

Where next for Climate Treaty Verification?

Just over seven months ago, the single largest climate change meeting in history finished in division and disappointment. The fifteenth meeting of the Conference of Parties (COP) under the United Nations Framework Convention on Climate Change (UNFCCC) in Copenhagen was always going to be a dramatic event: two years of preparatory negotiations, 194 states, 115 heads of state and a host of observers would not make for a quiet conference. And it was hoped that with the world 'holding its breath', the legitimate expectations of what was coined 'Hopenhagen' by some would materialise. But it was not to be. In and amongst the debate between developed and developing nations over who should be doing what about climate change—encapsulated in the Convention's guiding principle of 'Common But Differentiated Responsibilities' and respective capabilities (CBDR)—a relatively new concept rose to prominence: that of measurement, reporting and verification, or MRV. In fact, MRV issues have long been integral to the regime, but took on a marked significance in Copenhagen. Proving in some instances to be a leverage point during the negotiations, indications of increasing clarity from COP 15 and beyond on an MRV framework may help galvanize future negotiations, despite ongoing divisions between parties.

Monitoring and verification systems exist in many agreements as a way of providing transparency, allowing trust to be built through mutual accountability, measuring progress towards treaty goals, and facilitating the review and improvement of the regime. This multiple-functionality is especially important in negotiations on climate change, as the same system which tracks actions also facilitates the negotiation, implementation and evolution of the agreement itself. The design of such a system involves a careful balancing act: it must be strong enough to ensure environmental integrity but not so demanding as

In this issue

Hugh Chalmers assesses the state of climate treaty verification after Copenhagen while David Cliff looks back at the 2010 NPT Review Conference. Also verification watch, verification quotes, science and technology scan, staff news and a note from the director.

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to make implementation impossible. Measuring, reporting, and verifying the numerous routes to reducing emissions is, after all, a resource-intensive task which can raise sensitive issues of implied responsibility. As such, the design of a climate change verification system has become a microcosm of the larger disagreements over the Convention's guiding principle of CBDR, with both groups of countries demanding that the other should show that they are doing more. In the run-up to the next summit (in Mexico this December), it is important to build on areas where advances were made both in Copenhagen and since. This article looks at the development of climate change treaty monitoring before, through and after the Copenhagen summit to examine what progress has been made in this area and to highlight opportunities for achieving consensus on developing a fair and effective regime.

Before Copenhagen

In December 2007, COP 13—in Bali, Indonesia—was held to discuss long-term ways of addressing climate change. Adopting a document known as the 'Bali Action Plan' (BAP), the COP initiated a two-year process to 'enable the full, effective and sustained implementation of the Convention through long-term cooperative action'. Consequently, the 'Ad-Hoc Working Group on Long-Term Cooperative Action' (AWG-LCA) was launched to address the 'four pillars' of the BAP: mitigation, adaptation, technology transfer and financial support. Regarding mitigation, the BAP intended the process to address 'Measurable, reportable and verifiable nationally appropriate mitigation commitments or actions [...] by all developed country Parties' and 'Nationally appropriate mitigation actions [NAMAs] by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner'. By stating that both developing and developed state actions are measurable, reportable and verifiable (MRV) the plan implicitly called for the reinvigoration of discussions on the treaty monitoring architecture. If the principles of 'measurable', 'reportable' and 'verifiable' are going to be met, some aspects of the existing system may require enhancement and expansion.

The Existing System

The UNFCCC requires all state parties to collect and report both quantitative and qualitative information through two mechanisms: national emissions inventories and national communications. These mechanisms collect, report, and review quantitative and qualitative data. The extent to which states must use these mechanisms, however, is guided by the principle of CBDR and, consequently the requirements for developed and developing states vary considerably.

National Emissions Inventories

Emissions inventories collect and present the calculated greenhouse gas emissions from various sectors to give a picture of aggregate emissions levels over time. According to guidelines adopted by the COP, an ideal national emissions inventory should be 'transparent, consistent, comparable, complete and accurate'. An inventory should allow for the state of each party's contribution to GHG emissions to be reliably known, and by comparing inventories both to the guidelines and to each other, allow for the gradual refinement of treaty monitoring and, crucially, mitigation activities. But attaining this ideal is not an easy task. Within any particular state there may be many varied emission sources and sinks in a number of diverse sectors; estimating their aggregate effects to a high level of accuracy can be a resource-intensive undertaking. As such, the emission inventory requirements for developed and developing states differ.

Developed states, with institutionalised data collection, and technological and financial resources, are required to submit annual inventories which must adhere to detailed and evolving guidelines specifying use of agreed methodologies and procedures. Conformity with these guidelines by each inventory submission is examined by international reviews assessing the report's consistency, comparability, completeness and accuracy. The final stage of the review process is conducted by an expert review team consisting of qualified nominees from both developed and developing states. As such, developed state inventories provide a good basis for building an MRV system that meets the principles of the Bali Action Plan. As developing states are not bound by specific emission reduction commitments, and because they

face a number of challenges in creating national inventories (including insufficient data, infrastructure and resources), their emissions inventories need not be as detailed as those of developed states. Only reporting on half of the identified greenhouse gases, developing states are not required to follow internationally-agreed guidelines—although it is recommended that they do—and they have substantial freedom in what they include in the inventory. Developing state inventories are also much less frequent and regular than those of developed states, and are not considered stand-alone documents but rather submitted within the context of national communications and subject to the review process discussed below. Reflecting their lack of funds, the submission deadlines for developing state inventories and communications are contingent on the delivery of support by developed country parties. According to some observers, the inventory process for developing countries serves in many cases initially to catalyse the development of data collection capabilities. Further support and enhancement of these inventories will be necessary to help them reach higher standards of functionality.

National Communications

National Communications augment national emissions inventories by providing qualitative data on a variety of climate change activities. These include mitigation actions, provision of technological and financial assistance, and (for relevant states) the use of Kyoto Protocol mechanisms. Ideally, National Communications should be complete, consistent, comparable and transparent, but due to the nature of the current reporting format and guidelines, the information provided is not as useful as it could be, and it is difficult—but important—to identify a suitable metric through which to evaluate the information provided. Reporting requirements differ substantially between developed and developing countries. Given that mitigation actions can take a variety of forms, to gain a level of comparability, developed states are required to report on specific aspects of them in a standardised fashion, including their scope, type and level of implementation every two to three years. The UNFCCC requests that developed states quantify the estimated emissions impact of these measures, though this is not required. Due to the diverse nature of mitigation actions,

however, there is no set methodology to making these estimates and states are not required to elaborate on the methods used to create them. Reporting on the supply of financial support encounters similar obstacles. The UNFCCC and the Protocol require developed countries to provide ‘new and additional’ finance to meet the ‘agreed full costs’ of a number of developing state activities, but these two terms are rather ill-defined and it is, as such, hard to assess the level of support against a metric, though it is important to resolve this issue as soon as possible. Expert review teams carry out ‘in-depth’ reviews of the communications to evaluate adherence to the reporting guidelines. In the context of the BAP principles, whilst developed state communications assist in tracking action on climate change, refinement of the format would be helpful to improve standardization in reporting (by increasing comparability and consistency) and to facilitate effective verification through increased transparency.

Requirements for developing states’ national communications are less stringent, in line with the CBDR principle. Two national communications are to be submitted (one from 1990 information and the other using information from 2000) with other future submissions determined by the COP. These communications should follow agreed guidelines but report on fewer issues and are not submitted to any individual review process. Developing state communications go some way towards facilitating measuring and reporting of climate change action, but would benefit from further development in aiming for these standards. National Communication preparation is meant to be supported by funding from developed countries. The adoption of specific, legally-binding, quantified emissions reductions targets by developed countries under the Kyoto Protocol led to an enhancement of monitoring, reporting and accounting requirements to allow determinations of legal compliance. ‘Units’ of allowed emissions were assigned to these countries by comparing baseline emissions with targets. Rigorous compliance procedures for states were also introduced, including the establishment of a Compliance Committee, which focus both on adherence to monitoring standards and also on meeting emissions reduction target commitments.

A number of mechanisms introduced by the protocol to assist mitigation also rely heavily on having adequate monitoring, reporting and accounting procedures in place. Some of the mechanisms enable project level mitigation activities to generate emissions reduction units. These projects are also obliged to follow specific monitoring and verification standards.

The Bali Plan revisited

To facilitate the development of a treaty MRV system that would meet the requirements of the Bali Action Plan, observers and academics have identified a number of key issues, listed below:

- What forms will the 'nationally appropriate mitigation commitments or actions' for developed states take, and to what extent will the various existing monitoring, review/verification and compliance systems need to be applied or enhanced?
- How will developing state NAMAs be defined? Will NAMAs take the form of a list of clearly defined activities, or will they be broadly described? These differences will determine what types of qualitative and quantitative information are needed, and the evaluative metrics used.
- To what extent will developing state NAMAs be verified and how much will a verification system draw on existing review processes?
- How will the provision of financial and technological support to developing states be measured, reported and verified in a satisfactory way?

Resolution of these treaty monitoring issues will play a central role in facilitating the negotiation and development of the climate change regime. Both developed and developing states may have legitimate concerns regarding each other's MRV requirements, but while the significance of this issue was recognised ahead of Copenhagen, reaching agreement on it there was far from certain beforehand.

The Copenhagen Conference-COP 15

During the two-year period from 2007, the working groups met nine times to forge a draft document to be tabled at

Copenhagen. This involved the analysis and negotiation of hundreds of submissions from state parties, intergovernmental organizations and independent observers. Reflecting the long, complex and tense negotiations, the final draft document produced by the AWG-LCA came to over 150 pages, and contained a large amount of bracketed text representing disagreement. In and amongst the brackets, options and disputed sections, however, some important concepts and mechanisms were introduced, and which, given successful negotiation, could be seen as the first steps towards an enhanced MRV system.

When the AWG-LCA delegates convened to work on the colossal, bracket-riddled text, they split into separate informal drafting groups, and attempted to iron out the creases. But differences persisted. Mutually-exclusive options and brackets remained around the 'pillar' issues of mitigation, finance, adaptation and technological support. In particular, the issue of the measuring, reporting and verification of NAMAs undertaken without international support (unilateral NAMAs), which would become a key debate, remained unresolved. The US, Australia, and Canada all reiterated that they believed international MRV of all NAMAs was necessary, whilst most developing states firmly opposed this. With a cloud of other unresolved issues hanging over the heads of delegates, little progress was made at these meetings. Eventually, the AWG-LCA had to submit its work to the COP for further negotiation, with the chair stressing that although significant progress had been made, the text was incomplete and 'nothing is agreed until everything is agreed'. During COP negotiations, as before, little progress was made as parties continued to adopt entrenched and uncompromising positions. Lacking the political power to forge compromises on key issues, many delegates called for advice from higher-level political representation, and as such a 'friends of the chair' negotiating group was created, containing an unprecedented number of high-level political representatives.

Friends of the Chair Meetings

Reflecting on the unsuccessful negotiations that preceded their arrival, some heads of state expressed concern over the lack of progress. In attempting to combine separate tracks

of negotiations in a smaller ‘representative group of leaders’, the Friends of the Chair negotiations were lambasted by many of the excluded parties as non-inclusive and undemocratic. On the penultimate day of the conference, an important announcement heralded change: the US declared a \$100bn fund from developed states to help developing states adapt to climate change, on the condition that major nations would need to submit their mitigation actions to ‘international verification’. China, which played a leading role in the negotiations as a representative of the developing nations, subsequently stated it was prepared to strengthen its reporting system and submit reports to some type of international review. Following on from this mutual compromise, the high-level negotiations managed, in the eleventh hour of the conference, to thrash out a short new text known as the Copenhagen Accord, informed by ongoing negotiations.

The Copenhagen Accord

When the Copenhagen Accord was introduced to the waiting states, many of whom considered the process to have been undemocratic and unrepresentative, tense negotiations followed culminating in the COP merely ‘taking note’ of the accord. Although the document contains some major gaps and weaknesses, it also outlines a new treaty MRV system, highlighted below, which may point toward a growing political consensus on this issue. Referring back to the issues identified earlier, some important indicators of progress regarding MRV within the Copenhagen Accord are identified below.

MRV of developed state actions

Developed states will commit themselves to economy-wide quantified emissions reductions, which will be measured, reported and verified in accordance with existing and updated guidelines adopted by the COP. To inform the development of COP guidelines for developed states, the text includes the principle that ‘accounting of [targets] and finance is rigorous, robust and transparent’. The frequency with which these MRV provisions will be applied is uncertain and would need to be addressed as part of the updated guidelines.

Definitions of developing state NAMAs

The Copenhagen Accord states that developing countries will implement Nationally Appropriate Mitigation Actions, but that these actions will be voluntary for Least Developed States (LDS) and Small Island Developing States (SIDS) and contingent on the delivery of support. The Accord calls for countries to submit NAMAs to an annex, but does not provide much detail on what form NAMAs should take. Submissions so far demonstrate how varied NAMAs can be. These actions have been expressed in a number of ways, from quantifiable sectoral targets (such as a percentage reduction in emissions per unit GDP), to lists of policy measures. For example, Brazil submitted a document detailing eleven targets and policy measures augmented with estimates of expected emissions reductions, whilst India has so far submitted a document with just one overall emission intensity target.

Verification of developing state NAMAs

The Copenhagen Accord also increases the frequency and stringency of developing state national inventories and communications procedures. Under the Copenhagen Accord, developing states have to submit national communications and inventories once every two years, and to compile them according to internationally-agreed guidelines. NAMAs seeking support are to be placed in a registry detailing their nature in order to facilitate linkages with the appropriate international support. They will subsequently be reported and verified internationally.

In comparison, unilateral NAMAs are only subject to ‘domestic’ MRV, but a compromise was struck so that the results of this MRV will be reported through national communications with ‘provisions for International Consultation and Analysis (ICA)’. It is currently unclear what form ICA will take, but some work has already begun on examining models from other organisations such as the World Trade Organisation and the International Monetary Fund.

Verification of support

Recognising that sufficient financial resources will be required to mitigate and adapt to the effects of climate change (and also to ensure such actions are measureable, reportable

and verifiable), the Copenhagen Accord states that ‘scaled up, new and additional, predictable and adequate funding as well as improved access shall be provided to developing countries’. The measuring, reporting and verification of this support is to be achieved through existing and further guidelines adopted by the COP in a way that is ‘rigorous, robust and transparent’. The ability to truly verify the implementation of these requirements will, however, depend upon how new guidelines are informed by interpretations of such concepts as ‘new and additional’.

Half-way house at Bonn and the road to Mexico

Considering the somewhat dubious position that the Copenhagen Accord holds within the negotiating framework, it is unclear to what extent these measures will be incorporated into final treaty provisions. Last month, the AWG-LCA met again along with other negotiating bodies under the UNFCCC in Bonn, Germany, to revisit their complicated negotiating texts and, as the main negotiating text regarding long-term action, it is the AWG-LCA text and not the Copenhagen Accord that forms the current basis of ongoing talks. In any case, some options on MRV presented in the Accord are also included in outgoing COP reports from Copenhagen.

During the Bonn negotiations, many delegates from both developed and developing states expressed their support for a number of options included in the COP text and which closely resembled those contained within the Copenhagen Accord. The outgoing text from Bonn produced by the AWG-LCA chairs also contains some items which present an MRV structure similar to that contained in the Accord. For developing countries, this includes an increased frequency of reporting (every two years) on a selection of core items: inventory information, mitigation actions, receipt of finance and the result of domestic MRV of unsupported NAMAs. International MRV is envisaged of supported NAMAs. Full national communications are envisaged every six years, with International Consultation and Analysis applying to these and the biennial reports.

Provisions for developed countries, on the other hand, may include an assessment of the comparability of efforts by a

technical panel, MRV based on current and future guidelines, accounting procedures, annual inventories, biennial progress reports on mitigation action, targets, provision of finance, and use of emissions trading. Full national communications based on current and possibly new reporting elements are required every three to five years. These may be subject to enhanced verification procedures building on current processes, including in-depth reviews by expert review teams. However, as only a representative text this does not necessarily indicate consensus and some parties have expressed dissatisfaction with certain aspects of it.

Meanwhile, Convention parties that are also parties to the Kyoto Protocol have been negotiating over the protocol’s future. Some parties have been calling for those developed country parties that are not parties to the protocol—namely, the US—to nevertheless be subject to the protocol’s provisions on MRV.

Attempting to banish the ghosts of Copenhagen, delegates at Bonn tried to find a balance between ambition and workability. An ambitious approach would suggest that parties at COP 16 should push for the realisation of the complete, comprehensive agreement missed at Copenhagen. A more workable approach might, however, recognise that there is still a considerable amount of work to be done in several core areas and that it might therefore be wiser to first concentrate on the ‘low hanging fruit’ as a positive step toward the realisation of a complete agreement. The development and agreement of an MRV structure in Mexico may well be one such ‘low hanging fruit’. Consensus on an MRV framework can build confidence and provide a solid framework on which to build a comprehensive agreement. The progress made in developing an MRV framework played an important role in unlocking the difficult negotiations at Copenhagen, and finalising this structure may well give a boost to negotiations at COP 16.

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New publications, April-June 2010



Occasional Paper 3. VERTIC releases the third in its series of five papers on the CTBT and its verification regime. ‘Russia, Ratification and the CTBT’s entry into force’ is written by Victor Slipchenko, a well known former Russian diplomat and VERTIC advisor.

Mr. Slipchenko was an active participant in trilateral negotiations on a comprehensive nuclear test ban in the late 1970s. During the 1980s, he also attended bilateral talks with the United States on the Verification Protocol to the Threshold Test Ban Treaty. In 1993, Mr. Slipchenko was appointed by the Russian Government as Deputy Chief Negotiator for CTBT in Geneva. In that capacity he had contributed to the elaboration in the Conference on Disarmament of a draft treaty on the subject, while serving as Friend of the Chair on on-site inspections.

The paper argues that Russia can play a significant role in facilitating US ratification of the CTBT by reiterating some of its previous statements on the scope of the treaty. It also argues that Russia can engage in confidence building measures going ‘far beyond’ the treaty’s provisions.



Towards a verified nuclear weapon free zone in the Middle East. This paper outlines the need for a nuclear weapon free zone in the Middle East, and discusses its relevance for the 2010 NPT review conference. It is written by two Middle Eastern scholars.

Sameh Aboul-Enein is an Egyptian scholar and diplomat. He holds an MSc and a PhD in International Relations and the Middle East and has published a number of articles on disarmament issues. He is currently a visiting lecturer on disarmament (University of Westminster) and a member of a multilateral study group on Missiles (Peace Research Institute Frankfurt). He is an alumnus of the School of Oriental and African Studies and this article forms part of his post-doctoral research. He contributed these views solely in his academic and personal capacity. Hassan Elbahtimy is a researcher at VERTIC. He is also a PhD candidate and a research associate at the Centre for Science and Security Studies at the War Studies Department, Kings College, London.

The Review Conference: Looking back, looking forward

After four weeks of debate and confusion, the eighth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) ended on 28 May 2010 with the adoption of a final document, making this conference only the fourth such meeting to do so since the treaty's entry into force in 1970.

Most headline-grabbing of all, states parties agreed that a conference to further the goal of a nuclear weapons-free zone (NWFZ) in the Middle East—involving all states in the region—should be held in 2012. Reaffirming the 'urgency and importance of achieving universality of the treaty,' the final document also called on the three de-facto nuclear-weapon states of Israel, India and Pakistan to sign up to the pact.

Highlighting 'the importance of Israel's accession to the treaty' elsewhere in the document immediately prompted a critical response from the Netanyahu government in Tel Aviv. Iran was not mentioned in the Final Document (predictably since its presence at the conference meant it could block consensus). 'Given the distorted nature of this resolution, Israel will not be able to take part in its implementation,' it said in a statement released shortly after, casting a shadow of doubt over Israeli participation not just at the 2012 meeting but in any other efforts to translate the Middle Eastern NWFZ from a 15-year-old idea into reality.

The last issue of *Trust & Verify* (no. 128) identified eight issues that could be usefully addressed by the NPT's 189 states parties during their month-long gathering: universalization of the safeguards-strengthening Additional Protocol; the rights of the International Atomic Energy Agency (IAEA) to investigate suspected weaponization activities in non-nuclear-weapon states (NNWS); funding and staffing of the Agency; information-sharing between states; non-compliance with Article III (the safeguards article) of the NPT; the link between Article III non-compli-

ance and the right to produce nuclear energy; and last, but by no means least, the need for the ongoing development of capabilities to verify compliance in the realm of nuclear disarmament. Which of these, then, made it into the final text?

The Additional Protocol did, for one. The final document noted that the implementation of measures specified in the Model Additional Protocol of 1997 'provides, in an effective and efficient manner, increased confidence about the absence of undeclared nuclear material and activities in a state as a whole'. It further noted that numerous states were today of the view that Additional Protocols have become an 'integral part' of the IAEA's safeguards system. All states yet to bring an Additional Protocol into force were encouraged to do so as soon as possible. However, taking that step is a 'sovereign decision', the document said, in what essentially amounts to a recognition of the resistance of many firm hold-outs and the difficulty of any attempt to make the Additional Protocol a compulsory obligation on NPT parties.

On weaponization, the final document was silent. But on IAEA finances and human resources, recommendations were more forthcoming. It called on all states parties to ensure that the IAEA 'continues' to have 'all political, technical and financial support' necessary for it to effectively fulfil its safeguards responsibilities. The conference also encouraged all states in a position to do so to make contributions to the Agency's Peaceful Uses Initiative, a US-led programme to raise \$100m over the next five years. It urged all parties to encourage 'national, bilateral and international efforts to train the necessary skilled workforce needed to develop peaceful uses of nuclear energy.'

Furthermore, in a statement not far removed from T&V128's assertion that information-sharing between states and the Agency was 'essential' to the proper functioning of the safeguards system, the 2010 conference document recognized

‘the need for enhanced international cooperation and coordination among states parties.’ Highlighted in particular were the collaborative efforts between states and the IAEA in the fight against illicit nuclear trafficking.

T&V128 also raised the issue of non-compliance with Article III of the NPT. At present, the extent to which non-compliance with safeguards equals non-compliance with Article III is not entirely clear, especially since many safeguards violations are seen to be of only minor proliferation concern. However, while welcoming the fact that 166 states parties have to date brought comprehensive safeguards agreements into force, and urging the 18 hold-outs to do so ‘without further delay’, the final document’s tackling of compliance concerns was noticeably more muted. States parties with concerns over safeguards non-compliance ‘should direct such concerns, along with supporting evidence and information’ to the IAEA for it to ‘consider, investigate, draw conclusions and decide’ what action (if any) was necessary.

Far more notable—and significant—was the inclusion of an understanding that the ‘inalienable right’ of NPT parties to develop nuclear energy was dependent on a state being in conformity with Articles I, II and III of the treaty. According to the letter of the NPT, the right to produce nuclear energy—a clause often cited by Iran in relation to its suspect nuclear activities—is contingent on compliance with Articles I and II (which prohibit the development of nuclear weapons). In the final document of the sixth review conference in 2000, however, that right was tied to Article III compliance as well. Were that to have been a legally-binding amendment to the treaty, a state in non-compliance with Article III (not always an unambiguous matter) would lose its right to produce nuclear energy. The reaffirmation of Article III conditionality—as called for in the last issue—is a welcome inclusion to this conference’s final document.

Away from non-proliferation, the final point raised in T&V128—namely, the need for the further development of disarmament verification capabilities—also found its way into the conference document, perhaps unsurprisingly

given the revival of serious discussions of nuclear disarmament witnessed over the last few years. ‘All states agree’, it said, ‘on the importance of supporting cooperation among governments, the United Nations, other international and regional organisations and civil society aimed at increasing confidence, improving transparency and developing efficient verification capabilities related to nuclear disarmament.’ And in particular, the conference flagged the joint efforts of the UK and Norway ‘in establishing a system for nuclear warhead dismantlement verification.’ VERTIC—which participated in these efforts as an independent observer—is to release its report on the so-called UK-Norway Initiative later this year.

In all, many of the issues raised in the last edition of T&V featured in some manner or other in the outcome document that nearly didn’t emerge after last-minute disagreements over Israel surfaced between Arab states and the US. And while weaponization went unmentioned, pronouncements on the Additional Protocol, effective support to the IAEA, verified nuclear disarmament and the link between safeguards and nuclear energy are all welcome for the renewed emphasis on verification that they bring.

Effective verification is crucial to the working and continued viability of the NPT; if this final document is anything to go by, that is a point that all parties, large and small, nuclear and non-nuclear alike, recognise as the truth.

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President Obama still without OPCW envoy

After more than eighteen months, the Obama administration is still without an ambassador to the Organisation for the Prohibition of Chemical Weapons (OPCW)—an absence that threatens to harm US standing within the Chemical Weapons Convention (CWC) regime. In force since 1997, and now with 188 states parties, the CWC bans the development, manufacture, stockpiling, transfer and use of chemical warfare agents such as sarin, mustard gas and VX. The US, along with Russia, has until April 2012 to eliminate its declared stockpile of chemical weapons—a deadline it has already admitted it will miss by some distance.

At present, the US delegation to the OPCW reportedly consists of only three or four staff—down from the eight that worked under the previous ambassador to the organization, Eric Javits. However, Mr Javits points out, even these remaining staffers are soon to be assigned duties elsewhere, raising the possibility of the US being left ‘entirely bare’ at the OPCW.

According to a spokesman for the US National Security Council, the Obama administration is ‘actively seeking to fill the position of ambassador to the OPCW’ to maintain America’s ‘strong leadership presence’ at the organisation, but the timescale for this appointment is uncertain. ‘We’re going to get a black eye if we don’t get the right representation there [soon],’ though, said Mr Javits. The US needs a full-time OPCW envoy to demonstrate ‘that we’re not arrogant and secondly that we’re deeply interested in the views of others,’ he said. ‘That we don’t just come carpetbagging by airplane every three months’.

David Cliff, London

REDD+ Partnership Document agreed in Oslo

While discussions on a mechanism to reduce emissions from deforestation and degradation (REDD) continue in the UN climate change negotiations, parallel initiatives have emerged to accelerate action. 2008 saw the launch of two significant processes; the World Bank’s Forest Carbon Partnership Facility and the UN-REDD programme, both of which aim to prepare countries for REDD implementation. Most recently, in May 2010, the ‘REDD+ Partnership Document’ was adopted outlining a plan to serve as an ‘interim platform’ for the scaling up of REDD+ actions and finance—at the Oslo Climate and Forest Conference in Norway. Membership is open to any country willing to support or undertake REDD+ actions; 58 countries, spanning the global North and South, are currently partners. As the co-chairs’ summary noted, the partnership ‘allows developing and developed country partners to act together now to reduce deforestation, building on the political momentum from Copenhagen, while continuing the negotiations on a global regime.’

As of late May, total pledges by developed countries for the period 2010-2012 stood at \$4 billion. For their part, developing country partners to the Oslo initiative pledged to develop REDD+ strategies, to build the required capacity and ‘create the enabling environment’ for REDD+. They also pledged to establish ‘robust and transparent monitoring systems’ and to ‘provide for the full and effective participation of relevant stakeholders, including indigenous peoples, local communities and civil society.’

A commitment to transparency was also made regarding actions and financing, as well as through the participation of a ‘representative group of stakeholders’ as observers to the partnership. In that respect, the Civil Society Representative from Africa on the UN-REDD Programme Policy Board, Pacifique Mukumba Isumbisho, commented that ‘without strict monitoring of the engagement and fair participation of stakeholders, and without a transparent organizational framework, the partnership will face serious

difficulties.’ But the extent of openness shown by the partnership has already come in for criticism, with Global Witness—an NGO that seeks to expose the exploitation of the world’s natural resources—stating in June that it appeared to be ‘moving in a direction which undermines its goal of improving transparency.’ At the Bonn Climate Change Talks, held between 31 May and 11 June, Global Witness noted, ‘representatives of civil society, indigenous people and local communities’ were ‘largely excluded’ from meetings held to advance the partnership’s stated goals.

Elsewhere during the conference, Norway and Indonesia announced the signing of a bilateral initiative in which Norway is to support Indonesia’s forest conservation efforts through implementation of a REDD+ strategy. The billion dollar pledge is being tied to the verification of Indonesia’s emissions reductions, and the fund will be distributed over a 7-8 year period. Indonesia nonetheless announced that it would not take away existing licences for deforestation.

Sonia Drobysz, London

World fisheries management system failing

Two peer-reviewed studies published in *Science* and *Marine Policy*, respectively, have found that governments and regional fisheries management organisations (‘RFMOs’) are struggling to tackle illegal and unreported fishing. Failure to deal with the problem adequately is threatening fish stocks, marine ecosystems and the long-term sustainability of the high seas fishing industry. The study in *Science* found that the current system of port state control lacks transparency, accountability, and the global reach to ‘punish’ illegal fishers. Up to 26m tonnes of illegally-sourced fish—worth as much as \$23.5bn—are landed every year, it says, and unless a better system is developed to address these faults the situation is unlikely to improve.

The study stresses the need for the recently-agreed Port State Measures Agreement (‘PSMA’)—a UN Food & Agriculture Organization pact designed to tackle illegal fishing—to be supported and implemented effectively. To date, 15 countries and the EU have signed the PSMA, but none has yet ratified it (with 25 ratifications necessary before it can take effect).

‘Should the PSMA not achieve broad ratification and instead follow the fate of prior international agreements, then implementation of port state measures will remain patchy,’ argues the study, which will in turn ‘provide continued loopholes for illegal operators.’

The second study, conducted by researchers at the University of British Columbia, Canada, found that two-thirds of commercial fish stocks under RFMO management are either severely depleted or overfished. And according to the researchers involved, ‘many RFMOs lack a general commitment to set and implement conservation measures to keep fish populations at sustainable levels.’ The findings also highlighted a gap between planned (i.e. on paper) and actual effectiveness in terms of fish stock management. Furthermore, researchers working on the study claim that establishing an RFMO had, for the most part, no effect on trends among declining stocks and, in some cases, preceded a sharp decline in the stocks they managed.

Hugh Chalmers, London

Iran bars two inspectors over false reporting claim

On 21 June 2010, Ali Akbar Salehi, the head of Iran’s Atomic Energy Organization announced that two IAEA inspectors were banned from the country for filing an ‘utterly untruthful’ report and leaking its contents to the media. ‘We asked [the IAEA] that they would not ever send these two inspectors to Iran and instead assign two others,’ he was reported as saying. The move, though allowed under Iran’s safeguards agreement, may have further soured relations between the Islamic Republic and the Agency.

This latest controversy in the long-running dispute between Iran and the West revolves around two inspections conducted at the Jabr Ibn Hayan Multipurpose Research Laboratory (or JHL) in Tehran. According to the IAEA’s latest safeguards report on Iran, ‘the Agency was informed by the operator that pyroprocessing R&D activities had been initiated at JHL to study the electrochemical production of uranium metal.’ So far, so straightforward. However, on a return visit to the facility, inspectors noted that an electrochemical cell, a critical piece of equipment, had

been removed. Meanwhile, Iran had backtracked over pyroprocessing (rebuffing a request from the IAEA for more information as they did so). Pyroprocessing has potential weapons relevance.

The plot thickens still more, though. In a letter dated 7 June, Iran stated that the above quoted line was ‘absolutely incorrect and ...wrongly reported.’ The JHL operator had ‘never stated that pyroprocessing R&D work had been initiated’ there. The operator, it claimed, ‘in fact... vividly explained to the inspectors that a research project aimed purely at studying the electrochemical behaviour of uranyl ion in ionic liquid’ was being undertaken. The reference to pyroprocessing is ‘a misunderstanding on the side of the Agency’s inspectors,’ it argued. It then asserted that the allegedly missing electrochemical cell ‘has never been removed since its installation.’ Two weeks later, Mr Salehi barred the inspectors. The Agency took a firm stance on the matter. It expressed its ‘full confidence in the professionalism and impartiality of the inspectors concerned.’ It also affirmed the accuracy of its reporting.

The impact of the pair’s black-listing is likely to be more symbolic than actual. As the *Washington Post* commentator Colum Lynch noted, it represents a ‘calibrated escalation’ in Iran’s dealings with the West. ‘Not provocative enough to trigger a fifth round of Security Council sanctions, but recalcitrant enough to send a clear signal of its mounting displeasure with the UN’s nuclear inspection regime.’

Relations between Iran and the IAEA could soon worsen further still, with Iran’s parliament currently considering a bill to enshrine minimal cooperation with the UN’s nuclear inspectorate into Iranian law. Iran’s relationship with the IAEA has been on a downward trajectory since the Agency’s new director-general, Yukia Amano, brought with him to office what many see as a firmer line against Tehran.

Despite remaining unswervingly insistent that its nuclear programme is directed toward purely peaceful ends, Iran’s intentions remain unclear. Pyroprocessing, as Mark Fitzpatrick of the International Institute for Strategic Studies

has noted, ‘would bring Iran close to being able to separate plutonium’ from spent nuclear fuel. And this could help it on its way towards a nuclear weapon.

Elsewhere in Iran, the Agency’s report notes that on 1 May 2010, the Fuel Enrichment Plant at Natanz—Iran’s primary enrichment facility—had produced 2,427 kg of low enriched uranium (LEU) since production there began in February 2007. This production is in contravention of several UN Security Council resolutions.

Iran announced in February that it was to begin enriching uranium up to 20 per cent to provide fuel for a medical research reactor in Tehran. So at the smaller, above-ground Pilot Fuel Enrichment Plant (or PFEP, also located at Natanz) some 172 kg of LEU in the form of uranium hexafluoride gas (UF₆) was fed into a 164-machine centrifuge cascade for further enrichment. On 7 April 2010, 5.7kg of UF₆—enriched, Iran says, to 19.7 per cent uranium-235—was withdrawn and placed in storage. On 23 June, Mr Salehi told Iran’s ISNA news agency that the country had ‘so far produced more than 17kgs of 20 per cent enriched uranium’. An amount as yet unconfirmed by the IAEA.

Its enrichment activities show no signs of slowing either, not least due to the recent installation of a second cascade at the PFEP that Iran has likewise designated for the production of LEU enriched up to 20 per cent. On learning of the intended installation, the Agency told Iran that the introduction and interconnection of a new 164-machine cascade ‘would constitute a new and significant development’ that would require ‘a full revision’ of safeguards at the PFEP. But on 7 April, when IAEA inspectors visited the plant, the second cascade had already been installed and was ready for operation.

In late May, several weeks after a new safeguards approach was eventually agreed, Iran had yet to begin feeding this second cascade with UF₆ gas. Nor had it connected it to the first.

The modification of the PFEP to enable the production of uranium enriched up to 20 per cent ‘was not notified to the

Agency by Iran with sufficient time for the Agency to adjust its safeguards procedures, as required under Article 45 of Iran's Safeguards Agreement,' before Iran started to feed UF6 into the first cascade in February. Iran has also reportedly still not provided the IAEA with design information on the Fordow Fuel Enrichment Plant near the Iranian city of Qom (a plant the Iranians kept secret until Western intelligence unearthed it last year), nor has any progress been made in resolving 'outstanding issues related to possible military dimensions' to Iran's nuclear programme.

David Cliff and Sonia Drobysz, London

US and Russia sign 'New START' deal in Prague

In what stands as a boost to President Obama's ambitious disarmament agenda, April saw the US and Russian leaders meet in Prague—where one year ago Mr Obama proclaimed his vision of a world without nuclear weapons—to sign the so-called 'New START' pact which, after many long days of negotiations, stipulates cuts in the number of their deployed strategic nuclear warheads to below 1,550 apiece. The reductions are to be achieved within seven years of the treaty's entry into force—not, it might be added, a foregone conclusion. Operationally deployed delivery platforms are also cut, with each country being allowed, in total, no more than 700 intercontinental ballistic missiles, submarine-launched ballistic missiles and heavy bombers equipped to handle nuclear arms. Bomber counting rules, though, have raised concerns, since each deployed heavy bomber is counted as being representative of one warhead, when bombers can in reality carry many more. US B-52 bombers, for instance, can hold up to 20.

Almost a year in the making, the New START deal was designed to replace the 1991 Strategic Arms Reduction Treaty (hence, START), which expired in December after 15 years in force. The intention was to have its successor in place before then, but differences over verification provisions and missile defences saw negotiations extend several months into 2010. New START is to supersede the 2002 Treaty on Strategic Offensive Reductions (better known as the Moscow Treaty, or SORT), which set a maximum ceiling of 2,200

for the number of deployed strategic warheads allowed by each side, a target that was supposed to be reached by 2012. Unlike the Moscow Treaty, however, which contained no verification provisions, New START includes many of the stringent verification measures that formed a large part of the 1991 accord. Measures include on-site inspections and exhibitions, data exchanges and notifications, provisions for the exchange of missile telemetry data and provisions to facilitate the use of national technical means.

Some see verification as more important than the number of warheads, delivery vehicles and their counting rules. As Pavel Podvig, of California's Stanford University, has written: 'Whether it is 1,550 or 500 warheads, it's far too many. What is important is that the treaty provides the public with a way to hold the US and Russian governments accountable for the nuclear weapons they possess...A strong mechanism of transparency and verification is much more important than any specific number of warheads that the treaty eventually will mandate.'

But to even come into force, the treaty must first be ratified by both the US Senate and the Russian parliament, the Duma. In the US, where its legislative approval is likely to be a trickier prospect, ratification hearings began in early June. Obama administration officials are publicly confident, but with mid-term elections (due 2 November 2010) drawing nearer, time is of the essence. 'We'd really like to get New START ratified this year, meaning we have to start sooner rather than later,' said Ellen Tauscher, US under-secretary of state for arms control and international security, back in April. 'Because once we get into election season, and possibly a lame-duck session of Congress, everything becomes unpredictable. We can't bank on the idea that we get more than one chance at this.'

David Cliff, London

Indonesia to ratify CTBT, stalled progress on FMCT

Looking back, May 2010 was an encouraging month for progress on the nuclear non-proliferation front. Aside from the forging of consensus at the end of the Non-Proliferation Treaty review process, a small but concrete step was also taken toward entry into force of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) with the announcement by Indonesia on 3 May that it was initiating the treaty's ratification process. Indonesia is one of the nine remaining 'Annex II' states that must ratify the 1996 accord before it can come into force, with China, Egypt, India, Israel, Iran, North Korea, Pakistan and the United States still to do so also.

While greeting the news in his opening address to the NPT review conference, UN Secretary-General Ban Ki-moon nonetheless lamented the treaty's current status, suggesting that the time had come for the setting of a 'timeframe for ratification' to be looked at seriously. 'The current mechanism for entry into force dates from a time when there were questions about the treaty's monitoring and verification system,' he said. 'But times have changed. The system has proven its effectiveness...We need to consider seriously an alternative mechanism for bringing the treaty into effect.' The CTBT's last Article XIV (entry into force) conference in 2009 noted with concern that the treaty was still not in force 'thirteen years after its opening for signature on 24 September 1996,' but was unable to agree on firm measures to change the current state of play, instead simply reaffirming its 'commitment to the treaty's basic obligations' and calling on all states 'to refrain from acts which would defeat the object and purpose of the treaty pending its entry into force.'

In his speech, Ban Ki-moon also told delegates that he had called on the Conference of Disarmament (CD) to immediately begin long-stalled negotiations on a treaty banning the production of fissile materials for use in weapons. But unlike the NPT and CTBT, progress on a Fissile Material Cut-off Treaty (FMCT) appears as distant as ever, with Pakistan continuing to stand in the way of talks. On 3 June, the Pakistani ambassador to the UN, Zamir Akram, denounced the 'artificial hype surrounding the FMCT issue',

which, he said, was being 'presented and pushed' as a test of the CD's ongoing 'relevance and credibility.' Fearing and arguing that an FMCT would only be aimed at Pakistan, Mr Akram sought to deflect attention to 'other issues on [Pakistan's] agenda [that] are equally important to other states such as nuclear disarmament within a certain timeframe, prohibition of using nuclear umbrella [sic], legally binding instruments on outer space and negative security assurances, conventional arms control at regional or sub-regional levels and missiles in all their aspects.'

Sonia Drobysz, London

US committee approves new biosecurity legislation

In June, The US House Homeland Security Committee approved legislation designed to overhaul security at US biological research facilities and enhance federal efforts to combat the threat posed by weapons of mass destruction. Members of the committee voted 26-0 on 23 June in favour of the 'WMD Prevention and Preparedness Act of 2010' bill, which must now be put before the full House of Representatives.

Notably, the legislation requires the US homeland security secretary to establish a 'negotiated rulemaking committee' incorporating representatives from a host of government departments to develop 'enhanced biosecurity measures for persons or laboratories' that possess or work with items on a yet-to-be-decided list of 'Tier 1 Material Threat Agents'. The US departments for Agriculture and Health and Human Services would then be required to conduct inspections to enforce rules set by the committee, and to establish training programmes for facility personnel.

Earlier this year, the bipartisan Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism graded the Obama administration with a lowly 'F' in assessing its state of preparedness for a biological attack, and a 'D+' in its oversight of high-containment laboratories. 'Moving [the WMD Prevention and Preparedness] bill quickly through the legislative process, and to the president's desk for signature, will be an incredibly important step in improving America's biodefence posture,' said

the Prevention of WMD commission's two chairs, former Senators Bob Graham and Jim Talent, in a statement after the House committee's bill was unveiled on 10 June. But its onward passage would not necessarily be easy, they said. 'Our years of experience in Congress tell us this bill will require vigorous support from congressional leadership on both sides of the aisle.'

Speaking ahead of the vote, Democratic Representative Bill Pascrell, one of the bill's co-sponsors, noted his concern that this piece of legislation 'could be stuck in the same jurisdictional turf battles we have been fighting' since the Department of Homeland Security was created in the wake of the 9/11 attacks. 'If we simply shelve this legislation because of jurisdictional turf battles then we prove the idea that we are no safer today than we were on September 10th, 2001.'

The House committee's endorsement of this bill follows on from the approval of similar legislation by the Senate Homeland Security and Governmental Affairs Committee last November. That bill, which has yet to reach the full Senate chamber, called for the separation of selected agents and toxins into three tiers. As envisaged by the Senate committee, facilities handling the most dangerous, top tier, pathogens would be regulated by the US Department for Homeland Security while regulation of those facilities handling pathogens in the other two tiers would be assigned to the Department of Health and Human Services (DHHS). How these two bills will be integrated into one legislative package remains, as yet, unclear. 'Where will the two trains meet? I can't answer that question,' said Mr Pascrell, upon the introduction of his legislation. 'But we would hope that we would all be on the same page when we get finished.'

David Cliff, London

Verification Quotes

'As more countries seek to include nuclear power in their energy plans, the need to understand, develop and implement proper nuclear safeguards will become an even more important part of strengthening nuclear nonproliferation efforts around the world,'

NNSA Administrator Thomas Paul D'Agostino on the US-Kuwait memorandum of cooperation, 24 June 2010.

'Inspections should be thoroughly within the non-proliferation treaty'

Atomic Energy Organization of Iran Director Ali Akbar Salehi, 24 June 2010.

'The banning of two inspectors from Iran is, 'symptomatic of its longstanding practice of intimidating inspectors in which Iran has engaged,'

U.S. State Department spokesman P.J. Crowley, 27 June 2010.

'The IAEA has become increasingly reliant on voluntary contributions over the past several years just to carry out some of its basic functions. If that demand increases while its regular budget continues to be constrained by a zero real-growth policy, it is hard to see how it will be able to keep pace,'

The Arms Control Association's Peter Crail on the real challenge facing the Agency

'The broader challenge from Pakistan is its demand that it receive the same exemption from the Nuclear Suppliers Group's nuclear trade restrictions that India has received since the India/US [civilian] nuclear deal,'

Former VERTIC Director Trevor Findlay points the flashlight on the elephant in the room, 8 June 2010.



Los Alamos develops virtual reality simulator

According to a report by the Nuclear Threat Initiative, scientists at the Los Alamos National Laboratory in New Mexico are in the process of developing 'detailed, virtual models of nuclear reactor facilities to help provide more true-to-life training to inspectors' whose job it is to monitor such sites for the illicit diversion—to non-peaceful purposes—of nuclear material. Reportedly involving the same computer tools as those used in the production of today's animated films, the team at Los Alamos have already built a three-dimensional model of a reactor in Idaho, including small details such as wiring, warning markers and radiation indicators. The system has been provided to the International Atomic Energy Agency (IAEA) and, according to Kelly Michel, the official in charge of the project, has already helped IAEA safeguards officials to notably improve their inspection test scores.

Indeed, the training benefits are as obvious as they are huge. And the system could in time lead also to the development of safer and more secure facilities. 'In virtual reality, we can let people learn about a facility by standing in places that would not be safe or possible to stand,' noted Philip Hypes, a non-proliferation projects coordinator at Los Alamos. 'We can make walls and pipes transparent and actually watch material flow or not flow. We can treat an entire multi-billion dollar facility as a laboratory where we play around with different configurations of detectors and cameras and things, and essentially do experiments that would be prohibitively expensive if you tried to do them any other way.'

Martin Groarke, London

Synthetic genome raises biosecurity concerns

Since the announcement in May that researchers at the J. Craig Venter Institute in Rockville, Maryland had successfully managed to create a cell controlled entirely by a synthetically-produced genome, concerns have been raised that this latest feat of biological science could in time be harnessed for the development of biological weapons.

Dr Venter and his team, who previously created the first ever synthetic genome in 2008, successfully transplanted a synthetically-produced genome (*Mycoplasma mycoides* JCVI-syn1.0) into a recipient microbial relative, which subsequently demonstrated replication and protein production according to the synthetic, implanted genome. This development represents an historical step towards creating the first fully synthetic organism which could be designed to fulfill a specific purpose, for either good or ill.

Concerned about the potential misuse of such technology, President Obama called almost immediately on the Presidential Commission for the Study of Bioethical Issues, an advisory panel established by the president last November, to 'undertake, as its first order of business, a study of the implications of this scientific milestone, as well as other advances that may lie ahead in this field of research.'

Opinion is split, however. According to the *Washington Post*, the 'early consensus' is that the achievement 'poses no hazards beyond those that exist with current modes of moving or tweaking genes.' But given the rapid pace of modern-day scientific advances, and the rapid diffusion of technology and expertise between laboratories and across borders, the use or abuse of advances in genetic engineering in the coming years is almost impossible to predict.

Indeed, as was raised in January at a forum on 'Minimising the Risks of Synthetic DNA' organised by the American Association for the Advancement of Science, engineering life presents opportunities to create existing, augmented and/or novel pathogens. Since current restrictions on select agent pathogens, such as smallpox, are based on the physical safeguarding of live stocks, with the application of modern gene synthesis technology a would-be attacker could potentially obtain a complete pathogen genome by ordering it from providers of commercial DNA.

David Cliff and Hugh Chalmers, London

National Implementation Measures Programme

During the second trimester of the year NIM staff participated in several events aimed at raising awareness about the importance of adopting effective national legislation to implement the BWC and CWC.

Scott Spence participated in the workshop ‘Options and proposals to strengthen the confidence-building measures mechanism of the Biological Weapons Convention (Workshop 3)’ held in Berlin, from 26 to 27 April. Participants discussed the relevance of the current forms for building confidence in compliance with the BWC.

Scott also represented VERTIC at the ‘Public Health, Security and Law Enforcement Partnership in Bioincident Pre-planning and Response’ workshop, held in Tbilisi, Georgia, from 11 to 15 May. Topics included Public Health Security: A Multi-Layered System of Defence (internationally and regionally) and Epidemiological Surveillance and Investigation. The participants also worked through a bioincident scenario during a tabletop exercise, involving the intentional release of a genetically modified virus capable of expressing the botulinum neurotoxin.

Angela Woodward attended the workshop ‘The contribution of the OPCW to the international security dimension: achievements and challenges’, held in Berlin, from 7 to 8 June. The seminar focused on the state of implementation of the Convention, relevant decisions of the policy-making organs; the future of industry verification and developments in science and technology and their impact on the Convention; perspectives from NGOs; and cooperation among international organizations.

Rocío Escauriza Leal represented VERTIC at the workshop on the implementation of UNSCR 1540-Committee, held in Croatia, from 14 to 17 June. Several countries approached VERTIC staff during this workshop to discuss approaches and further co-operation on strengthening their legislation for the implementation of the BWC and Resolution 1540.

In the last quarter the team completed nine legislative surveys and conducted two additional legislative assistance activities and an awareness raising activity. VERTIC has also liaised with three Arab countries to discuss how we might cooperate to further strengthen their BW-related legislation. At present, VERTIC is preparing for a legislative drafting workshop that will take place at the beginning of August in London.

The NIM team is deeply grateful to Renata Dalaqua for her valuable contribution, her hard work and enthusiasm during her internship with the National Implementation Measures Programme. A native of Brazil, Renata assisted the NIM team with outreach to Lusophone countries.

Arms Control and Disarmament Programme

On the 23 April 2010, and in the run up to 2010 NPT Review Conference, VERTIC released its briefing paper ‘Towards a verified nuclear weapon free zone in the Middle East’. The brief was co-authored by VERTIC’s researcher Hassan Elbahtimy and Sameh Aboul-Enein, an Egyptian scholar and diplomat. The paper discussed the need for a nuclear weapon free zone in the Middle East, and examined its relevance for the 2010 NPT review conference. The paper is the tenth in the *VERTIC Brief* series. It received instant attention in the community, and the few hard copies that were printed were scooped up within minutes.

In May, Andreas Persbo and Hassan ElBahtimy contributed two different sections to ‘Perspectives for Progress: the 2010 NPT Review Conference and Beyond’, a briefing book project led by the Pugwash Conferences on Science and World Affairs. VERTIC’s contribution included a section on ‘The case for a stronger safeguards regime’ by Andreas Persbo and another on ‘Verifying nuclear warhead dismantlement’ by Hassan ElBahtimy.

The book includes commentary by Mohamed Shaker, Gen. Sir Hugh Beach (a VERTIC trustee), Sverre Lodgaard, Jayantha Dhanapala and Rebecca Johnson. During the same

month, Andreas Persbo also contributed a chapter in UNIDIR's publication: 'A Fissile Material Cut-off Treaty: Understanding the Critical Issues'. The book features contributions from authors such as the International Panel on Fissile Materials, Anette Shaper, Harold A. Feiveson, Bruno Pellaud and the International Atomic Energy Agency.

Also in May, VERTIC closely followed the proceedings of the 2010 NPT Review Conference in New York through a delegation including Andreas Persbo and Hassan Elbahtimy. During the conference, VERTIC took part in the special event organized to launch the NPT Working Paper 'The United Kingdom-Norway Initiative: Research into the Verification of Nuclear Warhead Dismantlement'. In the event, Mr Persbo delivered VERTIC's statement on its participation as an independent observer in Initiative, while also looking ahead to the forthcoming publication of VERTIC's report on the project—the release of which is expected by the end of this September. The highly anticipated seminar was exceptionally well attended (about 120 delegates in total). In general, delegates were supportive of the initiative and called for its continuation in the upcoming review cycle.

Hassan Elbahtimy continued to cover the end game of the conference, with a view of producing a restricted report on its outcome. Andreas Persbo and Ole Reistad of the Norwegian Radiological Protection Authority are scheduled to write an article for the December issue of the OECD/NEA *Nuclear Law Bulletin*. Norway played an instrumental role in wrapping up the conference, and some of those events will be mused upon in the article.

Between 2-5 June, VERTIC's nuclear arms control researcher David Cliff travelled to Islamabad, Pakistan, to participate in a roundtable discussion on Indo-Pakistani cooperation and security issues. The event—which brought together prominent current and former policy-makers, diplomats, military officials, intelligence experts and national media analysts—was organised by the Pugwash Conferences on Science and World Affairs, with VERTIC attending in the capacity of co-funder. It represents the first in a planned series of meetings of a new bilateral Indo-Pa-

kistani Commission established to serve as a forum for the discussion of ways to promote greater security for both countries through increased cooperation in areas such as terrorism, water, trade, people-to-people contact, arms control, Kashmir and Afghanistan. VERTIC provided funds for the meeting in support of its own project on confidence building measures in South Asia. This project, funded by the Norwegian Ministry of Foreign Affairs, will now be concluded.

On 9 June, Andreas Persbo presented at the annual general meeting of the Swedish Branch of the International Law Association. He was asked to offer thoughts on whether the 2010 NPT Review Conference could be seen as a breakthrough in the disarmament question. Another presenter on the panel was Christer Ahlstrom, director of disarmament and international security at the Swedish Ministry of Foreign Affairs. Also present at the meeting was Hans Blix, who delivered a in-depth expose on the development of nuclear safeguards during his tenure as IAEA director-general. VERTIC is grateful to Ove Bring, and the Swedish branch, for their kind invitation.

Finally, on 29 June 2010, Andreas Persbo delivered a presentation on the role of technology and science for nuclear disarmament to about 70 conference participants at Wilton Park's Conference 'Nuclear Salience in Decline?'

The nuclear programme is now focussing on final preparations for the release of the first draft of the Report of the Independent Observer, a Carnegie Corporation of New York funded study into practical exercises on warhead verification. The first, restricted, draft will be released to a select circle of reviewers on 9 July 2010.

The Environment Programme

Between April and June, the environment programme focused on finalizing the Chatham House project report – 'Illegal logging and Related Trade: Indicators of the Global Response' which is due to be launched, along with accompanying publications, in July, along with its accompanying publications—a briefing paper and country report cards. The programme also worked with the World Resources

Institute examining linkages between the proposed UN mechanism to Reduce Emissions from Deforestation and Degradation (REDD) and illegal logging. It also carried out research on the status of the UN REDD negotiations and monitoring, reporting and verification systems.

Larry MacFaul participated in the UN-REDD/Chatham House Expert Workshop, London, from 24-25 May. The goal of the meeting was to improve understanding of what aspects of governance need to be monitored to help develop effective REDD strategies. The workshop drew on current and past experiences from the forest and other sectors. The discussions aimed at developing a draft framework of core governance parameters for monitoring and reporting which could inform the negotiations and various REDD processes, and also assist countries preparing REDD strategies. The meeting was attended by experts from around the world representing civil society and international organizations such as UN-REDD and the World Bank.

Between 7 – 10 June, Larry attended the latest UN climate change negotiation sessions in Bonn, Germany. This included the 32nd sessions of the convention's subsidiary bodies, the 10th session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, and the 12th session of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol. And on 25 June, Larry participated in the 16th Illegal Logging Stakeholder Update meeting at Chatham House, London.

Over this period, the programme continued to liaise with FIELD, other civil society organizations, business and academia on environment project development.

Director's reflections

Having experimented with various publishing platforms, we're now going back to a proven format. This is why *Trust & Verify* now may feel familiar to you. But this is just the start of a major overhaul of how we at VERTIC communicate with our communities. In the coming months, we are going to refresh the website, making it more accessible and more content driven, while keeping our brand colours and style. We will also start to roll out products in the ePub format, making them accessible for readers using the Kindle or the iPad.

Of course, publishing is only the public face of what we do in the organization. Most of our activities are carried out discreetly, especially so the work of our National Implementation Measures Programme team. The size of that programme, almost three quarters of our total budget, is a testament to the success and the professionalism of our staff. And I am pleased that it grows at an ever increasing pace, even in times of economic turmoil. The recent addition of one more legal officer to the team is going to help us to deliver products to our clients faster, more efficiently and more effectively.

VERTIC has now adopted a new strategic plan, which contains measurable objectives, milestones and priority areas. We have decided where we want to be at the end of the plan, yet it allows our researchers and directors to decide on the path to get there. As for publications, the plan directs us to explore all options for the re-establishment of the *Verification Yearbook* or a successor *Verification Journal*. The former is presently more likely than the latter, but we are not ruling out any options. As we are unlikely to amass large amounts of funds to support these publications, we will have to rely on the benevolence and goodwill of our authors to make it happen. But if there is a will, there is a way forward. And forward we must go, as life is motion.

Andreas Persbo

Grants and Administration

In this quarter, VERTIC has focused on project delivery and implementation of existing grants, as such fundraising was scaled down. Despite this, a new discretionary grant (about £20,000) was agreed with the Norwegian Radiological Protection Authority. This grant is backdated, and goes towards our work on the UK-Norway Initiative. We also received a short contract from the World Resources Institute. The implementation timelines on a pending project had to be revised due to the programme spending review at the Foreign & Commonwealth Office. This review has now been concluded, presently with no impact on VERTIC programme activities. We are, of course, very grateful for the continued support from our funders. The executive director has, mindful of the present fiscal situation in many of our funder governments, reviewed the financial situation of the charity, as well as our cash-flow forecasts, and concluded that all activities still are on time and budget. Therefore, we have taken steps to increase our capacity. Mr. David Cliff rejoined VERTIC as a Research Assistant in May 2010. He will primarily work for the Arms Control and Disarmament Programme. In addition, the National Implementation Programme (NIM) recruited a Programme Assistant, Ms. Yasemin Balci. She will be joining the team in mid-July. Sonia Drobysz, a PhD candidate carrying out work on the IAEA will be with us for a month until the end of July. Renata Dalaqua completed a successful internship with the NIM team at the end of June after a period of two months. We are grateful for all her hard work.

In addition, VERTIC contracted a dedicated IT support team in June and as staff frequently operate from abroad we also reviewed our travel health and safety rules.

building trust through verification

VERTIC is an independent, not-for-profit non-governmental organization. Our mission is to support the development, implementation and effectiveness of international agreements and related regional and national initiatives. We focus on agreements and initiatives in the areas of arms control, disarmament and the environment, with particular attention to issues of monitoring, review and verification. We conduct research and analysis and provide expert advice and information to governments and other stakeholders. We also provide support through capacity building, training, legislative assistance and cooperation.

PERSONNEL Andreas Persbo, *Executive Director*; Angela Woodward, *Programme Director*; Larry MacFaul, *Senior Researcher*; Scott Spence, *Senior Legal Officer*; Hassan Elbahtimy, *Researcher*; Rocío Escauriaza Leal, *Legal Officer*; David Cliff, *Research Assistant*; Unini Tobun, *Administrator*; Jasper Pandza, *Volunteer (2009-2010)*; Meena Singelee, *Volunteer (2009-2010)*; Hugh Chalmers, *Intern (May-July 2010)*; Renata Dalaqua, *Intern (May-June 2010)*; Sonia Drobysz, *visiting scholar (June-July 2010)*.

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