Department of Foreign Affairs and International Trade
(Foreign Affairs)

Ministère des Affaires étrangères et du Commerce international
(Affaires étrangères)

Global Partnership Program

Securing the Future

www.globalpartnership.gc.ca

Canada

Global Partnership Program

Securing the Future

Catalogue No.: FR4-9/2005
ISBN : 0-662-69309-4

Table of Contents

Message from the Minister

It is with great pleasure that I present to Parliament this inaugural report on Canada's participation in the *G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction*. This initiative demonstrates what countries can accomplish when they agree to work cooperatively toward their common goal of creating a secure international environment.

At the G8 Kananaskis Summit in 2002, Canada assumed a leadership role in creating the *G8 Global Partnership* and made a substantial commitment of up to $1 billion over 10 years to address the threats posed by the Cold War legacy of weapons of mass destruction and related materials, initially in Russia. Making such a commitment is one thing; making good on it is another. Over the past three years, we have worked diligently and have successfully established a program—Canada's Global Partnership Program—that is making important contributions to both domestic and international security.

The Global Partnership Program is one of Canada's key security enhancement programs. These programs, which also include the new Global Peace and Security Fund, the Landmine Action Task Force, the Counter-Terrorism Capacity Building Program, and the Human Security Program, constitute a new generation of funded mechanisms that deliver policy through direct project implementation. Together, they respond to the priorities set out in *Canada's International Policy Statement* issued in April 2005 and offer a vibrant reminder that Canada has an important role to play in international affairs.

I am especially pleased with Canada's *Global Partnership* accomplishments since Kananaskis. Starting from a nominal non-proliferation assistance program in 2002, we have been able to complete a legal framework with Russia, create a bureau to administer the Global Partnership Program, and turn our commitments into effective actions. I invite all Canadians to read this report and take pride in how we are meeting our international responsibilities.

Pierre Pettigrew,
Minister of Foreign Affairs

Executive Summary

"One truth is undeniable: security in the 21st century is a common interest, and a shared responsibility."
***—Canada's International Policy Statement: A Role of Pride and Influence in the World*, April 2005.**

"There is no contradiction between Canada doing well and Canada doing good. Canada benefits directly when the world is more secure. ... If we are to take our responsibilities seriously to ourselves and the Canadian generations to follow, then we must take our responsibilities to the global community seriously as well."

—Canada's International Policy Statement: A Role of Pride and Influence in the World, Foreword by Prime Minister Paul Martin, April 2005.

The dissolution of the Soviet Union in 1991 represented a critical and memorable turning point in recent history, but it did not end the most serious threat from the Cold War era. In fact, it created new challenges, not the least of which stemmed from the formidable legacy associated with Soviet weapons of mass destruction (WMD) programs. This legacy extended beyond the Soviet WMD arsenal to include associated materials and expertise that continue to pose serious security risks. Facilities across the former Soviet Union were home to an estimated 600 tonnes of highly enriched uranium and weapons-grade plutonium; this material was in addition to the significant quantities incorporated into nuclear weapons. Still other facilities contained the world's largest declared stockpile of chemical weapons, at some 40,000 tonnes. Apart from these materials, there were close to 200 retired and vulnerable nuclear-powered submarines from Russia's Northern and Pacific fleets awaiting dismantlement. These submarines, many with spent nuclear fuel on board, posed not only nuclear and radiological proliferation threats but also environmental risks. Beyond this material legacy, the dissolution of the Soviet Union also had a human impact as tens of thousands of former weapons scientists were suddenly left unemployed or underemployed. The difficulties these individuals faced were exacerbated by the atmosphere of political and economic instability that followed in the region and in other parts of the world.

Addressing this Cold War legacy was an enormous task and one well beyond the capacity of Russia and other countries of the former Soviet Union. A few nations responded in the 1990s with a number of bilateral and multilateral projects to help deal with the

Russia and the Former Soviet Union

risks posed by these weapons and the infrastructure that supported their production. Some progress was made, most notably through the United States' Cooperative Threat Reduction program initiated by Senators Sam Nunn and Richard Lugar, but much more work was required. The terrorist attacks in the United States on September 11, 2001, provided a tragic reminder of the seriousness of terrorist threats and underscored the urgency of preventing terrorists and states of proliferation concern from adding weapons and materials of mass destruction to their repertoires. They also provided the catalyst for the formation of the *G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction*.[1]

The *Global Partnership* has strong links to Canada. It was launched at the G8 Kananaskis Summit in June 2002 to indicate strong political support and provide a framework for increased cooperation in global threat reduction. At this summit, G8 leaders committed to raising up to US$20 billion over a 10-year period to support projects that would address the Cold War WMD legacy.

Final negotiations of the Global Partnership at Kananaskis, June 2002

Canada, as host of the 2002 Summit, played a pivotal role in shaping the *Global Partnership*, particularly in drafting the principles and guidelines that underpin the *Partnership*'s activities. Serving as the first chair of the Global Partnership Senior Officials Group, Canada led the initiative during the early stages of implementation—securing initial financial commitments, facilitating the development of multilateral and bilateral projects, and broadening the *Partnership* beyond G8 members.

By the time of the G8 Summit at Sea Island in June 2004, 13 additional countries had joined the *Global Partnership* and overall commitments were in the US$19-billion range. These commitments targeted a range of projects, with special emphasis on activities in the four areas identified as priorities by G8 leaders:

- the destruction of chemical weapons;
- the dismantlement of nuclear submarines;
- the disposition of fissile materials; and
- the redirection of former weapons scientists.

Canada's Global Partnership Program was launched in September 2002. Initial efforts focused on establishing the organization, defining the Program's structure, and recruiting specialized expertise. Once this initial base was established, it became possible to negotiate the bilateral and multilateral agreements and specific contractual arrangements that enable projects to move ahead. Canada's Global Partnership Program is now fully operational. It is implementing projects in all the priority areas, and it is working with the Department of Foreign Affairs and International Trade (DFAIT)'s Audit and Evaluation Bureau to ensure that the necessary systems are in place to meet or exceed Canadian standards for accountability and comptrollership.

Milestones and achievements of Canada's Global Partnership Program are listed below:

- The Global Partnership Bureau was created in September 2002 as a new unit within DFAIT. The Bureau began assembling a team of experts and establishing the infrastructure abroad to oversee program development and implementation in all four priority areas of the *Global Partnership*.

[1] Also referred to as the "*Global Partnership*" or "*Partnership*."

- The Government of Canada, fulfilling its Kananaskis commitment to provide up to $1 billion for *Global Partnership* programming over 10 years, authorized the funding of projects beginning in fiscal year 2003–04.
- A Canada–United Kingdom memorandum of understanding (MOU) was signed in November 2003, enabling Canada to support the construction of a key chemical weapons destruction facility in Russia through the U.K.'s bilateral agreement with that country.
- The signature of another MOU in December 2003 enabled Canada, through the Moscow-based International Science and Technology Center (ISTC), to contribute to research projects and supplemental programs that support the redirection of former Soviet weapons scientists into peaceful and sustainable employment.
- In March 2004, Canada acceded to the ISTC as a full party. By March 2005, Canada had committed approximately $10.6 million to 38 projects, involving 881 former weapons scientists.
- In March 2004, Canada finalized arrangements with the European Bank for Reconstruction and Development and the International Atomic Energy Agency to fund projects that will secure nuclear and other radioactive materials.
- The Canada–Russia Bilateral Agreement was signed in June 2004 to cover cooperative projects in the fields of nuclear security, chemical weapons destruction and submarine dismantlement. This agreement governs a significant proportion of Canada's funding commitment to the *Global Partnership*.
- In the fall of 2004, Canada supported or organized six workshops and conferences to promote exchanges between scientists and researchers from Canada and the former Soviet Union; these activities were aimed at encouraging future collaboration on projects consistent with *Global Partnership* priorities.
- In June 2004, Canada signed an arrangement to defuel and dismantle three decommissioned Russian nuclear submarines.
- In January 2005, Canada and the U.K. signed a second MOU in Moscow to provide the framework for additional Canadian contributions to the construction of the Shchuch'ye chemical weapons destruction facility. These contributions included an initial $10 million for key industrial infrastructure projects.
- In February 2005, Canada signed an agreement with the U.S.-based non-governmental organization (NGO) Nuclear Threat Initiative (NTI). NTI will contribute US$1 million through Canada to the railway project at the Shchuch'ye chemical weapons destruction facility. This funding represents the first major NGO contribution to *Global Partnership* programming.
- In March 2005, Canada and the United States signed an MOU to expedite the shutdown of the Zheleznogorsk nuclear reactor, one of three remaining weapons-grade plutonium–producing nuclear reactors in Russia.
- Disbursements by Canada's Global Partnership Program in the four priority programming areas totalled $59.7 million in 2003–04 and just over $27.3 million in 2004–05.

Russian-made protective masks against chemical agents

Submarine hull #643 in drydock

Perimeter security fences to help ensure that terrorists do not gain access to dangerous nuclear materials
Photo Credit: Canadian Nuclear Safety Commission

Non-proliferation through science

Background

"In 2003, the global security environment was characterized by a level of instability not seen in years. There is a clearly demonstrated willingness by individuals, groups and states to use violence in support of political, religious, ideological and territorial agendas. Preferred target venues include locations that could yield maximum destruction and casualties, and the potential for use of weapons of mass destruction remains of primary concern."

—Canadian Security Intelligence Service: 2003 Public Report.

A Global Problem, A Global Response

The International Threat

More than 15 years after the fall of the Berlin Wall, the problems posed by the weapons of mass destruction (WMD) produced and stockpiled during the Cold War remain a serious threat to global security. The coordinated attacks in the United States on September 11, 2001, demonstrated just how well organized and financed terrorist networks had become and how vulnerable the world would be if WMD were to fall into terrorist hands. The vast stockpiles of such materials, the randomness and scale of subsequent attacks against civilian populations, and the growing sophistication of terrorist organizations in the 21st century have confirmed the urgency of properly securing and disposing of WMD stocks.

This is a complex and daunting task. Following the breakup of the Soviet Union, Russia became the central storage point for vast quantities of WMD and related destructive and dangerous materials. These include:

- approximately 40,000 tonnes of chemical weapons (CW);
- large stockpiles of fissile materials, including highly enriched uranium (HEU) and weapons-grade plutonium (the key ingredients of nuclear weapons); and
- decommissioned nuclear submarines with spent nuclear fuel on board.

As well, tens of thousands of former weapons scientists in the region lost a major source of income as they became unemployed or underemployed. The marketable expertise of these scientists and the difficult economic prospects facing many of them made them highly vulnerable to offers from terrorist groups or states of proliferation concern. Even a relatively small number of experts willing to pass on WMD expertise to the wrong people could seriously impact global security.

Kofi Annan, Secretary-General, United Nations

We live in a world of excess hazardous materials and abundant technological know-how, in which some terrorists clearly state their intention to inflict catastrophic casualties. Were such an attack to occur, it would not only cause widespread death and destruction, but would stagger the world economy and thrust tens of millions of people into dire poverty.

—Secretary-General Kofi Annan's keynote address to the Closing Plenary of the *International Summit on Democracy, Terrorism and Security – "A Global Strategy for Fighting Terrorism"* Madrid, Spain, 10 March 2005

Meeting the Challenge

"The threat posed by the proliferation of weapons of mass destruction (WMD)—nuclear, chemical and biological weapons and their means of delivery—is complex and global, undermining both Canadian national security and global stability."

—Canadian Security Intelligence Service: 2003 Public Report.

The magnitude and scope of the Cold War WMD legacy in Russia and other countries of the former Soviet Union (FSU) dictated the need for a truly multilateral and cooperative solution. Initiatives from the international community in the early 1990s, led by U.S. Senators Sam Nunn and Richard Lugar, set the stage for more concerted action. The U.S. Cooperative Threat Reduction program, launched in 1991, now includes programs implemented by the Defense, Energy and State departments and other agencies and responds to a full range of proliferation concerns. Approximately US$7.9 billion was directed by the U.S. over a 12-year period to help Russia and other former Soviet states reduce the risk posed by their WMD stockpiles.

Canada was also active multilaterally during the 1990s to address chemical, biological and nuclear WMD concerns through a number of international instruments and organizations. These included, for example, the Chemical Weapons Convention (CWC), the Biological and Toxin Weapons Convention, the Nuclear Non-Proliferation Treaty and the International Atomic Energy Agency (IAEA).

Although considerable progress had been made, there remained a need for a methodical and committed approach to the risks posed by vulnerable WMD, principally in Russia and other FSU countries. It fell on the G8 countries to take the lead and provide the framework and political support for a new, coordinated threat reduction initiative.

Under Canada's leadership, the *G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction*[2] was launched at the Kananaskis meeting of G8 leaders in June 2002. The G8 agreed to contribute up to US$20 billion over a 10-year period for projects to address non-proliferation, disarmament, counterterrorism and nuclear safety issues. The initial geographic focus for *Global Partnership* initiatives was Russia. However, the G8 also indicated a willingness to enter into negotiations with other countries, particularly those of the former Soviet Union, for inclusion in the *Partnership*.

Photo Credit: Office of Senator Lugar

During a visit to the chemical weapons depository at Shchuch'ye, Russia in December 2000, Senator Lugar demonstrates the proliferation risk by placing an 85mm chemical shell into an ordinary briefcase

"We must anticipate that terrorists will use weapons of mass destruction if allowed the opportunity. The minimum standard for victory in this war is the prevention of any terrorist cell from obtaining weapons or materials of mass destruction. We must make certain that all sources of WMD are identified and systematically guarded or destroyed."

—The Lugar Survey on Proliferation Threats and Responses, June 2005.

" ... all countries face new and diverse challenges. Terrorists have harnessed the modern tools of globalization and exploited our open societies with devastating effect."

—Canada's International Policy Statement: A Role of Pride and Influence in the World, April 2005.

[2] Also referred to as the "*Global Partnership*" or "*Partnership*."

The *Global Partnership*: An Overview

Principles

The *Global Partnership* is grounded in six principles designed to prevent terrorist interests from acquiring or developing nuclear, chemical, radiological and biological weapons, or related materials, equipment, technology and expertise.

These principles, developed by Canada in preparation for Kananaskis, call upon states to:

- strengthen global non-proliferation efforts through the adoption and full implementation of relevant multilateral treaties and other international instruments;
- develop and maintain appropriate measures to account for and secure WMD materials in use, storage and transport;
- develop and maintain secure storage facilities for WMD materials;
- strengthen border controls, law enforcement and international cooperation to deter, detect and interdict illicit trafficking of WMD;
- strengthen national export and transshipment control systems over items that could be used in the development or production of WMD; and
- strengthen efforts to reduce stockpiles of WMD materials.

These six principles were subsequently unanimously endorsed by the United Nations General Assembly, through a resolution adopted in the fall of 2002.[3] Central to the implementation of these principles was the commitment that countries lacking the resources to address the problems of WMD would be assisted by the international community.

> *"We call on all countries to join us in adopting the set of non-proliferation principles we have announced today."*
>
> *—Statement by G8 Leaders,* Kananaskis Summit, June 2002.

Guidelines

Leaders also agreed to a set of guidelines at Kananaskis to facilitate the implementation of bilateral and multilateral cooperation projects funded through the *Global Partnership*. These guidelines were based on practices that had proven their value in other cooperation work. They require all *Global Partnership* projects to:

- be transparent and open to monitoring and audit;
- adhere to accepted environmental protection and safety standards;
- be based on clearly defined project milestones;
- adhere to peaceful use provisions and the application of adequate physical protection measures;
- provide full exemption from taxes, duties, levies and other charges;
- base project implementation on international procurement standards;
- provide adequate liability protection for project personnel and contractors;
- provide appropriate privileges and immunities for donor representatives working on cooperation projects; and
- ensure adequate protection of sensitive information and intellectual property.

Integrating these guidelines generally requires a bilateral or multilateral legal framework for partner operations, supplemented by contractual agreements for project implementation.

[3] Resolution 57/68: *Bilateral Strategic Nuclear Arms Reductions and the New Strategic Framework*. Adopted without a vote on November 22, 2002.

Funding the *Global Partnership*

G8 members have made the following pledges to the *Global Partnership* (amounts are given in the currency units of the pledge):

- Canada (C$1 billion[4]);
- France (€750 million);
- Germany (€1.5 billion);
- Italy (€1 billion);
- Japan (US$200 million);
- Russia (US$2 billion);
- United Kingdom (US$750 million); and
- United States (US$10 billion).
- European Union (€1 billion);

Inviting global participation to promote global security

"Recognizing that this Global Partnership will enhance international security and safety, we invite other countries that are prepared to adopt its common principles and guidelines to enter into discussions with us on participating in and contributing to this initiative."

—Statement by G8 Leaders,
Kananaskis Summit, June 2002.

[4] Elsewhere in this report, Canadian dollar amounts are indicated simply by "$."

Since its inception, the *Global Partnership* has included an outreach component to encourage and facilitate the participation of non-G8 countries in this cooperative threat reduction initiative. Canada played a leading role in encouraging more countries to enter the *Partnership* as donors. By 2003, six additional countries had joined—Finland, the Netherlands, Norway, Poland, Sweden and Switzerland—committing about US$200 million to specific projects. Australia, Belgium, the Czech Republic, Denmark, Ireland, New Zealand and the Republic of Korea were welcomed as new partners at the 2004 G8 Sea Island Summit, and Ukraine joined later in the year as a recipient.

A summary of *Global Partnership* member commitments can be found in Appendix A.

"The proliferation of weapons of mass destruction is a real and immediate threat. ... We must have the strength to confront this threat directly with concrete action, not mere talk of action."

—Alexander Downer, Australia's Minister of Foreign Affairs, Remarks at the opening session of the Australia Group Annual Plenary Meeting, Sydney, April 18, 2005.

Priorities for Action

At the Kananaskis Summit in 2002, G8 members highlighted four priority areas to receive support under the initiative:

1. The destruction of chemical weapons;
2. The dismantlement of nuclear submarines;
3. The disposition of fissile materials; and
4. The redirection of former weapons scientists.

Global Partnership partners make specific commitments to projects that fit within one or more of these priority areas. For example, Japan is focusing on dismantling nuclear submarines and plutonium disposition, while Canada, the United Kingdom and the United States are supporting all four of the priority non-proliferation activities. Canada and other partners also have programs to support biological non-proliferation initiatives in several countries of the former Soviet Union.

Monitoring Progress

The G8 established the Global Partnership Senior Officials Group (GPSOG) in 2002 to facilitate project implementation, develop and exchange best practices, monitor ongoing progress, maintain program priorities in line with international security obligations and objectives, and prepare a progress report for G8 leaders. This group also assisted in identifying project gaps and potential overlap.

In 2004, G8 groups were restructured. The Senior Group was created to oversee the full range of non-proliferation issues, while responsibility for implementing *Global Partnership* projects was vested in the newly formed Global Partnership Working Group (GPWG). The GPWG, which includes members from non-G8 countries, now reports to the G8 Senior Group. The GPWG is charged with reviewing implementation guidelines and issues, initiating and developing projects, and undertaking outreach activities associated with expansion of the *Partnership* to non-G8 countries. It also compiles consolidated reports of project activity and prepares an annual progress report for G8 leaders.

Future Directions

The *Global Partnership* is open to potentially expanding its reach to address threat reduction activities in other countries. A number of FSU countries have expressed interest in joining the *Partnership* as recipient countries, and Ukraine was formally welcomed as such in late 2004. Beyond the FSU, the *Global Partnership* provides a model for programs in other regions where recent developments suggest new opportunities for cooperative risk reduction and non-proliferation projects. Libya and Iraq were both discussed in this context during the U.S. presidency of the G8 in 2004. While some countries have undertaken activities in other regions, there remains a consensus within the G8 that materials and expertise in Russia and other FSU countries continue to pose the most serious risks to international security and will thus continue to be the primary focus for the *Global Partnership*.

The G8 expands the mandate

"We reaffirm that we will address proliferation challenges worldwide. ... We also support projects to eliminate over time the use of highly-enriched uranium fuel in research reactors worldwide, secure and remove fresh and spent HEU fuel, control and secure radiation sources, strengthen export control and border security, and reinforce biosecurity. We will use the Global Partnership to coordinate our efforts in these areas."

—*G8 Action Plan on Nonproliferation,* Sea Island, Georgia, June 9, 2004.

"No matter where you call home, the central organizing security principle of the 21st century should be preventing the spread or use of nuclear and other weapons of mass destruction. For this mission, we need all the tools in all of our collective arsenals. ... We are in a race between cooperation and catastrophe."

—Senator Sam Nunn, Co-chair and CEO, Nuclear Threat Initiative, Remarks at the IAEA-organized International Conference on Nuclear Security: Global Directions for the Future, London, March 16, 2005.

Signing of the historic treaty to implement bilateral cooperation between Canada and Russia under the Global Partnership, June 2002

Canada and the Global Partnership Program

In keeping with commitments made at the G8 Kananaskis Summit in 2002, the Government of Canada authorized the establishment of Canada's Global Partnership Program with a funding allocation of up to $1 billion over 10 years. Project funding commenced in 2003.

Setting the Stage

Canada's Role and Priorities

As host of the 2002 G8 Summit in Kananaskis and as the first chair of the GPSOG, Canada played a pivotal role in establishing and shaping the *Global Partnership Against the Spread of Weapons and Materials of Mass Destruction*. The host role included drafting the principles and guidelines that constitute the *Partnership*'s operational framework. Since then, Canada has played a leading role in the *Partnership*'s transition from a strong political commitment to a focused program of support, with accompanying legal agreements and project-level funding commitments from both G8 and non-G8 partners.

As chair of the GPSOG in 2002, and subsequently in support of the French chair in 2003, Canada was instrumental in efforts to encourage non-G8 countries to participate in the *Global Partnership*. The fact that six new members had joined and made significant financial commitments by mid-2003 was an important endorsement of the *Partnership*'s principles, guidelines and priorities and confirmed it as a model for international cooperation.

Canada's initial efforts focused on two areas: establishing the necessary international legal frameworks and implementation arrangements to underpin the project's rollout in Russia; and creating the domestic support structure and monitoring framework needed to contribute in an effective and accountable manner to the four priority areas identified by the G8.

Working together to promote international partnership

"The Conference on the Non-Proliferation and Disarmament Co-operation Initiative hosted by the European Commission in Brussels under EU, US and Canadian Chairmanship also furthered the aims of the Global Partnership by facilitating information exchange, outreach to other countries and co-ordination of projects."

—Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, G8 Senior Officials Group Annual Report, 2003.

Building the Team

In September 2002, the Government of Canada established a separate Global Partnership Bureau within the Department of Foreign Affairs and International Trade (DFAIT) with specific responsibility for Canada's Global Partnership Program. Having a team dedicated to project development, coordination and implementation helped ensure that Canada could move quickly in launching projects and that funds would be used appropriately to meet the goals set at Kananaskis.

The Global Partnership Bureau consists of 30 staff. It incorporates technical expertise in all of the *Global Partnership*'s priority areas as well as sector-relevant experience in non-proliferation areas. In addition, there is an office at the Canadian Embassy in Moscow, consisting of four staff members (including two locally engaged staff) to deal directly with the Russian government and *Global Partnership* stakeholders.

Global Partnership Program Bureau Team 2005

Photo Credit: Jean-Marc Carisse, Ottawa

Creating the Legal Framework

Reducing the threat of WMD is a complex business that requires a comprehensive legal framework in order to operate effectively and control risks. This framework consists of a combination of multilateral agreements, bilateral agreements and third-party arrangements, which are supplemented by specific implementing arrangements governing the release of funds. In all cases, these arrangements must be consistent with national and international law, as well as other international agreements to which Canada is a party.

To effectively carry out a wide range of cooperative risk reduction projects, Canada's Global Partnership Program has made use of different delivery mechanisms, established and protected by the framework of arrangements and agreements. These mechanisms enable Canada to build on the resources of other *Global Partnership* contributors. The result is a truly cooperative international program that makes effective use of contributed resources.

Canada-Russia Bilateral Agreement

Priority Areas: Nuclear Submarine Dismantlement, Nuclear and Radiological Security, and Chemical Weapons Destruction

The legal foundation for bilateral cooperation between Canada and Russia was put in place on June 9, 2004, with the signing of a treaty: *The Agreement between the Government of Canada and the Government of the Russian Federation Concerning Cooperation on the Destruction of Chemical Weapons, the Dismantlement of Decommissioned Nuclear Submarines and Nuclear and Radioactive Material Protection, Control and Accountancy*. The conclusion of the treaty represented a milestone in the implementation of Canada's Global Partnership Program, as it provided the protections necessary for Canada to negotiate and implement bilateral projects in Russia.

Multilateral Agreements

International Science and Technology Center
Priority Area: Redirection of Former Weapons Scientists

Canada acceded to the International Science and Technology Center (ISTC) on March 1, 2004, as a full party. This Moscow-based intergovernmental organization is dedicated to the redirection of former weapons scientists to peaceful research. Canada is now the third largest contributor (up to $18 million per year) and participates in all decision-making bodies of the organization. A memorandum of understanding (MOU) was signed on December 16, 2003, covering the conditions governing Canada's support to the ISTC. Canada began committing funds to research proposals and projects in March 2004.

Multilateral Plutonium Disposition Group
Priority Area: Nuclear and Radiological Security

Canada is a member of the Multilateral Plutonium Disposition Group, a G8 group that is working on the framework necessary to enable work to proceed on the disposition of 34 tonnes of weapons-grade plutonium in Russia. Key objectives at this stage of the program are resolving cost issues, ensuring adequate international financing and achieving agreement on an appropriate program management structure.

Other Key Arrangements

Canada–United Kingdom Memorandums of Understanding
Priority Area: Chemical Weapons Destruction

On November 19, 2003, Canada and the U.K. signed the Memorandum of Understanding Regarding Assistance with the Destruction of Chemical Weapons in the Russian Federation. The MOU covers arrangements for funding chemical weapons destruction activities through the U.K.'s bilateral agreement with Russia. As an initial contribution to the *Global Partnership*, Canada committed $33 million to the construction of a secure railway link between the munitions storage area and the destruction facility at Shchuch'ye.

This first arrangement was followed by the Memorandum of Understanding Regarding Further Assistance with the Destruction of Chemical Weapons in the Russian Federation, which was concluded on January 18, 2005. This second MOU provides the framework for Canada to make additional financial contributions to the construction of the Shchuch'ye facility, including an initial $10 million for key industrial infrastructure projects.

International Atomic Energy Agency
Priority Area: Nuclear and Radiological Security

On March 16, 2004, Canada concluded a contribution arrangement with the IAEA, allocating $4 million to the Agency's Nuclear Security Fund (NSF) in support of nuclear and radiological security projects in the FSU.

Nuclear Threat Initiative (NTI)
Priority Area: Chemical Weapons Destruction

On February 7, 2005, Canada entered into a supplementary agreement with the U.S.-based non-governmental organization (NGO) Nuclear Threat Initiative that enabled that organization to contribute US$1 million toward Canada's construction of a railway bridge at the Shchuch'ye chemical weapons destruction facility. This agreement represented the first major NGO contribution to the *Global Partnership*.

Mohamed ElBaradei, Director General, IAEA

"I am pleased to accept your contribution and express the sincere appreciation of the Secretariat for the support extended by your Government to the Agency's approved activities to protect against acts of nuclear terrorism."

—Mohamed ElBaradei, Director General, IAEA, Letter to Canada's Minister of Foreign Affairs, March 22, 2004, accepting Canada's contribution of $4 million to the IAEA's Nuclear Security Fund.

Photo Credit: Dean Calma, IAEA

U.S. Department of Energy
Priority Area: Nuclear and Radiological Security

On March 30, 2005, Canada and the United States announced the signing of an MOU covering the arrangements for a Canadian contribution of $9 million to a U.S.-led project to facilitate the shutdown of one of the last weapons-grade plutonium–producing nuclear reactors in Russia at Zheleznogorsk.

"This agreement is key to halting the production of nuclear weapons materials. … We are pleased to be able to cooperate with our U.S. partners on this important security initiative."

—Pierre Pettigrew, Minister of Foreign Affairs, Remarks on the Zheleznogorsk project, March 30 2005.

Gas mask used to prevent inhalation of chemical agents

Canada's Response to the *Global Partnership* Priority Areas

Priority Area 1: Destruction of Chemical Weapons

Russia has the largest declared stocks of chemical weapons in the world—approximately 40,000 tonnes. These chemical weapons are stored at seven facilities. Two of these sites house the vesicants (i.e. blister agents) mustard, lewisite and lewisite/mustard mixture (a total of roughly 5,500 tonnes, or 20 percent of the total CW stockpile). Five others are repositories for the deadly organophosphorous agents (i.e. nerve agents) sarin, soman and VX (a total of approximately 32,500 tonnes, or 80 percent of Russia's total CW stockpile). Of particular concern are the nearly four million nerve agent–filled artillery shells stored at Shchuch'ye (Kurgan Oblast) and Kizner (Udmurt Republic). The small-calibre artillery shells pose a particular risk since they are both rugged and portable (they can fit into a briefcase)—two characteristics that make them an especially attractive target for terrorists.

Under the terms of the Chemical Weapons Convention, which entered into force in April 1997, Russia has agreed to destroy its chemical weapons stockpile. However, an initial lack of resources has meant that Russia will not be able to meet the CWC's final destruction deadline of 2007. As permitted under the Convention, Russia has requested a five-year extension of its final destruction deadline, but even so there is a need for international assistance to complete this important task in a timely fashion.

Complying with the Chemical Weapons Convention

Compliance with the terms of the CWC requires possessor countries to destroy their CW stockpiles not later than 10 years after the Convention's entry into force (i.e. by April 29, 2007). Although a State Party can choose its own destruction methods, there is an obligation under the CWC to "assign the highest priority to ensuring the safety of people and to protecting the environment." The Convention also determines a rate and sequence for destruction, and destruction of all stocks is verified through the continuous on-site presence of inspectors from the Organization for the Prohibition of Chemical Weapons. The 2007 deadline for the final destruction of national stockpiles may be extended to 2012 in exceptional circumstances.

The international community's support for Russia's CW destruction efforts pre-dates the *Global Partnership*. Russia's first chemical weapons destruction facility (CWDF) was established at Gorny with significant assistance from Germany. That facility, which destroys blister agents, became operational in December 2002. Russia expects that the completion of two more CWDFs, at Kambarka and Maradykovsky, will enable it to destroy 20 percent of its stock by 2007. Up to four more facilities are planned or in progress. The Shchuch'ye CWDF, which Canada is helping to fund, is expected to be operational in 2008.

"The destruction of chemical weapons is a high priority for Canada under the Global Partnership. Not only will destruction of Russia's chemical weapons stores enhance international security and safety by helping to prevent terrorists, or those that harbour them, from acquiring chemical weapons, it will also help Russia to meet its Chemical Weapons Convention obligations, thereby strengthening multilateral non-proliferation, arms control and disarmament efforts."

—Green Cross National Forum—Canadian Statement, Moscow, November 12, 2003.

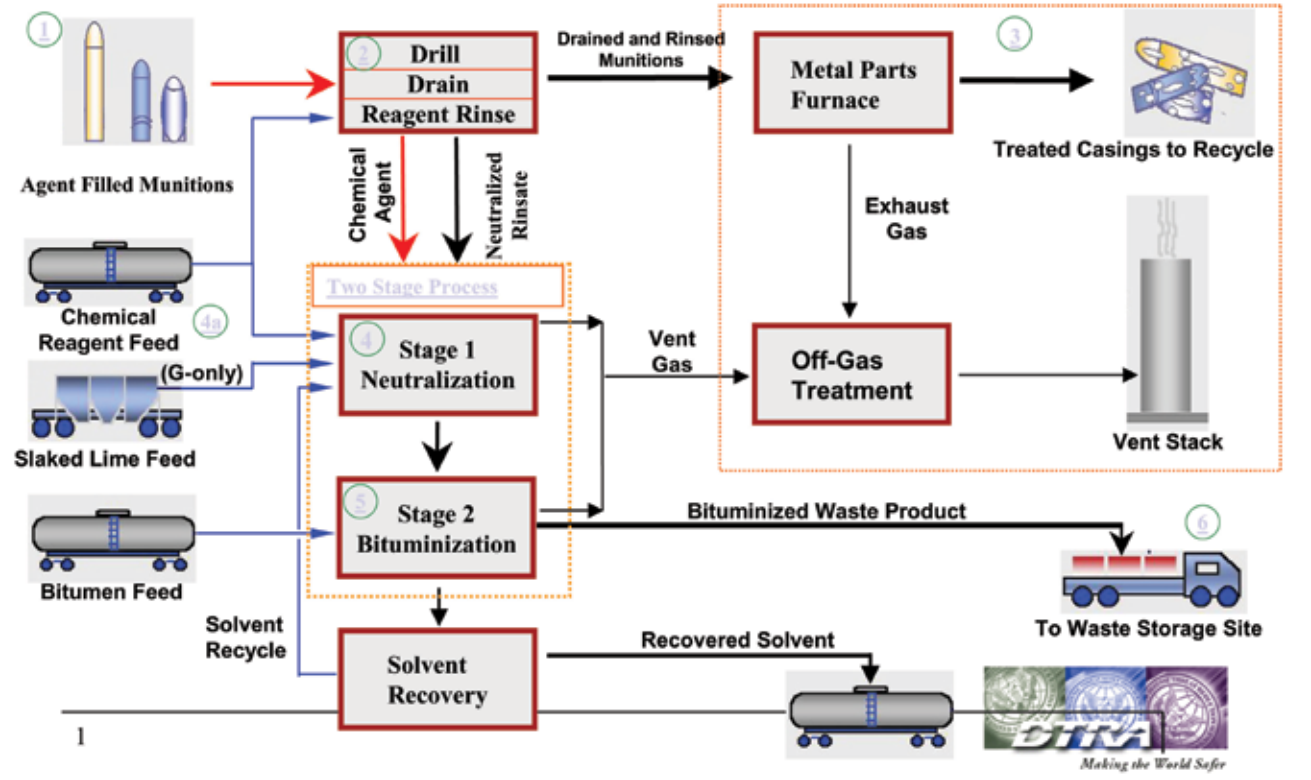
Photo Credit: US Defense Threat Reduction Agency (DTRA)

Computer generated image of the Shchuch'ye Chemical Weapons Destruction Facility

International cooperation at work

"Many Global Partnership countries are supporting projects related to chemical weapons destruction. Cooperation projects begun in previous years have led to the destruction of over 640 tons of chemical weapons. Canada, the European Union, Finland, France, Germany, Italy, the Netherlands, Norway, Poland, Russia, Switzerland, the United Kingdom and the United States are making contributions to chemical weapons destruction at sites including Gorny, Shchuch'ye and Kambarka."

—G8 Senior Group, *G8 Global Partnership Annual Report*, June 2004.



Source: US Defense Threat Reduction Agency (DTRA)

Russian Chemical Weapons Destruction Process

Project: Construction of the Shchuch'ye Chemical Weapons Destruction Facility

Canada considers the Shchuch'ye chemical weapons destruction facility to be the top CW priority, as it will destroy Russia's most lethal and proliferation-prone chemical weapons. The arsenal consists of 5,440 tonnes of the deadly nerve agents sarin, soman and VX, which are stored in more than 1.9 million artillery and rocket-launched munitions. The artillery shells pose a particular risk because they are small enough to be carried and are thus especially attractive to terrorists. While the Shchuch'ye stockpile accounts for 13.6 percent of Russia's total agent stockpile by volume, it represents almost 44 percent of the total number of chemical weapons in Russia's declared stockpile of 4.5 million. Prior to the *Global Partnership*, Canada had already contributed $5.35 million to assist with road, electric power and gas pipeline infrastructure for the Shchuch'ye facility.

Photo Credit: US Defense Threat Reduction Agency (DTRA)

Production Building: Russian Chemical Weapons Destruction Complex

Canada's prior contribution to the Shchuch'ye facility

In 2000 and 2001, Canada contributed $350,000 for the design of an access road to the site's industrial area, and for the design and partial construction of 10-kilovolt and 110-kilovolt power lines to supply electricity to the site. In 2002, Canada contributed $5 million directly to the Russian Munitions Agency to help fund the construction of a natural gas pipeline to provide energy for the facility. The pipeline project, which also included support from Italy, was successfully concluded in September 2003.

Canada, Russia, the United Kingdom and the United States are the primary partners in the Shchuch'ye CWDF project and work closely together through the Shchuch'ye Coordination Working Group, which meets quarterly in Russia. The working group was constituted in 2003 to facilitate information exchange and ensure maximum cooperation around construction activities. Other *Global Partnership* contributors to the Shchuch'ye facility include the Czech Republic, the European Union, Italy, the Netherlands, New Zealand and Norway.

While the U.S. is the largest contributor to the project, Canada and the U.K. are providing significant funding. Canada's implementation of its projects at Shchuch'ye through the U.K.'s bilateral Chemical Weapons Destruction Agreement with Russia has significantly reduced administrative costs associated with the project and facilitated coordination among major donors.

Photo Credit: US Defense Threat Reduction Agency (DTRA)

Artist's Rendition of railway entering the CWDF industrial zone and arriving at Main Destruction Building

Photo Credit: US Defense Threat Reduction Agency (DTRA)

Future site of the railroad

Railway Project

Canada has committed up to $33 million to help fund the construction of a key program component, an 18-kilometre railway spur. The railway will provide a secure link between the Shchuch'ye destruction facility and the chemical weapons storage facility at Planovy. While the primary purpose of this line is to enable the chemical munitions to be transported to the destruction site in a safe and secure manner, it will also be used to deliver operational supplies and remove waste materials. Canada has obtained a US$1-million contribution to its program from the U.S. NGO Nuclear Threat Initiative, which will be applied to the construction of a rail bridge across the Miass River.

Difficulties in the subcontractor tendering process that delayed project implementation in 2004 have now been resolved. Canada and the U.K. are currently finalizing the remaining legal arrangements. To date, $4 million has been transferred to the U.K. for initial planning work. Railway construction is expected to start in November 2005 and will take an estimated 20 to 24 months to complete.

Other Infrastructure Projects

In January 2005, a second MOU was signed by Canada and the U.K. to cover other key industrial infrastructure projects at the Shchuch'ye CWDF, including the construction of a 3.8-kilometre access road, a local warning system at the facility and inter-site communication lines.

"I would like to highlight the very close and effective working relationship that [the United Kingdom has] with Canada, and the great value that we attach to it. This partnership enables our two countries to provide assistance in a way which provides best value both for our taxpayers and for the Russian Federation."

—Adam Ingram, U.K. Minister of State for the Armed Forces, Edinburgh, April 12, 2005.

Project: Green Cross Public Outreach Office at Izhevsk

Green Cross International provides a valuable complementary service to Russia's CW destruction program by operating a network of public outreach and information offices (POIO) in Russia. These offices help enhance understanding at the local level about the importance and realities of chemical weapons destruction and address public concerns about related health, environmental, economic and social issues. POIOs are established to serve populations living near Russia's CW storage and destruction facilities.

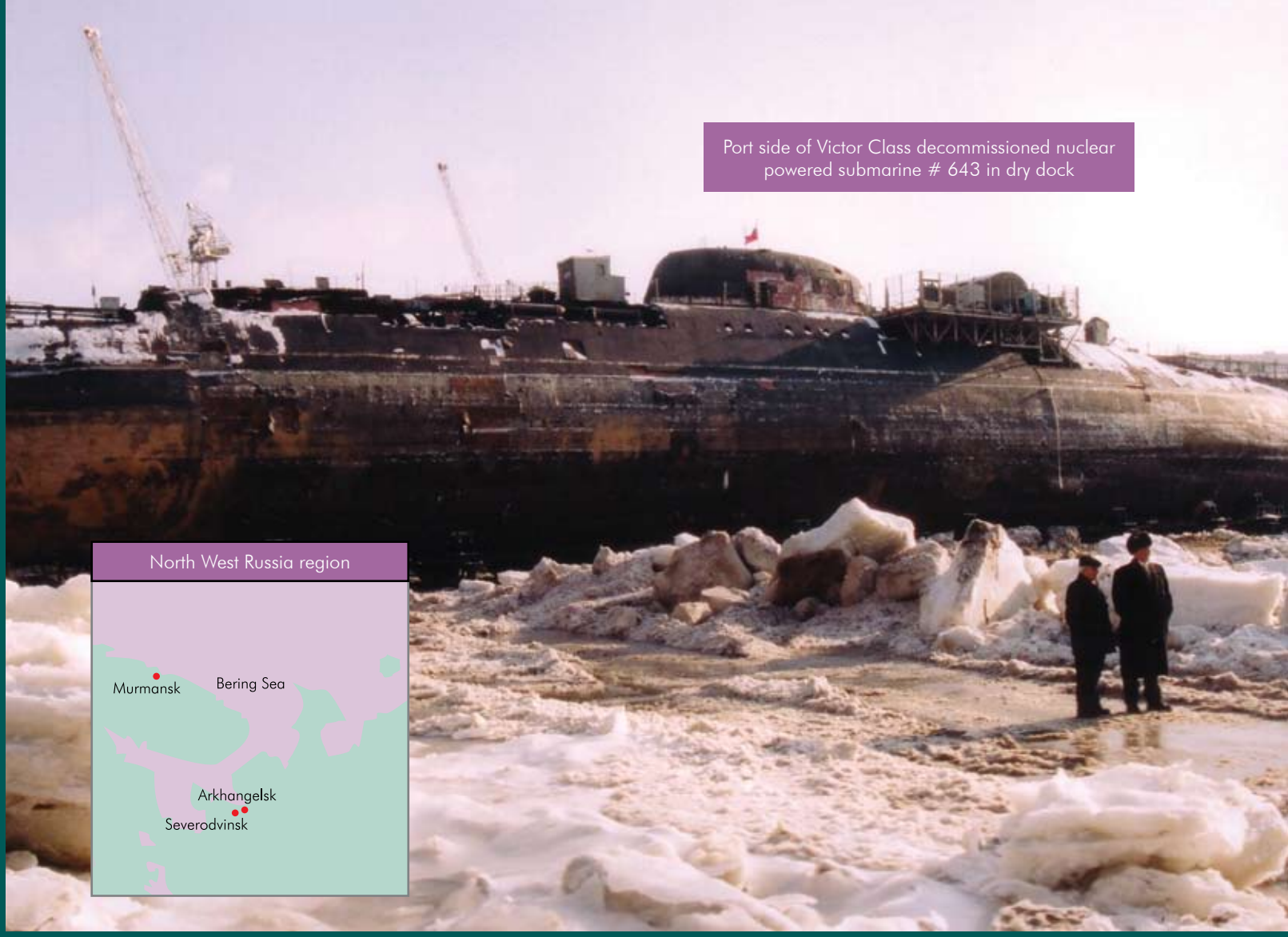
In November 2004, through the Global Partnership Program's Special Projects Fund, Canada committed up to US$100,000 annually to Green Cross for four years to establish and operate a POIO in Izhevsk. This facility is located near two CW stockpile sites—Kambarka and Kizner. The Izhevsk POIO opened in early April 2005 and joins an existing network of 10 Green Cross offices.

Canada believes the Kizner site, with its arsenal of 5,680 tonnes of nerve agents, to be the second most important CW facility after Shchuch'ye, and is considering contributing to the destruction of the Kizner stockpile once the Shchuch'ye CWDF is completed. The opening of the POIO office in Izhevsk will help raise public awareness about CW and facilitate future work in that region.

Sign on the exterior of the Green Cross Public Outreach and Information Office in Izhevsk, capital of the Udmurt Republic. The sign reads: "Russian Green Cross Information-Analytical Center, Izhevsk"

Green Cross International

Founded in 1994 by former Soviet President Mikhail Gorbachev and other senior officials from Japan, the Netherlands, Russia and Switzerland, Green Cross International aims to foster a new sense of global interdependence and shared responsibility in humanity's relationship with nature. Green Cross International, which is headquartered in Geneva, has over two dozen national affiliates worldwide and manages several international environmental programs.



Port side of Victor Class decommissioned nuclear powered submarine # 643 in dry dock

Priority Area 2: Dismantlement of Nuclear Submarines

Following the collapse of the Soviet Union, nearly 200 decommissioned nuclear-powered submarines from Russia's Northern and Pacific fleets required dismantlement and disposal. Poorly maintained and protected in many cases, these submarines continue to pose serious nuclear and radiological proliferation risks. Materials within each submarine, or stored in shipyards awaiting disposal, are vulnerable to theft and sabotage. Spent nuclear fuel (SNF) is considered a particular enticement for terrorists. Moreover, serious environmental contamination can result if SNF or radioactive wastes enter the Arctic or Pacific ocean environments. Without international assistance, it is estimated that Russia would be able to dismantle only three to four such submarines per year.

Fifteen years after the collapse of the Soviet Union, there are still nearly 60 decommissioned nuclear-powered submarines (NPS) from Russia's Northern Fleet awaiting safe dismantlement. About half of these have nuclear fuel on board. Removing the risk posed by aged and fragile nuclear submarines involves 13 stages, including transportation, defuelling, dismantlement and safe storage of reactor compartments. Canada, Germany, Japan, Norway, the United Kingdom, and the United States are all helping Russia tackle this *Global Partnership* priority area.

Project: Dismantling 12 Decommissioned Russian Nuclear Submarines

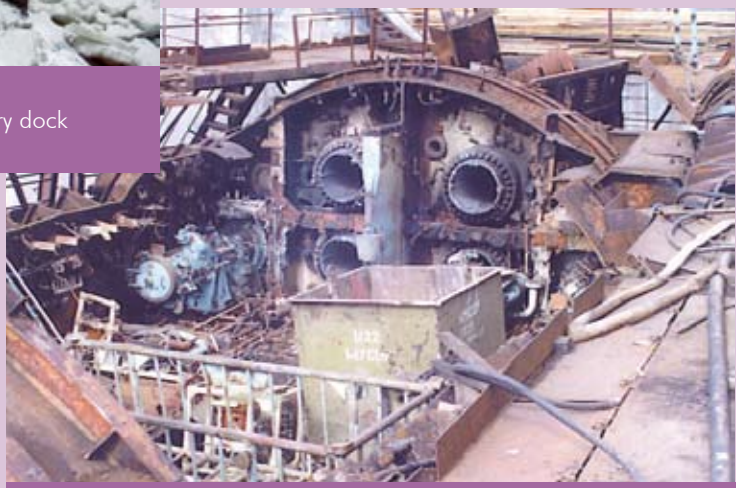
Through the bilateral agreement with Russia, Canada has committed to dismantling 12 decommissioned nuclear-powered submarines from Russia's Northern Fleet by 2008 at a total cost of approximately $120 million. Canada's commitment represents a significant contribution to addressing the problem and the risk presented by SNF on decommissioned Russian submarines.

Selected Stages of Submarine Dismantlement

Aerial view of the Zvezdochka Shipyard, Severodvinsk

Decommissioned submarine being towed to the Zvezdochka shipyard by main and auxiliary tug boats

Stern of decommissioned submarine #608 in dry dock



Reactor unit shell with radioactive waste storage container

The Canadian project will be implemented by the Federal State Unitary Enterprise Engineering Plant (FSUEEP)—known as the "Zvezdochka" shipyard—at Severodvinsk in the Arkangelsk Oblast. The Russian Federal Agency for Atomic Energy (Rosatom) has confirmed that the submarines to be dismantled through this project include 11 Victor Class and one Yankee Pod Class general purpose attack submarines.

Chris Westdal (center), Canadian Ambassador to Russia, with Mr. N. Kalistratov (right), Director General of the Zvezdochka Shipyard

An implementation arrangement was negotiated in 2004 to cover the first year of work. Under the terms of the arrangement, Canada agreed to provide up to $24.4 million to cover defuelling and dismantlement of the first three submarines. Nuclear defuelling commenced in October, following an environmental assessment. As of April 2005, all three submarines had been defuelled, one was completely dismantled, and another over 50 percent dismantled. A second implementation arrangement, signed in March 2005, provides for an additional four submarines to be defuelled and three to be dismantled.

"Cooperation with Canada in NPS dismantlement is an excellent example of a harmonious combination of the political will to achieve a clearly defined goal and the pragmatic approach towards its practical implementation."

—S.V. Antipov, Deputy Director, Rosatom, Remarks, March 2005.

Foreign Affairs Canada Merit Award Winner Michael Washer, Senior Project Manager Nuclear Submarine Dismantlement Project, receiving his award from Marie-Lucie Morin, Associate Deputy Minister and Robert Fonberg, Deputy Minister of International Trade

Canada leading by example: From agreement to implementation

"… to show interest is one thing, and to move from intentions to concrete projects and financing is quite another thing. Canada persevered and is currently funding the dismantlement of three Victor Class Multi-Purpose Nuclear Powered Submarines at 'Zvezdochka'.

… I would like to note specifically the record-breaking time period … from the date of signing the document on funding the contract to the start of its implementation. This proves that very professional and interested people work on the Canadian side. … We truly hope that our experience of fruitful cooperation with Canada will encourage other countries to take concrete steps in implementation of international agreements against the spread of weapons of mass destruction, and we will acquire new allies and partners."

—N. Kalistratov, Director General, FSUEEP, Remarks, March 2005.

Project: Northern Dimension Environmental Partnership Support Fund (Nuclear Window) of the European Bank for Reconstruction and Development

The threat of serious environmental contamination and related security concerns are also part of Russia's nuclear submarine legacy. The Northern Dimension Environmental Partnership (NDEP), established in 2001, is an innovative cooperative effort that responds to calls from both Russia and the international community for a concerted effort to tackle some of the most pressing problems, such as the safe and secure management of spent nuclear fuel and radioactive wastes from Russia's Northern Fleet. Funds assigned to the "nuclear window" of the NDEP Support Fund are used specifically for nuclear-related environmental projects in northwestern Russia.

Canada contributed $32 million to this program in March 2004 as a logical complement to the submarine dismantlement project. The European Bank for Reconstruction and Development (EBRD) manages the NDEP Support Fund on behalf of donors (including Canada, Finland, France, Germany, the Netherlands, Norway, Russia, Sweden, the United Kingdom and the European Union). The current Canada–EBRD funding arrangement is in place until March 2006.

Five urgent projects have been identified for support: four deal with the safe and secure handling and storage of highly unstable SNF, and one is looking to establish a radiological monitoring system for northwestern Russia.

European Bank
for Reconstruction and Development

Upgrading perimeter security, such as erecting fences, is a key component of Canada's efforts to improve security of Russian nuclear materials
Photo Credit: Canadian Nuclear Safety Commission

Priority Area 3: Nuclear and Radiological Security

There are an estimated 600 tonnes of potentially vulnerable nuclear material located outside nuclear weapons in facilities throughout Russia and the FSU.

At the end of the Cold War, Russia inherited vast stockpiles of nuclear material for nuclear weapons, much of which has since been declared surplus to defence requirements. Russia lacks sufficient financial resources to adequately secure and protect there materials. As a consequence, there is an urgent need to support the accounting, securing and conversion of these materials into non-weapon-useable forms (dispositioning) in the interest of international security. Another area of concern relates to highly radioactive materials that are not related to nuclear weapons.

Canada's contribution to the US-led construction of an alternative energy source will enable Russia to shut down its last weapons-grade plutonium producing reactor, located in Zheleznogorsk
Photo Credit: US Department of Energy (DOE)

These materials pose a serious threat due to their potential malicious use in a radiological dispersal device or "dirty bomb." A "dirty bomb" could be used to damage human health and the environment by, for example, dispersing radioactivity in a populated area. Canada is addressing these threats through a number of multilateral and bilateral arrangements.

Project: Replacing the Zheleznogorsk Nuclear Reactor

The nuclear power plant at Zheleznogorsk, in eastern Siberia, has one of the three remaining weapons-grade plutonium–producing nuclear reactors in Russia. The reactor produces enough plutonium for about one nuclear bomb per week. Built in the 1960s, it presents serious safety concerns because of its antiquated design and aging technology. The local population is anxious to see these threats addressed, but they also depend on the facility as the region's only source of heat and electricity.

The Zheleznogorsk project is part of the U.S. Department of Energy's broader Elimination of Weapons-Grade Plutonium Production Program in Russia, which seeks to phase out the production of weapons-grade plutonium and complement the Plutonium Disposition Program (see below). The

"Ending the production of weapons-grade plutonium is a non-proliferation priority for the United States and the international community. ... The signing of this MOU with our Canadian partners is another key step toward meeting this priority."

—Samuel Bodman, U.S. Secretary of Energy,
Remarks on the Zheleznogorsk project, March 30, 2005.

project involves the construction of a fossil fuel plant to provide an alternative energy source, allowing Russia to close the Zheleznogorsk reactor. The potential environmental impact will be minimal and will be far outweighed by the enormous security and environmental benefits to be gained. Canada's contribution to the project includes $9 million to fund design work in 2005. Construction of the replacement facility is scheduled to begin in the summer of 2006.

Project: Plutonium Disposition Program

The disposition of fissile materials is a key priority of the *Global Partnership*.[5] Canada has committed $65 million to support G8 funding of Russia's Plutonium Disposition Program. This program flows out of the U.S.–Russia bilateral agreement signed in 2000, which commits each party to the disposition of 34 tonnes of weapons-grade plutonium. The initiative is dependent on international funding for Russia's portion of the program.

Canada is a member of the G8 Multilateral Plutonium Disposition Group, which is working to resolve cost issues, gather required international financing, and finalize the program's management structure. A formal multilateral agreement is required to provide the legal framework for the program to move to the implementation stage.

Project: Support to the IAEA Nuclear Security Fund

The IAEA's Nuclear Security Fund (NSF) is an effective vehicle for Canadian efforts to strengthen nuclear and radiological security throughout the FSU. Canada and the IAEA signed a $4-million contribution arrangement in March 2004, making Canada the second largest contributor to the NSF. Under this arrangement, Canada is funding a variety of security activities until December 2006 including IAEA International Physical Protection Advisory Service (IPPAS) missions, physical protection upgrades at nuclear facilities, physical protection training sessions, improvements to radiation detection at international borders, missions for the recovery of radioactive sources, and workshops to assist states in developing national systems of control over radioactive sources. In addition, Canada is funding one staff position in the IAEA's Office of Nuclear Security to assist with the implementation of NSF projects.

An advantage of the NSF is that it enables Canada to fund nuclear and radiological security activities in FSU countries where Canada does not currently have appropriate legal frameworks in place. To date, the Canadian contribution has been used to fund:

- one IPPAS mission;
- work in the Chernobyl Exclusion Zone, including the provision of equipment and training related to detecting, identifying and responding to malicious acts; and
- the recovery of highly radioactive sources.

Photo Credit: SAIC/Exploranium

Canadian manufactured dosimeter to detect radiation emissions

[5] G8 leaders first acknowledged the magnitude of the risk posed by weapons-grade plutonium at the 2000 Okinawa Summit, when they sought to establish an international financing plan for plutonium disposition in Russia.

An easily carried, highly radioactive heat source is extracted from a RTG inside a special hot chamber

Photo Credit: Country Governor - Norway

Project: Physical Protection of Nuclear Material

The very real possibility that even small quantities of Russia's vast stockpile of nuclear material could be stolen and passed to terrorists or states of proliferation concern constitutes a major threat to international security. In July 2004, DFAIT and Rosatom successfully negotiated critical access and information transfer procedures to facilitate nuclear security cooperation. Canada is currently working with Rosatom to improve physical protection measures (e.g. barriers, key-card access, fences) at two Russian nuclear sites, and plans to support physical protection upgrades at two to three Russian nuclear facilities per year in the future.

Project: Securing Highly Radioactive Sources in Northern Russia

Radioactive materials have been used in small-scale power sources for decades in the FSU. For example, hundreds of lighthouses along Russia's northern coastline are currently powered by radioisotope thermoelectric generators (RTGs). These highly radioactive sources often have inadequate physical protection.

Reports of breaches involving RTGs have raised serious security and environmental concerns. As noted earlier, highly radioactive material that falls into the wrong hands could be used to make a "dirty bomb." Securing these vulnerable sources and replacing them with a sustainable alternative energy source is a leading priority for Canada and other *Global Partnership* donors.

Canada has made progress in developing projects to secure RTGs in the White Sea and Arctic regions, working bilaterally with Russia and in cooperation with other partners. To help ensure effective coordination of donor efforts in this area, Rosatom has established a multilateral RTG working group.

Solar cell panels provide a sustainable alternative power source for lighthouses formerly powered by highly radioactive material

Photo Credit: Country Governor - Norway

Highly radioactive materials that could be used in a "dirty bomb" are currently used to power lighthouses in the remote Russian north

Photo Credit: Country Governor - Norway

Priority Area 4: Redirection of Former Weapons Scientists

The dissolution of the Soviet Union left tens of thousands of weapons scientists in the FSU without gainful employment—literally overnight. Finding a way to redirect the skills and knowledge of these scientists to peaceful research pursuits was identified as a priority by the Global Partnership. The international community felt that, without sustainable, peaceful employment opportunities in their field, these scientists might well be tempted by offers from terrorist interests and states of proliferation concern.

The Moscow-based International Science and Technology Center is an intergovernmental organization currently funded primarily by Canada, the United States and the European Union. The ISTC coordinates the efforts of governments, international organizations and private sector industries to provide former weapons scientists from Armenia, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic, Russia and Tajikistan with opportunities to use their expertise and engage in international partnerships for peaceful purposes.

"The mandate of the ISTC is a noble one. Many of us have had the opportunity as students to debate the guns and butter trade-off or the swords into ploughshares transition. The ISTC has taken this type of academic discussion one step further and actually made it happen."

—Allan Poole, Senior Coordinator, Global Partnership Program, DFAIT, Remarks at the ISTC 10th-Year Anniversary Conference, October 28, 2004.

Project: Support to the International Science and Technology Center

When Canada formally acceded to the ISTC as a full party in March 2004, it became the third largest contributor to the work of the Center (after the United States and European Union), a member of the six-nation Governing Board and a participant in its Scientific Advisory Committee.[6] Canada has pledged up to $18 million annually to support ISTC research projects, various redirection programs and day-to-day operations.

Between March 2004 and March 2005, Canada committed $10.6 million to 38 scientific research projects involving 881 former weapons scientists in nuclear, chemical, biological and other sciences. These projects involve collaborators from the Government of Canada, industry and academic institutions from coast to coast.

A new Department of Global Security and Strategic Planning was created as a result of Canadian accession. Its mandate covers technologies relevant to safety and security at weapons institutes, counterterrorism, and other non-proliferation, arms control and disarmament issues. In December 2004, the ISTC Governing Board approved a deputy executive director from Canada to head the new department.

ISTC Acting Executive Director Didier Gambier (left) and DFAIT's James R. Wright (right) after signing of Canada - ISTC MOU, March 2004

[6] Canada brings 10 years of relevant experience to the ISTC, through a program supporting the Science and Technology Center in Ukraine (STCU); the STCU is currently managed by the Canadian International Development Agency.

How Canada reviews ISTC proposals

DFAIT coordinates a multi-faceted project review system for ISTC proposals. Proposals for funding consideration by Canada are submitted to the Natural Sciences and Engineering Research Council of Canada (NSERC) for a technical and scientific review. An NSERC committee, composed of experts from government and academia, ranks these proposals in order of scientific merit and identifies the commercialization potential as well as dual-use risks or ethical concerns. DFAIT also submits these proposals to representatives of Canada's science-based departments and agencies, to ensure consistency with Canadian science and technology policies and priorities and to identify potential Canadian collaborators. Primary emphasis in this process is placed on consistency with and promotion of Canadian non-proliferation goals and the objectives of the *Global Partnership*. The applicability of Canadian environmental legislation is also assessed.

As a result of ISTC redirection programming a scientist proudly displays the Institute's recently developed biological products

Scientist at work at Pushchino Laboratory, using equipment funded by the ISTC

The International Science and Technology Center

The Moscow-based ISTC was established as a non-proliferation organization in November 1992 through an international agreement between the European Union, Japan, Russia and the United States. Norway and the Republic of Korea subsequently became funding members, while six FSU countries (Armenia, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic and Tajikistan) joined as recipients. Through the Center's political, legal and financial frameworks, ISTC parties are able to contribute to programs that redirect scientists away from WMD research and toward sustainable, peaceful employment. In doing so, they enable the exceptional pool of talent in Russia and other FSU countries to make a meaningful contribution to scientific advancement, while helping to reduce the risk of WMD expertise proliferation.

The ISTC serves as a project clearinghouse, offering a pool of research project proposals from FSU scientists to ISTC parties for funding consideration. The ISTC conducts funding sessions in March, July and October of each year. In addition to managing research projects, ISTC activities include commercialization support initiatives, information technology upgrades, training, partner development, and workshops and seminars to better integrate former weapons scientists into the global science and technology and industrial communities.

The ISTC's Partner Program enables governments, academic institutions and NGOs to employ scientific experts at relatively low cost to conduct research and development. The initiative focuses on addressing existing global problems through research and development in many areas, including environmental rehabilitation, alternative energy sources and life sciences.

Benefits to Canada

The benefits of the ISTC go beyond reducing the risks posed by the proliferation of weapons-based science. For example, Canadian individuals and organizations (public and private) that become involved as collaborators or partners in ISTC research projects can benefit from early and privileged access to new technologies developed at moderate cost by world-class scientists in Russia and other FSU countries. Such access to new technologies can contribute to the research goals of many government departments and research organizations (e.g. those involved in atmospheric monitoring, border protection or soil decontamination) while also enabling Canadian companies to improve their products and possibly their export performance. In 2004, the ISTC Governing Board approved Pratt & Whitney Canada as Canada's first industrial partner to the ISTC.

ISTC-sponsored seminars have provided opportunities for Canadian stakeholders to meet with FSU scientists, exchange information and explore areas for future collaboration. For example:

- Canada participated in the first annual Chemical Science and Commercialization Conference held from September 27 to 29, 2004, in Moscow. Canadian participants included representatives from government (including Environment Canada and the National Research Council), academia and industry. As a result of this conference, Canadian and Russian scientists are working together to develop new project proposals for submission to the ISTC.
- A biosafety workshop, held in Winnipeg in October 2004, enabled Canadian and FSU experts to pursue discussions on current and potential collaboration through the ISTC. (This workshop is described in more detail in the next section on the Biological Non-Proliferation Program.)
- Following the Winnipeg workshop, the 13 participating FSU scientists travelled to Ottawa to attend Health Canada's Third Annual Science Forum, held from October 18 to 19. That meeting allowed for further discussion of research activities between the FSU scientists and researchers/scientists from across Canada representing a variety of disciplines.

These and other activities have led to numerous new project ideas involving government, industry and university scientists from Canada and countries of the FSU.

A survey of Russian scientists: Is the ISTC effective?

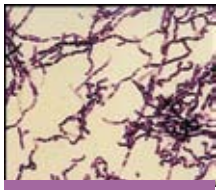
A survey on the role and work of the ISTC, conducted at 20 research institutes and involving 602 Russian scientists, found that 21 percent of respondents would consider working in a country such as the Democratic People's Republic of Korea, Iran, Iraq or Syria for one year in their area of specialization. The survey also revealed that those receiving ISTC and Western grants were less likely to consider accepting such employment. Overall, 90 percent of respondents characterized ISTC research grants as "very useful," and 48 percent identified support for research as the most successful aspect of the ISTC. Helping to establish contacts with foreign collaborators and facilitating travel was acknowledged as another successful aspect. About 20 percent of respondents had begun a joint project with either a Western university or firm.

—Source: Deborah Yarsike Ball and Theodore P. Gerber, *A Survey of Russian Scientists: Is the ISTC Effective?* April 2004; and *A Survey of Russian Scientists: Assessing Willingness to Work for Rogue States and the Effectiveness of Western Aid*, December 2004.

Other Achievements

Biological Non-Proliferation Program

Curbing the proliferation of biological weapons (BW) is an essential element of the *Global Partnership*. In accordance with the commitment made by leaders at the Kananaskis Summit in 2002, Canada is pursuing a number of initiatives in Russia and other countries of the FSU to prevent terrorists and states of proliferation concern from acquiring or developing biological weapons and related materials, equipment and technology. BW proliferation is of growing concern, particularly as many underfunded biological facilities are unable to adequately safeguard their deadly collections of pathogens and manufacturing equipment. The vulnerability of these facilities demands attention, bearing in mind that only a microscopic quantity of biological agent is required to produce a biological weapon.



Brucella causes disease in both humans and animals and is considered a possible target for terrorist acquisition and use

To contribute to the non-proliferation of BW, Canada is prepared to provide assistance under the *Global Partnership* to countries seeking to:

- promote the adoption, universalization, full implementation and strengthening of the Biological and Toxin Weapons Convention, which prohibits the development, production, acquisition, stockpiling or retention of biological weapons;
- develop and maintain appropriate, effective measures to account for and secure biological items (i.e. biosafety);
- develop and maintain appropriate, effective physical protection measures at facilities that house biological items (i.e. biosecurity);
- develop and maintain effective border controls, law enforcement efforts and international cooperation to detect, deter and interdict cases of illicit trafficking in biological items (e.g. through installation of detection systems, training of customs and law enforcement personnel, and cooperation in tracking these items);
- develop, review and maintain effective national export and transshipment controls over items on multilateral export control lists (as well as any other items that may contribute to the development, production or use of BW); and
- adopt and strengthen efforts to minimize holdings of dangerous biological pathogens and toxins.

Funding is required to upgrade the biosafety and biosecurity at this facility in which deadly pathogens are inadequately safeguarded

DFAIT's Global Partnership Bureau has developed a comprehensive biological non-proliferation strategy, which complements and supports Canada's activities through the ISTC. Based on consultations with Russian and other FSU and international partners, it is prepared to pursue initiatives in the following areas:

- assisting with the development and implementation of effective and practical biosafety/biosecurity standards;
- assisting with the establishment of national and/or regional biosafety associations in Russia and other countries of the FSU;
- providing biosafety/biosecurity training; and
- funding required biosafety/biosecurity upgrades at facilities of priority non-proliferation concern.

In 2004, Canada supported a number of seminars and workshops that brought together scientists and other experts from Canada and the FSU countries to discuss respective and shared priorities, exchange ideas and examine possibilities for collaboration in the biological sector:

- The Canadian Biological Sciences Colloquium, held in Moscow from September 15 to 17, enabled 17 officials and scientists from Canada to discuss this country's biotechnology and life sciences research priorities with former BW scientists from Armenia, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic, Russia and Tajikistan. At the colloquium, representatives from the Canadian government, academia and the private sector met with nearly 120 scientists from priority biological institutes in the region, with a view to developing collaborative projects.[7]
- The Biosafety, Biosecurity and Non-proliferation Workshop for Central Asia and the Caucasus was held in Almaty, Kazakhstan, from September 20 to 21. This training workshop, co-organized by the Monterey Institute of International Studies and Ministry of Public Health of the Republic of Kazakhstan, was attended by 70 scientists and government officials from Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic, Moldova, Russia, Tajikistan and Turkmenistan. It also included officials from DFAIT, Health Canada, the World Health Organization and the Monterey Institute.
- A second workshop was organized in Almaty by the Kazakh Scientific Center for Quarantine and Zoonotic Diseases from September 22 to 24. The International Workshop on Plague Surveillance brought together for the first time since the dissolution of the Soviet Union all the institutes that were part of the anti-plague system in the FSU.

  Representatives from Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan attended, as well as officials from DFAIT, the National Microbiology Laboratory (Winnipeg) and the World Health Organization. This meeting represented a first step toward re-establishing contacts between the various anti-plague institutes and coordinating disease surveillance across the region.
- Health Canada's Workshop on Biosafety in High Containment Laboratories, held in Winnipeg from October 11 to 15, involved 13 scientists from the Kyrgyz Republic, Russia and Tajikistan who work directly with highly pathogenic organisms and biosafety issues. The workshop enabled Canadian and FSU experts to learn about best practices in biosafety, exchange views on a wide range of biocontainment issues, and pursue discussions on current and potential collaboration through the ISTC.

Participants at the "International Cooperation on Plague Surveillance" conference held September 22 - 24, 2004 in Almaty, Kazakhstan. The conference was funded by Canada through the International Science and Technology Center

[7] A broad range of biotechnology and life sciences subjects were discussed during the colloquium under four areas: health care; ecological, water and food safety; agriculture and veterinary; and biosafety and biosecurity.

Communications and Outreach in Canada

Effective cooperative threat reduction requires a variety of strategies and mechanisms to ensure that the range of problems posed by WMD are addressed effectively. Canada has been both proactive and responsive in helping to ensure that support remains high for the aims of the Global Partnership within the international community and at home.

Communications and outreach activities have been Important components of the work of Canada's Global Partnership Program during this initial period. These activities are raising Canadian awareness about the value and potential of cooperative threat reduction, as well as facilitating the future collaboration of Canadian experts in *Global Partnership* projects. Activities fall into four main categories: academic outreach, industry outreach, government outreach, and provision of general information about the Canadian initiative, notably through presentations to and consultations with civil society and through the Global Partnership Program website (www.globalpartnership.gc.ca).

Academic outreach: To develop contacts within the academic community, officials from the Global Partnership Bureau at DFAIT have visited and given presentations at a number of universities, including Dalhousie, McGill, Memorial, Mount Saint Vincent, Queen's, Saint Mary's, Prince Edward Island, Toronto, York and Université du Québec à Montréal.[8] Canada's Global Partnership Program has also supported a major academic conference on the *Global Partnership*, organized by the Center for Policy Studies in Russia. The conference took place in Moscow from April 23 to 24, 2004. Through these efforts, Canada's Global Partnership Program has developed ties with academics and NGOs working in Canada, Russia and the United States.

Industry outreach: Officials from the Global Partnership Bureau have undertaken industry outreach across Canada,[9] making presentations to companies potentially capable of providing goods and services for *Global Partnership* projects or of participating in ISTC-funded projects and activities (see Priority Area 4 and Biological Non-Proliferation Program above). In addition, Canadian companies are eligible to bid on all EBRD Northern Dimension Environmental Partnership projects.

Government outreach: Briefings on Canada's Global Partnership Program for other government departments and relevant divisions in DFAIT, as well as for parliamentarians, have forged cooperative working relationships and drawn in additional expertise and views. The Global Partnership Advisory Group, composed of representatives from departments such as National Defence, Industry Canada, Health Canada, Transport Canada, and Public Safety and Emergency Preparedness Canada, represents an important intergovernmental consultation mechanism.

Allan Poole, Senior Coordinator, Foreign Affairs Canada, addressing the International Chemical Weapon Demilitarisation Conference, St Petersburg, Russia, May 2004

[8] Academic outreach to the five Atlantic region universities took place from October 27 to 29, 2003.
[9] Montreal, October 30, 2003; Toronto, November 4, 2003; Edmonton, March 16, 2005; Calgary, March 17, 2005; Saskatoon, March 18, 2005.

International Outreach

The *Global Partnership* is a cooperative initiative. Since the *Partnership*'s inception, Canada has worked closely with other G8 and non-G8 nations through specially formed groups at all levels. Canada, as the first chair of the Global Partnership Senior Officials Group, was instrumental in directing initial outreach efforts to expand participation in the *Partnership* to non-G8 countries. By midB2003, there were six new members, all of which had made significant financial commitments to the *Global Partnership*—Finland, the Netherlands, Norway, Poland, Sweden and Switzerland. This effort to bring in new countries continues, and the *Partnership* now counts 22 member nations (participating countries are identified in section I under the heading "Funding the *Global Partnership*").

At the working level, Canada is a vice-chair of the Contact Experts Group. Composed of 16 countries or international organizations, this group helps coordinate work related to submarine dismantlement. Its next meeting will take place in Ottawa in October.

Apart from reaching out to other governments, Canada has been successful in negotiating an agreement with a non-government donor, the U.S.-based Nuclear Threat Initiative, which is contributing to Canada's chemical weapons destruction effort at Shchuch'ye.

The provision of funding in 2004 to establish and operate a Green Cross public outreach and information office in Izhevsk illustrates another facet of the Global Partnership Bureau's outreach and communications strategy in support of the *Global Partnership*. As noted earlier in this report, this facility will keep the local Russian population informed about CW storage and destruction facilities and plans.

Commending Canada's role in the *Global Partnership*

Sam Nunn, former U.S. senator and co-creator of the U.S. Cooperative Threat Reduction Program, noted Canada's prominent role in the *Global Partnership* at a February 7, 2005, press conference in Washington, D.C., following the signing of the Canada–NTI Contribution Agreement:

"I want to commend the Canadians for taking a very prominent role in coming to the Partnership—the Global Partnership. ... not only did they help stimulate the agreement itself ... but most importantly from our point of view, we keep seeing Canada time after time work on securing the additional funds from the pledges that need to be made, and they're also working on converting the pledges to actual dollars and the dollars to actual programs."

Looking Ahead

"In the face of a panoply of challenges, and a range of possible responses, the Government of Canada will seek to make a difference in three main areas: countering global terrorism, stabilizing failed and fragile states, and combatting the proliferation of weapons of mass destruction."

—Canada's International Policy Statement: A Role of Pride and Influence in the World, April 2005.

Canada's Commitment

The possibility of weapons and materials of mass destruction being used by terrorists, including against targets in Canada, prompted the Government of Canada to develop a Chemical, Biological, Radiological and Nuclear (CBRN) Strategy. Announced on March 31, 2005, by the Minister of Public Safety and Emergency Preparedness, the CBRN Strategy aims to protect Canadians by taking all possible measures to prevent, mitigate and respond effectively to a CBRN terrorist incident in this country. The strategy provides a comprehensive framework for directing current activities, as well as future plans, policies and funding initiatives.

Canada's Global Partnership Program, which is identified as an element of Canada's CBRN Strategy, contributes to the Government's commitments to:

- continue to support the global effort to combat terrorism through coherent and consistent international action based on agreed-upon standards and practices; and
- work with the international community to improve security for the storage and movement of CBRN weapons capable materials as well as the safe destruction of CBRN weapons.

Canada released a new foreign policy statement in April 2005, which also reaffirmed the Government's commitment to the goals of the *Global Partnership* and cooperative threat reduction. Within this statement, the need to act multilaterally and with flexibility, in order to advance the international agenda, was highlighted and reinforced.

It is clear from these two recent government statements that Canada intends to continue to adapt and use as many strategies and mechanisms as are practical and necessary, in order to respond to the challenges and threats posed by WMD worldwide.

"Foreign Affairs [DFAIT] will seek to expand its contribution to the G8's Global Partnership Against the Spread of Weapons and Materials of Mass Destruction to include other countries willing to support the Partnership's goals."

—Canada's International Policy Statement: A Role of Pride and Influence in the World, April 2005.

The new multilateralism

"Modern sovereignty encompasses responsibilities to the international community as well as to one's own citizens ... areas where Canada intends to push forward the international agenda for action [include]: the 'Responsibility to Deny', to prevent terrorists and irresponsible governments from acquiring weapons of mass destruction that could destroy millions of innocent people."

—Canada's International Policy Statement: A Role of Pride and Influence in the World, Foreword by Prime Minister Paul Martin, April 2005.

Priority Area Projects

Shchuch'ye Chemical Weapons Destruction Facility

Canada has made an initial commitment of up to $10 million to other upcoming high-priority infrastructure projects at the Shchuch'ye CWDF—the access road, local warning system and communication lines described earlier in the report—and is anticipating making significant additional contributions to construction of this facility during the period 2005–07.

Russian Nuclear Submarine Dismantlement

A second implementing arrangement has been concluded for the period April 2005 through June 2006. This will cover relocating eight submarines, defuelling four and dismantling three, at a cost of up to $31 million, plus up to $1 million for related infrastructure. Negotiations for a third implementing arrangement will commence in late 2005.

Support to the IAEA Nuclear Security Fund

Canada is working to ensure the success of the Nuclear Security Fund and is considering extending the current contribution arrangement until December 2006. Future Canadian-supported projects in the three activity areas (physical protection, detection of malicious activities and security of radiological sources) could include International Physical Protection Advisory Service missions, the Chernobyl Exclusion Zone project and a regional workshop on the Code of Conduct on the Safety and Security of Radioactive Sources.

"We have been instrumental in strengthening international controls on transfers of sensitive nuclear technology, improving existing treaties, and forging coalitions among key states. ... This active engagement will continue, whether through our direction of the Global Partnership program to reduce the threat of terrorist acquisition of weapons of mass destruction in the former Soviet Union or our ongoing collaboration with Russia to destroy surplus fissile material. Canadian security depends on it."

—Canada's International Policy Statement: A Role of Pride and Influence in the World, April 2005.

Physical Protection of Nuclear Material

Future possibilities for Canadian funding may include projects that involve measures to improve material accountancy procedures as well as border control systems. There is also the prospect of cooperating on projects with other *Global Partnership* members. Canada hopes to fund physical protection projects at up to three sites per year.

Participants of the *CEG International Workshop on Multi-Purpose Nuclear Powered Submarine Dismantling* at the Zvezdochka Shipyard

Securing Highly Radioactive Sources in Northern Russia

Canada will contribute up to $500,000 in 2005–06 to Norway's ongoing program to remove, secure and replace radioisotope thermolelectric generators. Norway will replace the RTGs with solar panels as new sources of energy for the lighthouses.

Within the framework of the Canada–Russia Bilateral Agreement, Canada is considering providing financial support to address bottlenecks in the processing of RTGs, which have been identified by the multilateral RTG working group. Support could include funding for secure transportation containers and temporary storage facilities for RTGs.

Support to the International Science and Technology Center

Future plans for this project include a particular focus in Canada, including:

- development of a domestic outreach program to enhance ISTC visibility in Canada and to identify collaborators for Canadian-funded ISTC projects;
- promotion of the ISTC's Partner Program;
- development of a mechanism to leverage other government department priorities and programs toward non-proliferation activities in the FSU;
- development of engagement strategies for a small number of priority FSU institutes where Canada can make a difference; and
- gradual transfer from the Canadian International Development Agency to DFAIT in 2005–06 of responsibility for Canada's participation in the Science and Technology Center in Ukraine.

"Foreign Affairs ... will also pursue a strategy to reinforce compliance and verification mechanisms for WMD, reflecting our comparative advantage in key technology sectors. ..."

—Canada's International Policy Statement: A Role of Pride and Influence in the World, April 2005.

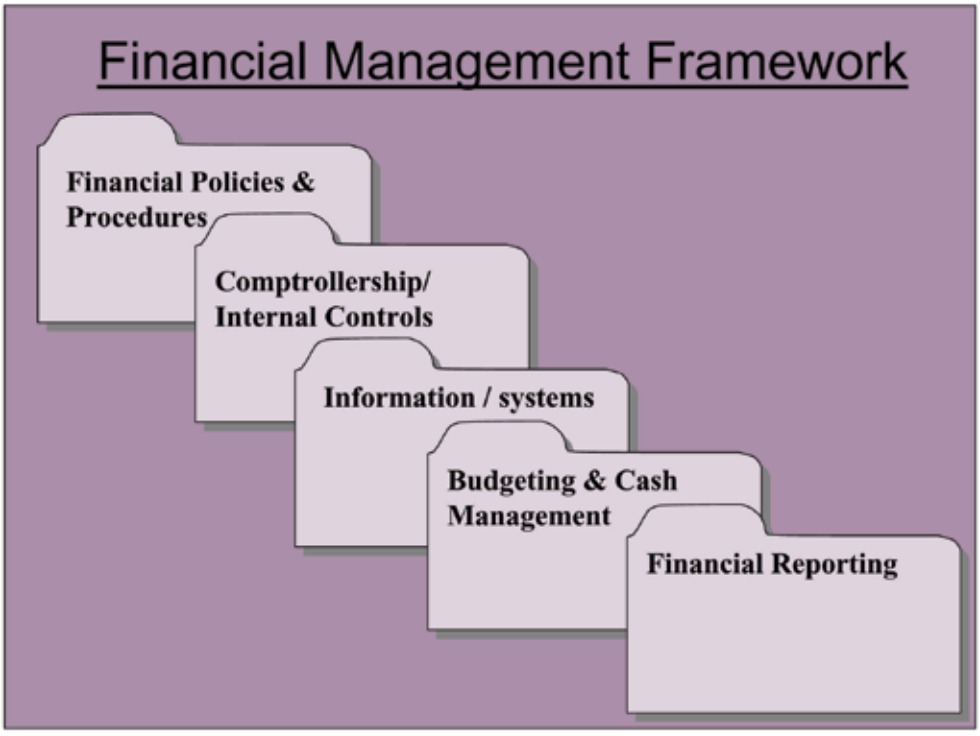
Ensuring Value

Financial Monitoring and Accountability Systems

To ensure the integrity of Canada's Global Partnership Program, a Project Management Framework has been developed by project management professionals from industry and government and approved by Treasury Board ministers. It provides the Global Partnership Bureau with a project delivery methodology that encompasses all stages of the project cycle. Project managers and their teams are required under the terms and conditions of Treasury Board submissions to adhere to the Project Management Framework, which results in disciplined and consistent project management.

As required by Treasury Board authorities, all projects are covered by a Risk-based Audit Framework, to review a project's inherent risks, and a Results-based Management and Accountability Framework, which outlines a series of performance indicators used for program management and annual accountability reporting.

The financial management of Canada's Global Partnership Program is also controlled and monitored in accordance with the federal government's Modern Comptrollership objectives, including effective risk management, stewardship, accountability, and performance measurement. All expenditures and commitments of the Global Partnership Program are subject to the standards and practices prescribed under the Government of Canada's *Financial Administration Act* and related regulations and policies, and are made within the context of a stringent financial management framework which emphasizes internal control, due diligence, and prudent fiscal management. Key components of the financial management framework include those depicted below:



Spending Summaries

Global Partnership Program - Actual Expenditures ($ thousands)		
	2003-04	2004-05
Direct Spending by GPP Programme Area		
Chemical Weapons Destruction		
Railway Project (Shchuch'ye CWDF)	4,000.0	0.0
Infrastructure Projects (Shchuch'ye CWDF)	0.0	250.0
CWD Outreach Support	0.0	120.4
Project Monitoring & Administration	40.6	85.2
Subtotal: Chemical Weapons Destruction	**4,040.6**	**455.6**
Nuclear Submarine Dismantlement		
Nuclear Submarine Dismantlement Project	0.0	9,457.7
EBRD Northern Dimensions Environment Partnership	32,000.0	0.0
Project Monitoring & Administration	25.1	1,191.3
Subtotal: Nuclear Submarine Dismantlement	**32,025.1**	**10,649.0**
Redirection of Former Weapons Scientists		
Projects	11,380.3	0.0
Supplemental Programs	4,658.0	2,854.1
ISTC Administration & Operations	2,433.2	456.0
Project Monitoring & Administration	7.8	233.9
Subtotal: Redirection of Former Weapons Scientists	**18,479.3**	**3,544.0**
Nuclear & Radiological Security		
IAEA Nuclear Security Fund	2,983.5	1,016.5
Nuclear Reactor Shutdown (Zhelezngorsk)	0.0	9,000.0
Project Monitoring & Administration	64.2	187.3
Subtotal: Nuclear & Radiological Security	**3,047.7**	**10,203.8**
Biological Weapons Destruction		
Biosafety & Biosecurity	0.0	80.5
Program Administration	12.3	17.5
Subtotal: Biological Weapons Destruction	**12.3**	**98.0**
Operational Costs	2,045.1	2,349.9
Total direct spending (expenditures by GPP)	**59,650.1**	**27,300.3**
Indirect Spending by Global Partnership Program		
Audit & Evaluation	0.0	250.0
Indirect operational costs	1,465.0	2,132.7
Total indirect spending (funded by GPP)	**1,465.0**	**2,382.7**
Total GPP Activities Funded	**61,115.1**	**29,683.0**

APPENDIX A:
Summary of Other *Global Partnership* Member Commitments[10]

European Union: The European Union's €1-billion pledge is committed to nuclear and chemical projects, the employment of former weapons scientists, and improving export control and border security in FSU countries. The majority of the funding is for TACIS[11] programs to ensure the safety of nuclear installations in Armenia, Kazakhstan, Russia and Ukraine and to re-employ former weapons scientists.

Denmark: Denmark has pledged €17 million, most of which will be used for nuclear-related projects.

Finland: Finland has pledged €15 million, primarily to support nuclear projects (mainly in northwestern Russia and Ukraine), including the NDEP Support Fund's nuclear window, physical protection of nuclear materials and nuclear waste management. Of the total pledge, €1.85 million has been committed to chemical weapons projects.

France: France's €750-million pledge will be spent on nuclear, chemical and biological projects. Commitments to date include €70 million to the Multilateral Plutonium Disposition Group; €40 million to the NDEP Support Fund's nuclear window; €17 million to submarine dismantlement; €9 million to chemical weapons destruction; and €5 million to biosecurity and biosafety in Russian biological facilities.

Germany: Germany has committed up to €1.5 billion to nuclear submarine dismantlement, chemical weapons destruction and nuclear and radiological security. Activities to be funded include the construction of a long-term interim storage facility in Sayda Bay to support submarine dismantlement; work to upgrade the physical protection of fissile materials; and the construction of CWDFs at Gorny and Kambarka.

Italy: The majority of Italy's €1-billion pledge will be spent on nuclear submarine dismantlement activities and CWDFs (at Pochep and Shchuch'ye).

Japan: Japan has pledged US$200 million, including US$100 million for the plutonium disposition program and various funding commitments to Pacific Fleet nuclear submarine dismantlement projects.

Netherlands: The Netherlands has committed some €24 million, about half of which will be spent on chemical weapons destruction projects (e.g. at the Kambarka facility). Other contributions have been made to the NDEP Support Fund's nuclear window, and will go toward plutonium disposition and SNF management.

Norway: Norway has pledged €100 million for nuclear projects, including submarine dismantlement, securing RTGs and the NDEP Support Fund's nuclear window. Norway has also contributed to infrastructure construction at the Shchuch'ye CWDF.

Poland: Poland is committing US$10,000 annually to a bilateral chemical weapons destruction program with Russia, and is supporting a program to employ former weapons scientists at the Polish–Russian Technological Park.

Republic of Korea: The Republic of Korea has pledged approximately US$2.8 million, most of which will support the redirection of former weapons scientists through the ISTC.

Russia: Russia has pledged US$2 billion to ongoing work in two key priority areas: nuclear submarine dismantlement and chemical weapons destruction. With foreign assistance, the dismantlement process is underway on over 65 percent of the decommissioned nuclear submarines in the Northern and Pacific fleets. All Category 2 and 3 chemical weapons have been destroyed, and efforts are now focused on Category 1 CW (with substantial support from the international community).

[10] Information for this appendix was drawn from the U.K.'s first two annual *Global Partnership* reports, the *G8 Consolidated Report of Global Partnership Projects*, June 2004, and the *G8 Global Partnership Consolidated Report*, July 2005.
[11] TACIS refers to Technical Assistance to the Commonwealth of Independent States, a European Union assistance program for countries of the FSU, which was launched in 1991.

Sweden: Sweden has committed €10 million to the nuclear and environmental windows of the NDEP, and a further US$20 million to nuclear and biological projects. The majority of the latter commitment is for nuclear security projects in the FSU and for nuclear safety projects (primarily in northwestern Russia and Lithuania). Approximately US$130,000 is for biosafety and biosecurity projects involving cooperating institutes in Russia, Sweden and Ukraine.

Switzerland: Switzerland has pledged CHF15 million to chemical weapons destruction facilities in Kambarka and Shchuch'ye.

United Kingdom: The U.K. is active in all four *Global Partnership* priority areas, having pledged US$750 million within the *Partnership*. This commitment includes £10 million annually for nuclear submarine dismantlement; £70 million over 10 years for plutonium disposition; up to £5 million annually for the physical protection of nuclear materials; £5.5 million annually for the ongoing Nuclear Safety Programme across the FSU; up to US$100 million for chemical weapons destruction; and between £5 million and £6 million per year for projects that support the redirection of former weapons scientists.

The U.K. has been providing assistance to help countries of the FSU deal with their WMD legacies since the 1990s and, following a spending review in 2000, established the FSU Nuclear Legacy Programme to help focus efforts. To enhance international cooperation and collaboration on chemical weapons destruction at Shchuch'ye, the U.K. has signed agreements with Canada, the Czech Republic, the European Union, Norway and New Zealand, under which the U.K. is responsible for implementing projects funded by these other donor countries.

United States: The U.S. is by far the largest contributor to the *Global Partnership*, having pledged US$10 billion (approximately US$1 billion per year for 10 years) to be spent on the full range of non-proliferation activities within the *Partnership*. In 2004, commitments included:

- about US$590 million for ongoing nuclear-related projects, with an emphasis on securing or disposing of weapons-usable HEU and plutonium;
- about US$200 million for chemical weapons destruction, mainly the ongoing construction of the facility at Shchuch'ye. As well, there were projects to dismantle and demilitarize former CW production facilities at Volgograd and Novocheboksarsk, and to enhance security for CW stored at Planovy/Shchuch'ye and Kizner.
- about US$54 million for projects to prevent the proliferation of biological weapons in Georgia, Kazakhstan, Russia and Uzbekistan. Roughly $100 million was committed to programs to help redirect the skills and expertise of former BW (and CW) scientists through the ISTC and STCU.
- about $76 million for a range of export control and border security projects.

For further information, visit Canada's Global Partnership Program Web site at http://www.globalpartnership.gc.ca. Select "links" to reach a list of other organizational and government Web pages containing material related to the *Global Partnership*.

Acronyms

BW	Biological weapons
CBRN	Chemical, biological, radiological and nuclear
CW	Chemical weapons
CWC	Chemical Weapons Convention
CWDF	Chemical weapons destruction facility
DFAIT	Department of Foreign Affairs and International Trade
EBRD	European Bank for Reconstruction and Development
EU	European Union
FSU	Former Soviet Union
FSUEEP	Federal State Unitary Enterprise Engineering Plant
GPSOG	Global Partnership Senior Officials Group
GPWG	Global Partnership Working Group
HEU	Highly enriched uranium
IAEA	International Atomic Energy Agency
IPPAS	International Physical Protection Advisory Service
ISTC	International Science and Technology Center
MOU	Memorandum of Understanding
NGO	Non-governmental organization
NDEP	Northern Dimension Environmental Partnership
NPS	Nuclear-powered submarines
NSERC	Natural Sciences and Engineering Research Council of Canada
NSF	Nuclear Security Fund
NTI	Nuclear Threat Initiative
POIO	Public outreach and information office
Rosatom	Russian Federal Agency for Atomic Energy
RTG	Radioisotope thermoelectric generator
SNF	Spent nuclear fuel
STCU	Science and Technology Center in Ukraine
WMD	Weapons of mass destruction