

Canadian NATO
Parliamentary Association



Association parlementaire
canadienne de l'OTAN

**Report of the Canadian Parliamentary Delegation
to the Visit of the Science and Technology Committee Sub-
Committee on Energy and Environmental Security**

Canadian NATO Parliamentary Association (NATO PA)

Vienna, Austria and Geneva, Switzerland

April 27-30, 2009

Report

The Canadian NATO Parliamentary Association has the honour to present its report on the *Visit to Lithuania by the Science and Technology Sub-Committee on Energy and Environmental Security*, April 27-30, 2009. The Assembly delegation, led by Committee Chairman Lothar Ibruegger (Germany) and Vice Chairman Pierre Claude Nolin (Canada), met with several Ambassadors, senior officers of the United Nations and other international organisations as well as representatives of the scientific community.

EU-3 Ambassadors

The programme in Vienna began with the meeting with German, French and British ambassadors to the International Atomic Energy Agency (IAEA). The ambassadors discussed the case of Iran and its nuclear programme. The Ambassador of France François-Xavier Deniau briefly reminded the history of international efforts to ensure Iran's compliance with its obligations under the Nuclear Non-Proliferation Treaty (NPT) and the IAEA Safeguards Agreement.

Ambassador Simon Smith of the United Kingdom noted that the way the Iranian case was handled by the IAEA Board of Governors (BoG) was flawed: instead of ensuring implementation of Iran's commitments, BoG entered into *de facto* negotiations with Iran. He also stressed that Iran's record of compliance and cooperation with the IAEA is increasingly unsatisfactory.

Ambassador Rüdiger Lüdeking of Germany pointed out that Iran follows only the letter and not the spirit of its Safeguard Agreement. The IAEA has no possibility to verify the actual implementation of Iran's commitments because it refuses to abide to the Additional Protocol. President Obama's promise to engage in direct talks with Tehran opens a new window of opportunity, but, the Ambassador warned, this window will not always remain open.

Ambassador Lüdeking also discussed ways to strengthen the NPT, particularly as the 2010 NPT Review Conference is approaching. He stressed that the current format of Safeguards Agreements is not sufficient to ensure compliance. Universalisation of the Additional Protocol is essential. Each country contemplating non-compliance must know that it will face serious consequences. The Ambassador also highlighted the importance of multinational nuclear cooperation projects.

Meeting with representatives of the IAEA

Mr. Tariq Rauf, Head of the IAEA Verification and Security Policy Coordination, gave a brief introduction to the Agency. IAEA's main goal is to ensure that nuclear energy is used peacefully and to promote scientific and technical co-operation in this area.

Currently there are 436 nuclear power plants operating in the world and 44 are under construction. Nuclear expansion is centered in Far East and South Asia. Nuclear power is an effective tool to address energy security and climate change concerns. On the other hand, the spread of nuclear energy has national security implications. Mr. Rauf said that if a country seeks to develop a nuclear programme in order to become a

nuclear weapon state, the most difficult part is to accumulate enough HEU and weapon-grade plutonium. To prevent this, the IAEA Director General has proposed to multilateralise nuclear fuel production. Establishment of multinational nuclear fuel supply mechanisms under the aegis of the IAEA would facilitate the increased use of nuclear energy for peaceful purposes, provide benefits of cost-effectiveness and economies of scale in the use of nuclear technologies and provide additional assurance to the international community that the sensitive parts of the civilian nuclear fuel cycle are less vulnerable to misuse for non-peaceful purposes.

The presentation of Ms. Jill Cooley, Director of Division of Concepts and Planning, addressed specifically the IAEA verification activities. She explained what methods IAEA inspectors use in their work. The Agency verifies accuracy of national reports on declared nuclear material, special cameras and seals are used to monitor nuclear facilities, IAEA inspectors also personally visit objects and, if necessary, take measurements and environmental samples. A analysis of these samples is capable of detecting even individual particles of enriched uranium. She stressed that technical capabilities available to the Agency inspectors are up-to-date and adequate.

The discovery of Iraq's clandestine nuclear programme in the early 1990s was a wake-up call. It prompted the introduction of the Additional Protocol. It gives the inspectors access to a much broader range of facilities, for instance centrifuge manufacturing plants or R&D institutions. Application of the Additional Protocol ensures that all nuclear material is safe and accounted for, while the standard Safeguard Agreement merely ensures safety of declared material.

Mr. Marco Marzo, Director of the Division of Safeguards Operations A, spoke about the verification activities in North Korea. IAEA monitored the experimental 5 MW reactor, the fuel fabrication plant and a reprocessing facility. He noted that dismantling of North Korea's nuclear programme was not related to implementation of a Safeguard Agreement but came as a result of the Six-Party Talks. Mr. Marzo underscored that dismantling of nuclear objects was only partial and fully reversible on a short notice. In early April 2009 IAEA inspectors were asked to leave the country.

Mr. Herman Nackaerts, Director of the Division of Safeguards Operations B, discussed the practical co-operation between the Agency and Iran. He stressed that the 2002 discovery of Iran's nuclear programme and Tehran's collaboration with the illicit A.Q.Kahn's network constitute an obvious case of non-compliance. In subsequent years, when Iran was adhering to the Additional Protocol, the Agency was able to ensure that Iran was not engaged in any activities that might lead to development of nuclear weapons. Currently, the Agency is not able to provide such guarantees.

Mr. Miroslav Gregoric, Head of the Prevention Section, discussed the issue of nuclear terrorism. There are two major risks: nuclear weapon explosion and dispersal of radioactive substances. In order to be effective, nuclear security system must be comprehensive and include several key elements, such as international legal framework, legal and regulatory structures, reliable threat assessment capability, up-to-date physical protection, accounting, effective border control, human resource development and nuclear safety culture.

Comprehensive Nuclear Test Ban Treaty Organisation (CTBTO)

The NATO PA delegation visited the Headquarters of the CTBTO in Vienna and met with Ambassador Tibor Tóth, Executive Secretary of the Preparatory Commission for the CTBTO. The Ambassador described the global network of CTBTO stations which is capable of detecting explosions of increasingly smaller yields. For instance, when North Korea tested its first nuclear weapon in 2006, CTBTO stations immediately detected it and determined that it was a 0.5 kiloton explosion. Over all, the CTBTO system comprises of about 250 stations, up from 180 in 2006, when the NATO PA delegation last visited this organisation.

Ambassador Tóth reminded that the major impediment to effective functioning of the system is the fact that the Treaty has yet to enter into force. Nine key countries have yet to ratify it. The Ambassador hoped that the determination of the new US administration to see this Treaty ratified by the US Congress will generate a momentum for others to do so as well. Once the Treaty enters into force, the CTBTO will be capable to report cases of non-compliance to the UN Security Council. CTBTO inspectors would also have a power to make on-site inspections, thus significantly enhancing the organisation's monitoring capability. He stressed that once operational, CTBT system could become an important tool to ensure progress in other arms control initiatives, such as reduction of nuclear weapon arsenals, elimination of sub-strategic warheads, ban of fissile material production and establishment of multinational fuel cycle mechanisms.

The Ambassador also stressed that testing by explosion is expected to remain by far the principle method of ensuring efficiency of new nuclear weapons. Even the most technologically advanced nations cannot rely solely on computer-based systems to test new generations of their nuclear weapons. Members of the NATO PA had the opportunity to visit the CTBTO Operations Centre.

OPEC

The delegation of the STC visited the Headquarters of the Organisation of Petroleum Exporting Countries (OPEC). The meeting was hosted by Dr. Hasan M. Qabazard, Director of the Research Division of OPEC. His colleague Ms. Siham Alawami from the Public Relations and Information Department made an introductory presentation outlining the history, mission and structure of the organisation. OPEC seeks to ensure a fair return of investments for the oil industry of its member states. OPEC is an intergovernmental organisation and its main decision-making body is the conference of 12 ministers representing each OPEC country that takes place 2-3 times a year. The secretariat prepares analytical studies and provides recommendations to ministers.

Dr. Nimat B. Abu Al-Soof, Senior Upstream Oil Industry Analyst discussed the challenges facing the oil industry in general and OPEC in particular. The key challenge relates to uncertainty over how much production capacity will be required in the future to satisfy the demand for oil, while making available sufficient levels of spare capacity. The uncertainty over demand stems mainly from large consuming country policies that are unpredictable. Often, such policies discriminate against oil through taxation, subsidies for competing fuels and other measures. For producers, there is a real prospect of wasting precious resources on capacity that would not be needed. In addition, the emergence of

large levels of unused capacity would lead to downward pressures upon oil prices with the compounded effect of sharply lowering oil-export revenues.

Thus, the incentive for OPEC to undertake investment can be reduced, leading to underinvestment, intensifying concerns over eventual sufficiency of capacity and thereby hampering the drive towards long-term oil market stability. In this regard, the central element is to ensure stability in the price of oil.

Another challenge relates to technological progress and innovation. The successful application of a remarkable array of technologies, such as 3D seismic and horizontal drilling, extended the reach of the industry to new frontier areas, improved oil recovery and reserve growth and reduced the environmental footprint of the industry. However, following the oil price collapse in the late 1990s, R&D spending by the oil industry has been reduced significantly. This trend needs to be reversed.

Meeting with the Ambassador of Iran

Ambassador Ali Asghar Soltanieh, Permanent Representative of the Islamic Republic of Iran to the United Nations and other international organizations in Vienna, hosted a working breakfast for the members of the STC in order to present his country's perspective on its decision to develop nuclear power capability.

Senator Nolin (Canada) asked if Tehran expects the relations with the West to thaw with the new administration in Washington. Ambassador Soltanieh welcomed the statements made by President Obama and expressed his hope that words would turn into actions. Iran is prepared to sit at the negotiation table with the Americans on equal footing and without preconditions.

United Nations Industrial Development Organization (UNIDO)

NATO Parliamentarians had the opportunity to visit the headquarters of UNIDO and meet with its Director General Dr. Kandeh Yumkella and his colleagues. Dr. Yumkella briefly introduced his organisation which primarily seeks to promote industrial development in developing countries in an environmentally sustainable manner. The Organisation focuses on 3 inter-related thematic priorities: 1) poverty reduction through productive activities; 2) trade capacity-building; 3) energy and environment. UNIDO offers tailor-made specialized programme development support. It seeks to create wealth mainly through supporting small and medium enterprises that are competitive globally.

The Director General stressed that energy access is a key precondition for poverty alleviation and wealth creation. Correlation between the growth of income and better access to energy is evident. However, the prevailing access rate (1.6 billion people without access to energy) and existing fossil fuel paradigm face important challenges: 1) insufficient investment and access; 2) fluctuating energy cost dampens economic growth; 3) climate change. Energy efficiency, renewables and new technologies are needed to improve energy security.

The urgency of the climate change problem is rising. At the UN Conference in Copenhagen in December 2009, nations must agree to deeper emission reduction target, possibly from 25-40% by 2020. We should move towards a virtually carbon-free economy in the next half century. To reach this goal, we need an energy revolution,

which should be inclusive. Effective technology transfer mechanisms are essential. Without concerted promotion of new technologies we will be locked in current consumption patterns that are environmentally unsustainable. He stressed that UNIDO is not only promoting renewable energy as such, but only in a manner that helps to generate wealth.

Dr. Yumkella also underscored the link between energy, environment and global security. Without sustainable development of the poorest regions, the risk of conflicts on these regions will increase. A particular attention must be paid to the region of the Gulf of Guinea.

UNIDO officers Mr. Dmitri Piskounov, Mr. Pradeep Monga and Mr. Dolf Gielen provided more detailed briefings on UNIDO's projects in the area of energy and environmental security. They emphasised that an enormous potential lies in energy efficiency projects. UNIDO projects promoting mini-hydro plants (less than 3 MW) also proved to be very beneficial for local communities, attracting further investment and spurring economic development of regions in an environmentally-friendly way. The UNIDO experts also discussed the promise of other renewable energy technologies, including solar, wind, marine current and biomass.

Geneva Centre of Security Policy (GCSP)

The Subcommittee's visit to Geneva began with briefings at the GCSP, hosted by Dr. Peter Foot, Academic Dean of the Centre. He introduced the first speaker on the programme, Ambassador Patrick Villemur, Special Advisor to the Director of GCSP, who discussed the issue of nuclear proliferation. He briefly introduced the 3 key elements of the global non-proliferation regime: 1) multilateral treaties, such as the NPT and CTBT; 2) verification mechanisms – IAEA and its Safeguards Agreements; 3) export control mechanisms (nuclear supplier organisations).

The regime is far from perfect: 1) the NPT and the CTBT are not universal; too many parties are outside of the Additional Protocol; 2) the absence of the unified policy towards non-members (e.g. US-India deal); 3) the increase of popularity of nuclear energy raises concerns over proliferation of dual-use nuclear technologies; 4) safety of stockpiles of fissile material is not always adequate, even in some rich countries; 5) non-state actors are reportedly increasingly interested in acquiring nuclear materials and technology.

Ambassador Villemur stressed that the regime must be strengthened in order to prevent countries such as Iran from developing nuclear breakout capability. That would be a dangerous precedent for other nations such as Egypt or Syria to launch similar programmes. He suggested improving verification capability and making the withdrawal from the NPT more difficult. The "carrots&sticks" approach seem to have worked with the North Korea, but not in case of Iran. In dealing with Iran, most of options are exhausted and the window of the opportunity is closing. It remains to be seen if the new US policy towards Iran will work. Otherwise one cannot unfortunately exclude a possibility of a military conflict in the region.

The second speaker of the session, Dr. Khalid Koser, Course Director at GCSP, discussed the issue of climate change and migration. The speaker pointed out that the

relationship between climate change and migration is very complex and it is difficult to determine a direct causal link between the two phenomena. Various estimates differ greatly in terms of the number of climate refugees worldwide. Nevertheless, it is obvious that this number is very significant and is expected to increase in the future.

Climate refugees are coming from big river deltas, small islands and water-stressed regions. However, many of these regions are also plagued with poverty, poor governance and conflicts. Therefore, climate change might be only one of a complex of motives for people to migrate. Most migrants move within the borders of their own state or continent.

Climate migration has serious implications for the existing international legal frameworks. According to the existing definition of a refugee, climate migrants would not qualify as refugees. It is therefore unclear how to deal with these people. Climate migration will also have security implications as conflicts over limited resources will intensify.

International Committee of Red Cross (ICRC)

Dr. Dominique Loyer, Deputy Head of the Arms Unit of the ICRC Legal Division, made a general introduction to the ICRC and the International Humanitarian Law (IHL). He stressed that IHL tries to prevent and lessen suffering of people involved in military conflicts. IHL does not claim to eradicate weapons as such, but its core principle stipulates that a weapon should not cause unnecessary suffering and superfluous injury. The objective of the armed forces should be to take the enemy out of the battlefield, not to kill as many adversaries as possible. Weapons that are indiscriminatory should not be used.

Following these principles, various international conventions have banned the following types of weapons: exploding bullets, chemical and biological weapons, blinding lasers and cluster munitions (CM).

Senator Nolin (Canada) asked if the ratification of the convention could have implications for NATO out-of-area operations. Dr. Loyer said that it was indeed a challenge for NATO, because the Allies that ratified the convention (e.g. Norway) commit to refrain from participating in joint operation with nations that use CM (e.g. the United States).

Another ICRC expert, Mr. Mark Steinbeck, Medical Advisor on the Effects of Weapons, discussed two other types of weapons – robotic weapons and green lasers. Robotic weapons represent the next step in the evolution of remotely controlled technology, such as the UAVs. The trend is towards greater autonomy of weapon systems, up to the point when artificial intelligence starts making decisions whether or not to use a weapon. This trend raises concerns in terms of IHL because such systems would violate the principles of discrimination and proportion because they do not have common sense. Mr. Steinbeck believed that completely autonomous weapon systems should not be legalised.

‘Green lasers’ are used by armed forces to deter civilians from conflict areas. However, they too reportedly cause friendly fire and at least in one case caused permanent

blindness. Since blinding lasers are universally banned, the use of 'green lasers' should also be discouraged.

United Nations Institute of Disarmament Research (UNIDIR)

The NATO PA delegation visited UNIDIR and met with several of their eminent experts. Ms. Theresa Hitchens, Director of UNIDIR, introduced the Institute. She discussed the issue of security in the outer space. Ms. Hitchens noted that space is becoming increasingly important for our daily lives and it should be prevented from becoming a region of conflict and arms race.

The new draft of an international treaty prohibiting weapons in space was introduced in 2006 and backed by Russia and China. However, the negotiation progress on this draft was negligible due to differences among major powers.

Asked what should be the main elements of the new treaty, Ms. Hitchens said that it would be unrealistic to expect that military reconnaissance and guidance satellites would be banned. Most space technology is dual-use, and we have no other choice but to accept it. What should be banned is the use of space assets as offensive weapons, not the deployment of dual-use objects *per se*. It would also be useful to introduce a universal ban on anti-satellite weapons.

Another UNIDIR expert Dr. Yuri Yudin addressed the issue of nuclear fuel cycle. The core of the problem, he said, is that it is impossible to distinguish "atoms for peace" from "atoms for war". Technologies for uranium enrichment and plutonium separation are of dual use.

Mr. Giacomo Persi Paoli discussed the issue of small arms control, focusing specifically on import marking of weapons. The key to fight proliferation of small arms is to trace the source and eradicate it. Tracing requires adequate marking and record-keeping of all small arms, and international cooperation to enable relevant authorities to trace sources, supply routes, and diversion points of illicit weapons. At present, there are substantial problems in each of these areas, which need to be systematically and effectively addressed. Manufacture marks cannot be falsified. They need to be standardised globally.

United Nations Environmental Programme (UNEP)

The Subcommittee delegation visited the European office of UNEP and met with its Director and Regional Representative Mr. Christophe Bouvier and his colleagues.

Mr. Bouvier and Mr. Jaco Tavenier, UNEP Programme Officer, discussed how UNEP is contributing to global efforts in addressing the challenge of climate change. He noted that climate change is generally recognized as the major environmental problem facing the globe. Evidence is building that impacts are being felt in the form of melting icecaps in the polar areas and increased variability of temperature, rainfall and storms in virtually all regions. Climate change, as the United Nations Secretary-General Ban-Ki Moon and UNEP's Executive Director Achim Steiner agree, is "the defining challenge of our generation." The IPCC Fourth Assessment Report (AR4) clearly states that it is no longer relevant to discuss whether the climate is changing but rather how much change we are committed to and how fast this will occur.

Ms. Sonja Koeppel, an expert from UNECE, spoke about cooperation on transboundary waters within the UNECE region (from North America to Russia), focusing on the UNECE Water Convention. She stressed that the reasonable and equitable use of transboundary waters is a major challenge in the entire region, and interstate distribution of water is a particular challenge in Eastern Europe, the Caucasus and Central Asia (EECCA) and South Eastern European (SEE) countries with arid or semi-arid climates. In all ENVSEC regions, transboundary waters play a crucial role for development and human security. The majority of water resources are actually of transboundary nature.

One of the threats to transboundary waters is industrial pollution. Countries in the ENVSEC region have struggled with the legacy of the former Soviet Union and former Yugoslavia and in particular the environmental legacy deriving from a heavy industry and in particular from mining.

In all ENVSEC regions, where energy security is a very important challenge, there are ongoing plans to increase the hydropower capacity and to build new plans, mostly on transboundary rivers. If badly planned or badly operated, hydropower facilities can cause transboundary problems.

To face these threats, countries should develop sound cooperative arrangement and management practices. However despite the efforts made by countries since their independence, there are still many gaps and challenges for transboundary cooperation. First of all the legal framework is often not in place. Another problem is that joint institutions such as river commissions are either absent or they have a narrow mandate. Another weak point is the information base: monitoring and data gathering are often insufficient, relying on projects rather than on continuous regular monitoring. Yet another obstacle is the weak public information and public participation, already at the national level and even more at the transboundary level.

The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes entered into force in 1996. It aims to protect transboundary waters by preventing, controlling and reducing transboundary impacts. A positive aspect is that most of ENVSEC countries have ratified the Convention which to date has 36 Parties. To foster ratification and in particular implementation, a practical implementation guide is currently under development.

Ms. Koeppel noted that water sharing among countries in the same basins is often a major water-quantity issue, and continues to cause upstream-downstream conflicts. However, implementation of the Convention is also contributing to enhancing the security situation in various regions. For instance, OSCE and the UNECE have started a joint project designed to strengthen transboundary water cooperation between Azerbaijan and Georgia. Water relations in Central Asia took a significant step forward on 26 July 2006 when the joint Kazakh-Kyrgyz commission on the rivers Chu and Talas was inaugurated. The Chu-Talas Commission offers a mutually beneficial way for Kyrgyzstan and Kazakhstan to share responsibility for the water infrastructure used by both countries. This constitutes a breakthrough in Central Asian water relations, as the sharing of water resources between upstream and downstream countries has often been characterized by tension and insecurity.

Mr. David Jensen made a presentation on the UNEP Disasters and Conflicts programme. Addressing the issue of disasters and conflicts is one of the priorities for UNEP because environmental damage from conflicts and disasters causes risks to health, livelihoods and security. On the other hand, environmental cooperation can be a platform for dialogue, confidence building and reconciliation.

UNEP is currently involved in 10 post-conflict assessment projects in countries such as Afghanistan, DR Congo and Gaza/West Bank. It also has conducted post-disaster assessments in a number of countries, including 2008 China earthquake and 2008 Myanmar cyclone. In these projects, UNEP experts assess environmental impacts of conflicts and disasters, identify risks to health, livelihoods and security and integrate environmental needs in recovery plans.

Mr. Jensen underlined that prioritizing natural resource management is crucial for success of UN peace building endeavours, because failing to manage natural resources can lead to new tensions and sources of conflict. In addition, natural resources open up new peace building opportunities for dialogue, cooperation and confidence building. He pointed out that 40% of all intrastate conflicts since 1960 have a link to natural resources. 18 conflicts since 1990 were fuelled by natural resources. Intrastate conflicts linked to natural resources are twice as likely to relapse to conflict within five years. He also deplored the fact that less than a quarter of peace agreements for conflicts with links to natural resources address natural resource management and governance.

Mr. Jensen concluded his presentation by pointing out that with increasing population growth and consumption, demand for natural resources will continue to increase. With increasing environmental degradation, the supply of natural resources will continue to decrease. Climate change is likely to act as a threat

multiplier. At the same time, overall governance of natural resources remains weak in many countries. Thus, there is a significant likelihood for resource-based conflicts to increase.

Respectfully submitted,

Mr. Anthony Rota, M.P.
Canadian NATO Parliamentary Association (NATO PA)

Travel Costs

ASSOCIATION	Canadian NATO Parliamentary Association (NATO PA)
ACTIVITY	Visit of the Science and Technology Committee Sub-Committee on Energy and Environmental Security
DESTINATION	Vienna, Austria and Geneva, Switzerland
DATES	April 27-30, 2009
DELEGATION	
SENATE	Senator Pierre Claude Nolin
HOUSE OF COMMONS	
STAFF	
TRANSPORTATION	\$4,318.16
ACCOMMODATION	\$1,474.51
HOSPITALITY	\$0.00
PER DIEMS	\$693.51
OFFICIAL GIFTS	\$0.00
MISCELLANEOUS / REGISTRATION FEES	\$0.00
TOTAL	\$6,486.18