

## Strengthening the Nuclear Security Regime: Lessons from the Global Framework Agreements on Ozone and Climate Change

### Introduction

The Nuclear Security Summit (NSS) process that began in Washington in 2010 and continued in Seoul in 2012 has made an important contribution in focusing the attention of some fifty heads of state and government on the need to enhance the security of fissionable materials and dangerous radioactive sources. This high-level attention produced commitments from many of the participating states to take steps to improve their own nuclear security practices and/or share their experience to help others. Even ardent supporters of the NSS process acknowledge, however, the progress made to date has been modest and there is much still to be done to secure all dangerous nuclear material and ensure that terrorists cannot acquire and use it against the international community.<sup>1</sup>

The organizing principle of the NSS process is that nuclear security is the responsibility of individual states and that improvements should be made domestically by each state, with support from others, including the IAEA, as requested. Hence the idea promoted by Washington and Seoul as NSS hosts that participating states should bring “house gifts” or “gift baskets,” i.e., actions a state would take to improve its nuclear security performance or help others improve theirs. This voluntary approach essentially mirrors the current nuclear security regime, which consists of two international agreements with very limited scopes<sup>2</sup>, three UN Security Council Resolutions<sup>3</sup>, a variety of initiatives by like-minded states<sup>4</sup>, and IAEA<sup>5</sup> guidelines and services, which IAEA member states may follow or use on a voluntary basis.

The shortcomings of the current approach to nuclear security have been noted by a variety of commentators.<sup>6</sup> In addition, some expert commentators have noted it is unlikely nuclear security will continue to attract summit-level attention much

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<sup>1</sup> Evans, Gareth, “Disarmament’s Midnight Hour,” <http://www.project-syndicate.org/commentary/evans15/English>.

<sup>2</sup> Convention on the Physical Protection of Nuclear Materials (1987) and the International Convention for the Suppression of Acts of Nuclear Terrorism (2005)

<sup>3</sup> UNSC Resolutions 1373 (2001), 1540 (2004), and 1887 (2009)

<sup>4</sup> e.g., Cooperative Threat Reduction Programs (1991), The G-8 Global Partnership (2002), The Global Initiative to Combat Nuclear Terrorism (2006)

<sup>5</sup> e.g., Code of Conduct on Radioactive Sources, INFCIRC/ 225/Rev. 5 Guidelines, and IPPAS Missions

<sup>6</sup> Luongo, Kenneth, “Creating a 21<sup>st</sup> Century Nuclear Material Architecture, The Stanley Foundation Policy Analysis Brief series, November 2010; Asia Pacific Leadership Network for Nuclear Non-Proliferation and Disarmament statement of June 13, 2012.

beyond a third NSS.<sup>7</sup> **With preparations for the third NSS in the Netherlands in 2014 in a nascent stage, it is a good time to examine options beyond “house gifts” and “gift baskets” from individual states for how the 2014 NSS can establish the foundation for a global nuclear security architecture that addresses current regime shortcomings and be sustainably effective in the decades ahead.**

While not all states possess dangerous nuclear materials, all states would be affected, some directly and others indirectly, by terrorist use of an improvised nuclear device, which uses fissionable material, or a radiological dispersion device, which uses conventional explosives to spread highly radioactive material.<sup>8</sup> In addition, states without dangerous nuclear materials may serve as transit points for terrorists seeking to move such material from where it was acquired to where they plan to use it. Finally, as the use of nuclear energy expands globally, including to countries that previously have not had nuclear power programs, there will be more material and expertise with the potential to be misused if not well secured.

Some commentators argue the current nuclear security regime’s reliance on voluntary measures is not commensurate with the risk and consequences of the misuse of dangerous nuclear materials.<sup>9</sup> That would likely be a broadly shared view among the public and policy makers following a nuclear terrorist event.

One option for strengthening the nuclear security regime is establishing a legally binding international agreement on nuclear security. Such an international agreement would establish binding standards for securing dangerous nuclear materials, a process for assessing compliance with these standards, and a mechanism for helping states that may need assistance in meeting their nuclear security commitments and obligations.

This paper will examine two international framework agreements, The Vienna Convention for the Protection of the Ozone Layer (VCPOL) and the UN Framework Convention on Climate Change (UNFCCC), to see what lessons their negotiation and implementation provide for the nuclear security community in considering how to develop a legally binding international agreement to strengthen global nuclear security governance and practice.

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<sup>7</sup> Fitzpatrick, Mark and Pandza, Jasper, “Maintaining High-level Focus on Nuclear Security,” U.S.-Korea Institute at SAIS (Johns Hopkins University), February 2012.

<sup>8</sup> Allison, Graham, “Nuclear Terrorism: The Ultimate Preventable Catastrophe,” Holt Paperbacks, July 2005; The Commission on the Prevention of WMD Proliferation and Terrorism, “World at Risk,” Vintage Books, December 2008.

<sup>9</sup> Brill, Kenneth and Lunogo, Kenneth, “A Security System Commensurate with the Risk of Nuclear Terrorism,” The Bulletin of the Atomic Scientists, April 16, 2012.

## The Forms of International Agreements

Broadly speaking, there are two kinds of international agreements, bilateral and multilateral.<sup>10</sup> A bilateral treaty is between two states; a multilateral treaty is a written agreement between three or more sovereign states establishing the rights and obligations between the parties.<sup>11</sup> States generally enter into to multilateral agreements to deal with issues they cannot address successfully unilaterally or bilaterally. Such issues range from setting international norms, such as those related to human rights or the law of treaties, to dealing with transnational threats to the environment or international peace and security. Multilateral treaties do not solve problems themselves; instead, they provide for actions to be taken (or in some cases not to be taken) by state parties to the treaties.

Multilateral agreements can take several forms<sup>12</sup>:

- Single instruments - Treaties that have one consistent text containing provisions of a special character, such as the Vienna Convention on the Law of Treaties;
- Framework Agreements – Treaties that provide a decision-making and organizational framework for setting minimal standards and the adoption of further agreements, such as the VCPOL; and
- Protocols – International legal instruments appended or closely related to another agreement, such as Kyoto Protocol, which is an implementing agreement to the UNFCCC.

There is also a distinction in multilateral treaties between those that are "open" and those that are "restricted." Every state can become a party to an "open" multilateral treaty, but "restricted" treaties are open only to those involved in the original negotiation of the agreement, unless the State Parties agree to expand participation. Thus, all States can accede to the Vienna Convention on Diplomatic Relations, which is an open treaty, but only the signatory States of the Convention on the Regulation of the Navigation on the Danube River from 1948 could originally ratify this (restricted) treaty.<sup>13</sup>

Multilateral agreements may note or incorporate elements of other agreements that are relevant to their issues. Such cross-referencing has advantages in allowing agreements on related topics to build on and reinforce one another. However, unless the connections are clear and non-controversial, cross-referencing can

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<sup>10</sup> Nicolson, Harold. "Diplomacy," Institute for the Study of Diplomacy, 1988.

<sup>11</sup> Definitions. [www.uslegal.com](http://www.uslegal.com).

<sup>12</sup> This paragraph draws on "Forms, Structures and Prototypes of International and Multilateral Agreements," by Pulzl, Helga, Wydra, Doris and Wildburger, Department of Political Science and Sociology, Salzburg Center of EU Studies.

<sup>13</sup> "The International Law on Treaties" at [www.public-international-law.net](http://www.public-international-law.net).

produce new negotiating issues among the parties to a potential agreement.<sup>14</sup>

Given the range of issues that need to be addressed in dealing with nuclear security and the number of international agreements, undertakings and initiatives already underway on the subject, a multilateral framework agreement would seem to be an appropriate form for a legally binding, multilateral agreement on nuclear security.

#### The Ozone Treaties – Starting Small But Becoming Global And Successful<sup>15</sup>

The response to concerns about stratospheric ozone depletion occurred in two stages. The first was a domestic response by the U.S. and a handful of other states. The second stage involved international agreements and action. In both stages, public concern about the consequences of not taking action played an important role.

Concern about stratospheric ozone depletion was first raised in the U.S. around 1970. Initially, this related to the impact of the emissions from the proposed fleet of U.S. Supersonic Transport aircraft on stratospheric ozone. Subsequently, scientists found evidence linking chlorofluorocarbons (CFCs), whose use by industry and consumers was increasing, to stratospheric ozone depletion. As public discussion and concern about ozone depletion increased, an ad hoc interagency task force was established in 1975 to explore the issue and develop a coordinated plan of action for USG agencies. The National Academy of Sciences released a report in 1976 that supported earlier research on the links between CFCs and ozone depletion and the connection between skin cancer and ozone depletion.

The work of the interagency task force and the National Academy's report informed consideration of the ozone issue in the Congress. In 1976, Congress passed the Toxic Substance Control Act, which gave the EPA broad regulatory authority over CFCs. In 1978, the U.S. banned CFCs in aerosols.

While the U.S. was the only major producer of CFCs to control their use, other countries also took unilateral domestic actions on CFCs. Canada, Sweden, Norway and Denmark joined the U.S. in banning CFCs in aerosols, while the Netherlands and Germany, which both produced CFCs, required warning labels and reduced their use. Britain and France, both major CFC producers, strongly resisted efforts to regulate CFC use, but ultimately accepted EEC regulations that reduced the use of aerosols in the European Community.

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<sup>14</sup> This paragraph is based on a 6/21/2012 interview with Ambassador Marybeth West, former career lawyer with the State Department's Office of the Legal Advisor and Deputy Assistant Secretary of State.

<sup>15</sup> This section draws on the following sources: Morrisette, Peter, 1989. "The Evolution of Policy Responses to Stratospheric Ozone Depletion." *Natural Resources Journal* 29:793 – 820 and Rowlands, I.H. 1993. "The Fourth Meeting of the Parties to the Montreal Protocol: Report and Reflection." *Environment* 35 (6) 25 – 34.

International attention to CFCs and ozone focused initially on research. Several international organizations, including the WMO, OECD, EEC and UN Environmental Program (UNEP), became active on the CFCs/ozone issue in the mid-1970s. UNEP played a particularly important role in coordinating international research and developing an international response to the issue. At UNEP's 1977 meeting, member states agreed on a World Plan of Action for the Ozone Layer that outlined three distinct research areas, one of which was to examine potential social and economic aspects of the problem. In 1981, UNEP's member states moved beyond research by forming an ad hoc legal and technical working group to draft a Global Framework Convention for the Protection of the Ozone Layer.

The work of this UNEP body became the VCPOL when a conference of 43 states adopted it in March 1985. The VCPOL represented agreement on broad principles. For example, the Convention acknowledged the severity of the problem, outlined responsibilities of states to protect human health and the environment against adverse effects from ozone depletion, and called for international cooperation in research, monitoring and data sharing. It did not, however, impose any obligations on states to restrict or ban CFCs and other ozone depleting substances. Because of disagreements among the negotiating states, this was left to a subsequent protocol. Nonetheless, the Vienna Convention established the framework under which an action-requiring protocol would be negotiated, but the strength of that protocol would be up to the State Parties to the agreement.

Despite disagreement among states about the economic impact of banning or restricting CFC use, the Montreal Protocol to the Vienna Convention was negotiated and signed by 27 states in Montreal in September 1987 and entered into force January 1, 1989. The Montreal Protocol committed signatory states to a fifty percent reduction in certain CFCs use by a specific date. Three years after the Protocol came into force, 80 states agreed in London to strengthen it further by requiring the elimination of CFCs and another set of substances by 2000.

Several factors produced the relatively rapid development and strengthening of the international agreements on protecting the ozone layer. First, the science on the issue continued to become stronger. Second, for the public the consequences of ozone depletion, increasing incidence of skin cancer, were easy to understand – and relate to. Morrisette called this “the dread factor.”<sup>16</sup> Finally, negotiators engaged industries that produced ozone-depleting substances. This allowed negotiators to factor into their timelines and targets very practical issues related to production and use of CFCs and other ozone depleting substances, while industry was encouraged to develop acceptable substitutes for the banned substances. This latter development was particularly important to those producing states that had earlier

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<sup>16</sup> Morrisette, Peter, supra note 12.

resisted efforts to control CFC use as well as to the domestic treaty ratification process in the U.S. and other developed states.<sup>17</sup>

While the Montreal Protocol was negotiated, entered into force, subsequently strengthened and attracted a growing number of State Parties remarkably quickly, it was not without internal issues among the State Parties and with industry. Industry, for example, resisted the expansion of the list of chemicals to be phased out and banned. More significantly, developing countries in and out of the Protocol were concerned about the cost of compliance. This concern kept two key countries (India and China) out of the Protocol until the technical assistance and financial assistance sections of the Protocol (Articles 8 and 9) were made more concrete at the London Conference of the Parties.<sup>18</sup>

The Ozone treaties started with a limited number of states, but they have become universally adopted, with 197 State Parties. More importantly, they are doing what they set out to accomplish: harnessing a global response to fix the ozone depletion problem. While climate change has slowed the impact of phasing out and banning ozone-depleting substances, scientists report the ozone hole is on its way to being repaired in the middle of the 21st century.<sup>19</sup>

#### The Climate Treaties: Starting Globally, But Producing Limited Results

The climate change treaties, the UNFCCC and its subsequent Kyoto Protocol, have a similar purpose to the ozone treaties (they seek to restrict emissions into the atmosphere), but have had a very different track record of results.

The climate treaties developed in response to scientific research findings that anthropogenic production of carbon dioxide and other greenhouse gases was increasing global temperatures. This led concerned governments to establish an Intergovernmental Panel on Climate Change (IPCC) in 1988. The IPCC issued its first climate assessment in 1990 and it joined the second World Climate Conference to call for a global treaty on climate change, which was endorsed by the UN General Assembly. The Intergovernmental Negotiating Committee for a climate change treaty met for the first time in 1991 and adopted a text for the UNFCCC in 1992 in time for it to be signed at the Rio Earth Summit later that year. The UNFCCC entered into force in 1994 and now has 194 State Parties.

Like the VCPOL, the UNFCCC outlines broad principles on climate change. It also calls on states to develop an inventory of their national greenhouse gas emissions. The UNFCCC left to subsequent protocols establishing greenhouse gas limitations and

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<sup>17</sup> 6/27/2012 interview with Richard Smith, author of "Negotiating Environment and Science," RFF Press, 2009, and former Principal Deputy Assistant Secretary of State.

<sup>18</sup> Interview with Richard Smith, note 17 supra.

<sup>19</sup> Ozone Secretariat, UN Environmental Program, [www.ozone.unep.org](http://www.ozone.unep.org).

enforcement mechanisms, to include assistance in helping states meet those limitations.

The Kyoto Protocol to the UNFCCC was adopted at the third meeting of the Conference of the Parties to the UNFCCC in 1997. It entered into force in 2005 and now has 191 State Parties. The Kyoto Protocol established targets and timelines for reducing greenhouse gas emissions, provided a variety of innovative mechanisms to help states meet those targets and timelines and established an approach to enforcement that focused on limiting offending states participation in emissions trading and penalizing them in future phases of the Kyoto Protocol.

The Kyoto Protocol has an impressive number of State Parties, but is far from a success. While emissions from some developed countries have been reduced or not risen as quickly as they might, globally greenhouse gas emissions continue to rise, as do global temperatures.<sup>20</sup> The U.S., the source of most of the innovative mechanisms in the Protocol and now the second largest producer of greenhouse gases, withdrew from the Protocol in 2001<sup>21</sup>. Canada, a strong and active supporter of the Protocol initially, renounced it in 2011<sup>22</sup>. The Kyoto Protocol's first commitment period for emission reduction targets expires in 2012 and no agreement has been reached on what will take its place – and there are no serious negotiations underway to fix that. In the words of one expert, after the first commitment period ends, the Kyoto Protocol will “be an empty shell, doing little, if anything, to curb global warming.”<sup>23</sup>

The fact that China has replaced the U.S. as the world's leading emitter of greenhouse gases illustrates a key problem with the Kyoto Protocol for the U.S. and many other states: while all states emit greenhouse gases and some developing countries are among the largest emitters, only developed countries have obligations under the Kyoto Protocol to reduce emissions. Article 3 of the UNFCCC notes there are “common, but differentiated responsibilities” for reducing greenhouse gas emissions. This concept was implemented in the Kyoto Protocol when Annex I to the protocol listed countries (all from the developed world) that had an obligation during the first commitment period to reduce the emissions of certain greenhouse gases from a base year (usually 1990). Annex 1 countries are also expected to help non-Annex 1 countries reduce their emissions through Kyoto mechanisms, including technical and financial assistance. The rationale for this non-global approach to obligations is essentially that the problem began with the industrial revolution in

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<sup>20</sup> Seer George Pring, *The United States Perspective, in Kyoto: From Principles to Practice* 185, 195-97, (Peter Cameron and Donald Zillman eds.)2001.

<sup>21</sup> March 29, 2001 White House Statement.

<sup>22</sup> *New York Times*, “Canada Announces Exit from Kyoto Climate Treaty,” December 12, 2011.

<sup>23</sup> Bodansky, Daniel. “Whither the Kyoto Protocol: Durban and Beyond,” Policy Brief, Harvard Project on Climate Agreements, Belfer Center for Science and International Affairs, Harvard Kennedy School, August 2011.

the developed world and those countries that produced the most emissions should bear the early costs of reducing them while helping developing countries, which need to focus on economic development.

This differentiation between states' obligations to take action and the related economic costs of implementation kept the U.S. from ratifying the Kyoto Protocol during the Clinton Administration and was the reason the Bush Administration walked away from the Protocol in 2001. As one analyst noted, the benefits to the U.S. of meeting its Kyoto commitments were far outweighed by the costs of doing so, since reducing developed country emissions would not prevent further global warming.<sup>24</sup> This same calculation appears to have influenced the way other developed states have pursued their initial Kyoto commitments and their willingness to enter into a second phase of Kyoto commitments. Developing nations have taken a variety of steps to begin to address their greenhouse gas emissions, but they generally remain resistant to making emission reduction commitments, citing their need to focus on economic development.

While some industries in developed countries sought to work with or accommodate those concerned with climate change, most sought to either deny there was a problem or resisted the need to do anything. The issue was also divisive politically in many countries, particularly in the U.S. As a result, political and economic opponents of the climate treaties seized on nuances in the science of global warming/climate change to support their view there was no problem that needed to be addressed. The principal sticking point for most opponents in most countries, however, was that one set of countries had to make commitments (and bear costs) to address a global problem, while another set of countries essentially did not. The U.S. Senate voted unanimously during the Kyoto Protocol text negotiations for a resolution urging President Clinton not to accept an agreement that exempted developing countries from having emissions reductions targets.<sup>25</sup> The problem was global, but the remedy was not.

The mixed reaction by industry underscores another challenge for the climate treaties: they affected a very large section of virtually every state's economy. As a result, there were a huge number of stakeholders on the issue. The social science literature suggests that social dilemmas with large number of stakeholders and a high degree of uncertainty may produce lower cooperation by stakeholders in responding to those dilemmas.<sup>26</sup> That clearly seems to be the case with climate change, particularly in the U.S.

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<sup>24</sup> Sunstein, Cass. "Montreal Versus Kyoto: A Tale of Two Protocols," AEI-Brookings Joint Center for Regulatory Studies, Working Paper No. 06-17, 2006.

<sup>25</sup> U.S. Senate Resolution 98, July 25, 1997.

<sup>26</sup> Hekkenberg and Schoot Uiterkamp, "Improving Stakeholder Cooperation in Post Kyoto Climate Policy," Climate Change: Global Risks, Challenges and Decisions. IOP Conference Series on Earth and Environmental Science, June 2, 2012.

A final point worth noting is that the response to climate change concerns began internationally, not nationally. Individual states began to collect data on greenhouse gas emissions following agreement on the UNFCCC, e.g., the U.S. Department of Energy began in 1992. But unlike with CFCs, there were no unilateral steps by individual states to ban or dramatically curb those emissions before Kyoto created an international mandate to do so.

### The Lessons of the Ozone and Climate Treaties for Nuclear Security

The ozone and climate change treaties provide the following lessons for strengthening the global nuclear security regime:

- **The “dread factor” for the public needs to be concrete, not abstract.**
  - The public easily made the link between the “hole in the ozone layer” and the immediate (as opposed to decades from now) concern of increased risk of skin cancer from being outdoors. Climate change, on the other hand, is a relatively abstract issue with little immediacy for most of the public because the impacts are thought to be decades away.
  - Nuclear security has a public “dread factor” in terms of specific public concern about nuclear terrorism and more general concerns about nuclear materials and activities. There is general public agreement on the need to prevent nuclear terrorism.
  
- **Domestic support for dealing with an issue and domestic action to do so should precede international agreements and action.**
  - In response to the developing science, the U.S. and other states took unilateral action to limit CFCs production to protect the ozone layer. This laid the foundation for international action and demonstrated there was political will to pursue the issue. In contrast, there have been few states where the climate issue has had the same kind of domestic political traction and no state acted to ban greenhouse gas emissions or take steps to radically cut them prior to the UNFCCC or Kyoto. The climate treaties demonstrate how difficult it is for most countries to undertake actions, particularly when they are costly, driven by international considerations and having no domestic precedent.
  - States have already identified nuclear security as an issue on which they should and are taking action domestically, as well as internationally.
  
- **The larger the number of economic stakeholders on an issue, the more difficult it is to develop and execute concrete actions to deal with it.<sup>27</sup>**
  - While the ozone depletion issue had economic stakeholders globally, there were relatively few in any given state involved in the production

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<sup>27</sup> This section draws on Hekkenberg and Schoot Uiterkamp note 24 supra and Sunstein note 22 supra.

and use of ozone depleting substances. Most such substances are man-made, used in relatively few applications and have, for the most part, acceptable substitutes. This made it possible to reach an agreement with which most production stakeholders were comfortable they could comply and which when implemented had a significant impact on the problem. The climate change issue, on the other hand, has an extraordinarily large number of economic stakeholders, globally and domestically.

Greenhouse gas emissions are both man-made, particularly from energy production, and naturally occurring. The global economy and each state's economy are dependent on energy, current sources of energy are largely based on fossil fuels, which produce a significant amount of greenhouse gases, and low emission energy sources are expensive, unproven at scale or controversial, e.g., nuclear energy. All these factors produce a wide range of stakeholders on the climate issue with cross cutting interests and a number of reasons to resist actions to limit their activities that produce greenhouse gas emissions, as the experience with Kyoto has demonstrated.

- Nuclear security is an issue with a relatively finite set of economic or production stakeholders. These stakeholders, whether in industry, academia or government, acknowledge nuclear materials require special security practices and have long history of engagement on the issue.
- **Success in negotiating and implementing an agreement on a global issue is related to whether the outcome is perceived by states as substantively addressing the problem globally at an appropriate cost domestically.<sup>28</sup>**
  - The ozone treaties involved domestic costs, but these costs ranged from relatively moderate to minimal and they produced results that addressed the problem in a substantial and measurable way. In contrast, the climate treaties involve very high costs in states with emission reduction commitments, but without any reasonable certainty that incurring those costs will measurably impact climate change. A key reason for this is that some of the largest state emitters of greenhouse gases have no obligation to reduce their emissions, which is likely to mean atmospheric accumulation of greenhouse gases will continue to increase. As a result, many stakeholders and states like the U.S. view the costs of complying with the climate change treaties as vastly outweighing any limited impact on climate change. That is why Kyoto's first commitment period for reducing greenhouse gas emission has not been successful and there is no progress on negotiating a second commitment period after 2012.
  - The cost/benefit ratio for dealing with nuclear security is positive. The steps that need to be taken are relatively straightforward, the cost for taking them, at least some of which have already been incurred, are relatively modest, while the benefits of preventing nuclear terrorism are substantial.

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<sup>28</sup> Sunstein note 22 supra.



- **Affected industries need to be engaged early in the process.<sup>29</sup>**
  - While there was substantial initial resistance from industry to banning CFCs to protect the ozone layer, active engagement by negotiators and policymakers, first in the U.S. and then in other developed countries, brought industry around to working to solve the problem, which helped both the negotiation and implementation of the ozone treaties. The record of industry engagement on climate change is mixed, in part because of how fundamental energy is to so many industries. According to a leading participant in the early stages of Kyoto, however, policymakers in the U.S. did not engage industry as actively as those who had worked on the Montreal Protocol, and they paid even less attention to those politicians who argued industry's concerns. There was more engagement as the Kyoto process developed and there were even some industry groups that formed to promote ways to address climate change, but for the most part industry has remained either skeptical or hostile to the climate change issue and how it was been addressed internationally.<sup>30</sup>
  - Policy makers and industry have long been engaged with each other on nuclear security issues. Substitutes for some materials of concern have already been developed, e.g., low enriched uranium to replace highly enriched uranium in research and isotope production reactors.
  
- **Successfully addressing a global problem requires global obligations that vary in degree, not kind.**
  - The successful ozone treaties required all states to take action to help solve the problem. While developed countries had to act sooner and more aggressively, the Montreal Protocol required developing countries to have performance obligations and developed countries to provide technical and financial assistance to help them meet them. In contrast, the much less successful climate treaties, particularly Kyoto, sought to solve a global problem by having only some states bear the burden of delivering the solution. While developing states were engaged in the issue through emissions trading and the Clean Development Mechanism, all obligations (and costs) were on the developed countries.
  - Virtually all states that possess dangerous nuclear material are already engaged in some form of nuclear security. Many states that have no such material have taken steps under the Convention for the Suppression of Acts of Nuclear Terrorism, UNSC resolutions or state-led initiatives to better equip themselves to prevent terrorists using their territory for nuclear terrorism-related activities. So many states have already undertaken at least some modest obligations to help prevent nuclear terrorism.

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<sup>29</sup> This section draws on Smith note 15 supra.

<sup>30</sup> Smith, note 17 supra.

- The precedent for providing technical and financial assistance to states that need help on nuclear security has been established by initiatives like the G-8 Global Partnership and the IAEA's technical assistance program. This kind of assistance will be needed to facilitate a nuclear security agreement with effective universal obligations for maintaining security for and preventing the transit of dangerous nuclear materials
- **Starting an international agreement with a small (but representative) group of committed states and then expanding its membership is more productive than starting with a global negotiation.**
  - The ozone treaties started small (Vienna – 43; Montreal – 27), grew to include virtually all members of the UN and are solving the problem for which they were established. By starting with a relatively small, but representative, group of committed states, an agreement could be reached that tackled the problem and anticipated the needs of a broader membership. The climate treaties, on the other hand, started as a global negotiation. Getting to consensus meant making early trade-offs that undermined Kyoto's ability to deliver meaningful results.
  - The NSS process has produced a representative, but relatively small, group of states that are concerned about nuclear security. The core for an initial discussion/drafting session for a framework agreement on nuclear security could be drawn from NSS countries.

## Conclusion

The ozone and climate treaties provide very practical lessons of things to do (and things to avoid) for those considering strengthening global nuclear security governance through a legally binding, multilateral framework agreement. The elements of such an agreement are relatively straightforward and should not take years to develop. What is needed is political will to move toward such an agreement. The Dutch 2014 NSS provides a forum that could be used to galvanize participating heads of states to provide a mandate to launch and quickly conclude negotiations for a framework agreement on nuclear security and an implementing protocol. This is an opportunity neither those who care about nuclear security and preventing nuclear terrorism nor the larger international community can afford to miss.

## Appendix

### Some Potential Elements of a Framework Agreement on Nuclear Security

A framework agreement identifies an issue that parties to it believe is important and requires international cooperation to address. Generally, such agreements commit the parties to broad principles related to the issue, leaving commitments to action to a subsequent protocol or annex. If the parties choose to do so, however, they may negotiate actionable protocols or annexes to the framework agreement as they negotiate the framework agreement, although this is likely to complicate the negotiating process.<sup>31</sup>

The following are some potential elements of a Framework Convention on Nuclear Security. This is not an exhaustive list and is provided to help generate thinking and discussion about what such an agreement should cover.

#### Preamble

- Describe why the issue of securing fissionable material and specific highly radioactive sources is important -
  - (e.g., individuals and groups are seeking to acquire such materials for malicious purposes; a terrorist attack with an improvised nuclear device or a radiological dispersion device would cause devastating harm to the global economy, the international community and the peoples of individual states; responding to nuclear terrorism is not a viable option, prevention must be the international community's goal and focus; inter alia);
- Note the need for a global approach -
  - (e.g., many states have these materials for a range of civilian and other legitimate uses; all states are potential transit points for individuals or groups who seek to acquire such material and move it to the location where they plan to use it; those individuals and groups that seek to acquire and use dangerous nuclear materials will seek to exploit any disparity in how such materials are secured in place or in transit; inter alia);
- Recognize and express appreciation for the work the international community has already done to support the security of dangerous nuclear materials -
  - (e.g., the two multilateral treaties, three UNSC resolutions, initiatives such as the G-8 Global Partnership, and the work of the IAEA); and
- Express determination to work together to secure all dangerous nuclear material, prevent such material from being acquired, transported or used by

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<sup>31</sup> July 3, 2012 e-mail exchange with Ambassador Marybeth West and Richard Smith, notes 14 and 17 supra.

individuals or groups that have terrorist or other malicious goals and purposes.

### Operative Paragraphs

The operative paragraphs would cover the following topics, inter alia:

- Definitions – The text would provide agreed definitions relevant to the Convention (some of which may be incorporated from other agreements, such as the Convention on the Physical Security of Nuclear Material), e.g., covered nuclear materials, illicit acquisition and transit of covered nuclear materials, IND, RDD, individuals or groups with malicious or terrorist purpose and goals, etc.
- General operating procedures – The text would outline the rules for the Conference of the Parties (COP), which is the body that oversees the operation of the Convention. The COP could be empowered to assess how state Parties are meeting their obligations under the Convention. It would authorize any subsequent negotiations related to the Convention. This portion of the text could also cover whether and how the Parties would share information related to the Convention and establish a Secretariat to support the COP and the Parties to the Convention (NB: it would be useful to have the IAEA serve as the Convention's Secretariat, the way UNEP does for the ozone treaties),
- General obligations – The text would commit the Parties to implement steps agreed in the Convention, such as by passing domestic legislation, working with other Parties to study specific issues and develop recommendations for the Conference of the Parties, share information on best practices, cooperate with and support the IAEA's (and WINS, etc.) work that is relevant to the Convention, etc.
- Specific obligations –
  - The text would commit the Parties that have various forms of dangerous nuclear materials (e.g., PU, HEU, specific highly radioactive sources) for non-military weapons purposes to:
    - store, secure and move them in accordance with standards relevant to each kind of material (these standards could initially be drawn from various sources, e.g., CPPNM and/or the IAEA, or they could be developed specifically during the Convention negotiations as a way to improve on and fill gaps in existing standards, and be contained in an Annex -- or subsequent Protocol -- to the Convention);
    - report, with a frequency established in the Convention, to the Conference of the Parties via the Secretariat on steps they have taken to bring their storage and movement of covered materials to or above the security standards identified in the text and provide a general report (the specifics of which would

- be detailed in the text) on the status of their stored dangerous nuclear material;
- The text would commit the Parties that do not have dangerous materials to:
    - take steps (these steps could initially be drawn from various sources, e.g., the CPPNM/the IAEA/industry best practice, or they could be developed specifically during the Convention negotiations and be contained in an Annex – or subsequent Protocol – to the Convention – to improve on or fill gaps in existing standards and practices) to prevent the transit of such materials through or across their territory by individuals or groups with a malicious intent or illegitimate purpose, including terrorism;
    - report, with a frequency established by the Convention, to the Conference of the Parties via the Secretariat on how they have implemented their obligations under the Convention to prevent the illicit transit of nuclear material through or across their territory.
  - The text would commit states with PU and HEU for military weapons purposes to:
    - meet or exceed all storage, security and movement standards for dangerous nuclear materials established by the Convention for their weapons-related nuclear material; and
    - report, with a frequency established by the Convention, to the Conference of the Parties via the Secretariat on general steps they have taken to meet or exceed the Convention's standards and what percentage of their dangerous nuclear material is stored and moved in ways that exceed the Convention's standards.
  - The text would establish procedures and guidelines for how the COP assessment process would acquire and assess information on how the parties to the Convention are meeting their obligations and subsequent protocols or other supplementary agreements. For example, the COP could establish a Committee on Assessments that would be composed of a representative group of Parties to the Convention, perhaps assisted by the IAEA.
  - The text would establish a mechanism for providing technical and financial assistance to states that need help in meeting obligations under the framework agreement. The Parties might ask the IAEA, for example, to serve as the principal provider of technical assistance or to serve as a clearing house through which members states, the IAEA or other organizations would respond to requests for assistance or help states address shortcomings identified by the COP assessment process. Financial assistance would most likely come from developed countries, perhaps through a Nuclear Security Fund that would be

funded with contributions from developed states and others that wished to participate in it.