, Obama no longer emphasizes defending the continental United States against the threat from long-range ballistic missiles. Instead, the main emphasis in program development will be on intermediate range missiles of the type being developed in the Middle East. This approach makes it easier to conduct discussion on missile defense, both internally, because it emphasizes the indivisibility of defense among Allies, and externally, because Russia no longer has missiles of the type the new architecture is designed to defend against. There is no indication, at least so far, that Middle Eastern countries (such as Iran and Syria) regard NATO missile defense plans as provocative.

In the first instance, NATO will have to come to a decision about short-range nuclear delivery systems still being needed. However, if NATO leaders decided that the weapons were no longer essential it is unlikely that the Alliance would support unilateral removal before trying once again to engage Russia in a mutual agreement to eliminate them. While the development of relations with Russia is complicated, ending the stationing of US weapons in Europe might be part of a process of re-engagement. Ultimately, a joint mandate could be sought with Russia for negotiations leading to a ban on short-range nuclear forces in deployment. However, difficult challenges would have to be overcome before the benefits of such an approach could be realized.

An agreement would require the current gap in understanding on the role of nuclear weapons to be closed. At present, the two countries seem to be moving in different directions in this regard, with NATO progressively de-emphasizing the role of nuclear weapons and Russia appearing to rely on nuclear deterrence to an increasing degree. Russia is reported to be in the final stages of updating its nuclear weapons doctrine as the latest step in elaborating a set of hierarchical documents defining national security. While the content of the new document is not known, reports suggest that the formulation from the existing 2000 doctrine related to the first use of nuclear weapons in response to an attack on Russia with conventional arms will be retained.13

13. Some reports suggest that the new document may go further and link the use of nuclear weapons in a regional or local conventional conflict as opposed to a major war. For example, »Kremlin Says Worries Over Revised Nuclear Doctrine Unnecessary,« Global Security Newswire, October 26, 2009. Available at: www.globalsecuritynewswire.org/gsn/nw_20091026_7027.php.
While the next phase of nuclear arms control will be bilateral between the US and Russia, talks will need to take account of a range of related issues – such as the development of advanced conventional weapons and ballistic missile defenses. Greater transparency regarding Russian short-range nuclear forces might form part of this wider package of issues.

**Scale Down Nuclear Deterrence – Emphasize Conventional Capabilities – Step Up Diplomacy – Engage Russia**

In spite of the development of new momentum behind nuclear arms control, it appears certain that NATO will remain a nuclear alliance during the next decade. There is a common understanding among the members of the Alliance that the international security conditions are too uncertain to allow NATO to give up nuclear deterrence as an element of NATO strategy. However, a debate about what deterrence means in contemporary conditions across the Alliance (and far beyond the expert community) will be necessary if the United States is to reduce its nuclear arsenal to a level of hundreds of deployed warheads in the next decade.

NATO should resist efforts to re-orientate or reinvigorate deterrence and apply it to the very different security challenges now facing the Alliance. This approach would run a high risk of revealing internal disagreements over who might be the appropriate targets. NATO would find it hard to reach a common view on what signal it is seeking to convey through what could be interpreted as an aggressive posture vis-à-vis countries and regions not traditionally seen as a military security threat to the Alliance. To ensure their collective security the Allies might be better served by sustaining a prudent level of investment in conventional military capabilities, combined with détente and diplomacy, including a new emphasis on strengthening partnerships, as well as a focus on confidence-building measures and arms control.

The decisions by France, the United Kingdom, and the United States to retain modern and effective nuclear arsenals provide the basis for continued NATO nuclear deterrence. However, there are significant political, military, technical, and economic arguments against a long-term commitment to retain US nuclear weapons in Europe. There are alternative means of creating assurance in exposed parts of the Alliance that are likely to be more effective than continued reliance on nuclear sharing arrangements. The Alliance will need to consider action in four areas.
1. Strengthening the process of planning to use armed force in contingencies that fall under the commitment in the North Atlantic Treaty that an armed attack against one or more of the Allies shall be considered an attack against them all.

2. Organizing exercises under the NATO umbrella that demonstrate the capability to concentrate significant conventional fire power at the external perimeter of the Alliance.

3. Discussing the full integration of the new US approach to missile defense with the NATO theatre missile defense concept.

4. In discussions of all aspects of the new Strategic Concept, maintaining an inclusive, transparent, and comprehensive approach vis-à-vis Russia.

A specific objective during the period for which the next Strategic Concept is valid should be to engage with Russia to explore how to safely reduce and eliminate the short-range nuclear weapons currently based in Europe.