

WORLDWIDE EMERGING ENVIRONMENTAL ISSUES AFFECTING THE U.S. MILITARY
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Note to Readers: Pages 1-13 comprise the summary and analysis of this report. Expanded details for some items that might not be available via the Internet are in the Appendix.

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Item 1. Progress on Establishing Frameworks for Responsible Nanotechnologies

1.1 ISO to Establish Standardization in the Field of Nanotechnologies

The International Organization for Standardization established in June 2005 the Technical Committee for Nanotechnologies (ISO/TC 229) with Chair and Secretariat in the UK. The scope of ISO/TC 229 is to produce standards for “classification, terminology and nomenclature, basic metrology, characterization, including calibration and certification, risk and environmental issues.” The first meeting of the new Committee will be held on 9-11 November 2005 in London, organized by the British Standards Institution (BSI).

Military Implications:

Relevant military personnel should consider contacting the U.S. representatives (American National Standards Institute) on TC 229 Nanotechnologies to provide input on concerns and/or methodologies and also to be kept informed and prepared to comply with the eventual standards to be set.

Sources:

Nanotechnologies – inaugural meeting

<http://www.iso.org/iso/en/commcentre/events/2005/nano.html>

Committee participation

<http://www.iso.org/iso/en/stdsdevelopment/tc/tclist/TechnicalCommitteeParticipationListPage.TechnicalCommitteeParticipationList?COMMID=5932>

1.2 New Nanotechnology Risk Assessment Efforts

1.2.1 Industry/Environmentalist Cooperative Effort on Nanotechnology Risks

DuPont and Environmental Defense recently agreed to collaborate on a framework for the responsible development, production, use and disposal of nanomaterials. According to a statement, its intent is "to define a systematic and disciplined process that can be used to identify, manage and reduce potential health, safety and environmental risks of nano-scale materials across all lifecycle stages. This framework will then be pilot-tested on specific nano-scale materials or applications of commercial interest to DuPont".

1.2.2 Low Environmental Risk from Nanomaterial Manufacturing

A new study from Rice University compares the environmental and health risks associated with the production of five nanomaterials—single-walled carbon nanotubes, buckyballs, zinc selenide quantum dots, alumoxane nanoparticles and titanium dioxide nanoparticles—with the risks of making six everyday products—silicon wafers, wine, high-density plastic, lead-acid car batteries, refined petroleum and aspirin. Using end-to-end analysis of the manufacturing processes, the research team concluded that they present environmental risks no greater than do the technologies in such industries as oil refining, or wine or aspirin production. It should be noted that this work dealt only with possible hazards in manufacturing nanomaterials, not in utilizing them in products. The study is planned for publication in the 15 November issue of *Environmental Science and Technology*.

1.2.3 Nanomaterials in Drinking Water May be Hazardous

Preliminary results from research at Arizona State University indicate that the presence of certain nanomaterials in drinking water may be hazardous to intestinal cells. A layer of colon cells was

broken down when exposed to a simulated intestinal fluid containing titanium dioxide particles. Further, the experiment showed that such a breakdown would allow the particles to pass into other parts of the body. The next phase of the effort will examine the potential adverse effects of the nanomaterials inside cell tissue.

1.2.4 Roadmap for Characterizing Nanomaterial Health Effects

Principles for characterizing the potential human health effects from exposure to nanomaterials: elements of a screening strategy, a report sponsored by the EPA, details the various ways in which nanoparticles can be characterized (shape, size, electrical properties, etc.) and the kinds of tests that can be carried out to determine their effects, in different contact modes, on anatomical and physiological elements in the body.

Military Implications

A risk management framework is the intended result of these efforts. It will be applicable to all concerned organizations (including the military) to help ensure the environmental safety of nanotech materials, processes, and applications. Relevant military personnel should be kept informed of the evolution of these studies so that they can be prepared to take appropriate measures to ensure that nanomaterials used in military applications are not hazardous to the environment and human health and will comply with future regulations and international agreements.

Sources:

DuPont, Environmental Defense Create Framework for Nanotechnology

http://www2.dupont.com/Media_Center/en_US/daily_news/article20051012b.html

Relative Risk Analysis of Several Manufactured Nanomaterials: An Insurance Industry Context

<http://pubs.acs.org/cgi-bin/abstract.cgi/esthag/asap/abs/es0506509.html>

Nanotech processing 'greener' than oil refining, study

<http://www.physorg.com/news6998.html>

Nanomaterial hazard

<http://www.physorg.com/printnews.php?newsid=6222>

Experts Give Scientists Road Map on Nanotechnology Research

<http://www.nytimes.com/2005/10/06/technology/07nano.ready.html>

Principles for characterizing the potential human health effects from exposure to nanomaterials: elements of a screening strategy

<http://www.particleandfibretotoxicology.com/content/2/1/8/abstract>

Item 2. EU to Improve Enforcement of Environmental Regulations

2.1 EC Legislation Reform First Targets Environment-related Rules

The European Commission has presented a three-year program to modernize EU legislation as part of its commitment to simplify the EU system of rules. About 250 basic pieces of legislation and 1,250 related legal acts would be updated by repeal, codification, or recasting. The main aims of the legislative reform are to: a) simplify the understanding and implementation of rules; b) transform directives into regulations for prompt and general application by all Member States; and c) improve enforcement. The program will be regularly updated. The process will start with the environment-related sector, since it's the most heavily regulated. The other sectors, as well as the

administrative aspect, will follow shortly. The simplification process can be completed only if the European Parliament and Member States support it.

Military Implications:

Relevant military personnel should monitor this modernization of the EU's environmental regulations enforcement and administrative procedures. The Army (US Army Europe (USAREUR) and the European Command (USEUCOM)) and its contractors acting in EU countries should review their SOFAs to ensure that all EC stipulations concerning environmental protection are duly respected. Given the difficulty and infrequency of SOFA revision, special attention might be required in future interpretation of existing SOFAs, to avoid problems with their host nations vis-à-vis their EU obligations.

Source:

Better regulation continued: Commission wants to simplify over 1,400 legal acts

<http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/05/1343&format=HTML&aged=0&language=EN&guiLanguage=en>

2.2 EU Starts Legal Action Against Member States on Breaches of Environmental Law

The European Commission is enhancing its environmental law enforcement by initiating a series of legal actions against Member States for breaching EU environmental law. The Commission has decided to pursue legal action against Italy in eleven cases, including non-compliance with the EU directive on Environmental Impact Assessment (EIA), and ten cases for lack of cooperation with the Commission (Article 10 of the Treaty) on issues involving nature protection (a military base enlargement on La Maddalena island); several cases on waste management aspects; water resources; and genetically modified organisms (GMO). Along with Italy, Spain and Greece were also sent final warnings for non-compliance with the EU Water Framework Directive.

Military Implications:

The military stationed in EU countries—especially Italy—should review their operations and planning to make sure they fully comply with EU environmental law and seek ways to help their military counterparts in environmental compliances. These legal actions are part of a series of environment-related infringement decisions against EU Member States that the Commission is beginning.

Sources:

Italy: Commission takes legal action over 11 breaches of environmental law (IP/05/1303)

<http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/05/1303&format=HTML&aged=0&language=EN&guiLanguage=en>

Water policy: Commission takes legal action against Italy, Spain and Greece over key directive (IP/05/1302)

<http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/05/1302&format=HTML&aged=0&language=EN&guiLanguage=en>

Item 3. Preparatory Process Started for the EfE 6th Ministerial Conference

The 6th Ministerial Conference "Environment For Europe" (EfE) will take place at Belgrade in October 2007. The international preparatory process started officially with the 1st session of the

Working Group of Senior Officials (WGSO) held in Geneva, 12-13 October 2005. The United Nations Economic Commission for Europe (UNECE) Committee on Environmental Policy (CEP) proposed reviewing issues such as sustainable development, energy, EU enlargement, coordination and implementation of UNECE Conventions, and closer links to other international processes (environment and health, in particular). The European ECO-Forum (a pan-European coalition of more than 200 environmental citizens' organizations) suggested an "action-oriented" review of implementation of several strategies and protocols (including the Protocol on Strategic Environmental Assessment, and the Protocol on Pollutant Release and Transfer Registers). The next meeting of the WGSO will be in June 2006.

Military Implications:

Relevant military personnel should contact the U.S. representative on the Conference Executive Committee (Mr. Chuck Ashley, First Secretary for Environment, Science & Technology, International Economic Affairs Section, U.S. Mission to UNECE, Geneva) to share eventual items that they would like to have included in the Conference agenda and to be kept informed on eventual new developments in existing or upcoming international regulations that might affect military activities in Europe.

Sources:

"Environment For Europe" Process, Meetings of the Working Group of Senior Officials
<http://www.unece.org/env/wgso/Belgrade/wgsoMeetings.htm> (to be updated)

Towards Belgrade-2007

European Eco-Forum Newsletter, Special Issue, 21 Oct 2005 (e-mail newsletter; full text in the [Appendix](#))

Item 4. African Countries are Vulnerable to Bioterrorism

African science policy should give higher importance to the threat posed by biological weapons, according to an international meeting of representatives from the fields of science, law, and security, held in Kampala, Uganda, this month. Africa is vulnerable to bioterrorism; it lacks the institutions, technology, and expertise to protect its citizens from biological terrorism. Science and technology policy of African countries should simultaneously enhance biological research for eradicating diseases and assure strict security measures to prevent access to material eventually usable in bioterrorism. Because there is little scientific awareness in both the political leadership and cultures of African countries, it will be necessary to improve public understanding of science. The meeting was organized by the Kampala-based International Law Institute (ILI) and the US-based International Consortium for Law and Strategic Security (ICLSS).

Military Implications:

The military should consider military-to-military assistance and training in the expertise needed to build the necessary institutional and technological systems to deter and recover from bioterrorism.

Source:

African science policy 'must address bioterror threat'

Peter Wamboga-Mugirya, SciDev.Net, 13 October 2005

<http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=2412&language=1>

Item 5 Technological Breakthroughs with Environmental Security Implications

5.1 High Sensitivity Portable Chemical Detection Device

A research team led by R. Graham Cooks at Purdue University has developed a mass spectrometer for chemical detection and identification that has the twin advantages of high sensitivity (10^{-12} g) and portability/speed (no pre-treatment needed). The equipment uses desorption electrospray ionization (DESI), a technique that separates traces of material from a substrate so that they can be passed into the analytical instrument. The device has analyzed pharmaceuticals at three samples per second.

Military Implications:

If the military has not already explored the applications of this technology for biological and chemical weapons detection and post-conflict environments, relevant personnel should do so.

Source:

Fast, accurate detection of explosives on airport luggage possible

<http://news.uns.purdue.edu/UNS/html4ever/2005/050930.Cooks.explosives.html>

5.2 Promising Research for Emission-Free Car that Makes Its Own Fuel

A unique project in the incubator program of the Chief Scientist in Israel called Engineuity has put several technologies together to create a stable metal combustion system that avoids oil and pollution. The technique is based on a metal-steam combustor system that produces a continuous flow of hydrogen using water and common stable metals such as magnesium and aluminum. At high temperature and pressure, the metals combine with the oxygen from water forming an oxide and liberating the hydrogen to be used by the car. The metals can be recovered and recycled. The research leader in an audio recording referenced below claims that adapting conventional cars to run on the Engineuity technology should be easy and the overall running cost would be about the same as today's cars. Pending investments, a prototype car based on the new system could be demonstrated to commercial auto companies in three years.

Military Implications:

This seems to be another system (along with others recently presented) that might be solving the obstacles still associated with the manufacturing, transporting, and storing of hydrogen to be used in cars. The military should consider following and encouraging the development of such technologies for advancing the introduction of emission-free cars and reduction of oil dependency. However, this technology does not address the ultimate source of energy needed to produce the reduced metals or to reprocess the oxides.

Source:

The Car That Makes Its Own Fuel

http://www.isracast.com/tech_news/231005_tech.htm

Item 6. Updates on Previously Identified Issues

6.1 ICSU Launched Global Disaster Research Program

At its 28th General Assembly, the International Council for Science (ICSU) launched a new program on Natural and Human-Induced Hazards to reduce their economic and social effects. The

program will connect natural and social sciences to serve policymakers. It would research ways to improve disaster forecasts and human vulnerability, as well as develop the best policies to mitigate and respond to them. [See also *Better Disaster Planning to Avoid Environmental Catastrophes* in September 2004 environmental security report.]

Military Implications:

The military should consider collaborating with ICSU's new hazards program to share expertise and find out about the program's implications for improving its own policies and procedures.

Sources:

At Pivotal Event in China, the International Council for Science Releases New Strategy to Strengthen International Science for the Benefit of Society
Launching of a major polar research programme, a new interdisciplinary initiative on disaster mitigation, and long-term actions on other key challenges for science and society
http://www.icsu.org/3_mediacentre/RELEASES/28thGA_Strategic_Plan_eng.pdf

Global disaster research programme launched
<http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=2427&language=1>

6.2 UN to Enhance Eco-Development Procedures

UNESCO and Italy began the procedure for establishing the Institute on a Partnership for Environmental Development (IPED) to provide capacity building to help expedite economic development while protecting the environment in developing countries. It will operate mostly by helping to set environmental targets for the UN's priority development projects, and providing necessary knowledge and training to developing countries on how to effectively integrate environmental dimensions into economic development. IPED will be located in Trieste, Italy.

A legal framework for the integration of environmental, social and governance issues into institutional investment, a report just released by UNEP, addresses the issue of eventual "legal obligation" of institutional investors to consider environmental, social, and governance issues when choosing how to invest their resources. [See also *Efforts for Increasing Corporate Eco-responsibility* in July 2004 environmental security report.]

Military Implications:

[Similar to previous on the same issue] Relevant military personnel should consider collaboration with the UN Eco-Development agency and also follow its work for insights on encouraging civilian contractors in developing countries to adopt the new eco-responsible development models for integrating environmental, social and governance issues into the investment community. In the cases of large military contracts, when applicable, eco-efficiency might be considered as a requisite for proposals. The short-run benefits would be in public relations: showing environmental leadership. In the long run, anticipatory action now could avoid compliance problems in the event that eco-efficiency becomes mandatory.

Sources:

Italy: Trieste Gets UN Eco-Development Agency
<http://www.ansamed.info/ansamed/news/sections/generalnews/20051018151133679251.html>

A legal framework for the integration of environmental, social and governance issues into institutional investment
http://unepfi.org/investor_law/

Global investors should consider environmental factors, UN-backed study argues

<http://www.un.org/apps/news/story.asp?NewsID=16354&Cr=UNEP&Cr1=>

UNESCO and Italy take first step towards creation of environmental institute

http://portal.unesco.org/en/ev.php-URL_ID=30252&URL_DO=DO_TOPIC&URL_SECTION=201.html

6.3 UNU Calls for International Framework for Environmental Refugees

On UN Day for Disaster Reduction, October 12, the UNU warned that by 2010 the world might have to cope with as many as 50 million environmental refugees, while the international community is not presently equipped with an adequate international agreements system to deal with the situation. UN Under Secretary-General Hans van Ginkel, Rector of UNU, emphasized the need to prepare now “to define, accept and accommodate this new breed of ‘refugee’ within international frameworks,” while Dr. Bogardi, Director of UNU’s Institute for Environment and Human Security (UNU-EHS) in Bonn, cautioned that the term ‘environmental refugee’ might sometimes hide the real cause of displacement, which might be bad policies and practices. [See also related item *Implications of Environmental Migration to National Security* in February 2004 monthly environmental security report.]

Military Implications

In view of the forecast that environmental disasters and degradation will continue in many regions of the planet, it is likely that the international community will revise its toolbox of conventions to address environmental refugees accordingly. It is important that the military community participates in the design of an eventual international framework concerning this group of people; continuously reviews the possible causes of refugee flows; and cooperates with civilian agencies in preparing contingency plans for those circumstances when their assistance is needed.

Sources:

As Ranks of “Environmental Refugees” Swell Worldwide, Calls Grow for Better Definition, Recognition, Support (UNU Press release)

http://www.unu.edu/hq/rector_office/press2005/mre29-05.doc

U.N. University takes on environmental challenges

By HANS VAN GINKEL. Special to The Japan

Times <http://www.japantimes.co.jp/cgi-bin/getarticle.pl5?eo20051019a1.htm>

50m environmental refugees by end of decade, UN warns

David Adam, environment correspondent. The Guardian, October 12, 2005

<http://www.guardian.co.uk/naturaldisasters/story/0,7369,1589899,00.html>

6.4 Network of Marine Protection Areas to be Adopted by 2012

The establishment of a network of marine parks to protect the world's oceans from growing pollution and marine environment devastation was proposed at the First International Marine Protected Areas Congress held in Geelong, Australia 23-28 October 2005. In the Conference opening speech, Achim Steiner, director-general of the World Conservation Union (IUCN) emphasized that although there is rising concern and scientific evidence about marine environmental degradation, less than one percent of it is under protection today. He suggested establishing a system of Marine Protected Areas (MPAs) as decided at the 2002 World Summit on

Sustainable Development. The MPAs would be designed by 2008 through collaboration of all concerned parties—international organizations, sovereign states, fishery organizations, and conservationists, for adoption by world governments by 2012. [See also *Marine Protection Issues* in the March 2005 environmental security scanning report.]

Military Implications:

[Similar to previous on related issues] In consultation with such organizations as the U.S. Commission on Ocean Policy, relevant military personnel should participate in designing the MPAs network, both to serve as expertise contributors and to be informed of eventual ocean zoning plans. Being involved in the system will improve anticipation of new requirements for the military.

Sources:

Interview - Scientists Draft Blueprint to Protect World Oceans

<http://www.planetark.com/dailynewsstory.cfm/newsid/33162/story.htm>

The First International Marine Protected Areas Congress, Geelong, Australia 23-28 Oct. 2005

<http://www.impaccongress.org/> (to be updated)

Nations urged to "think as big as the oceans are vast" (IUCN Press release)

http://www.iucn.org/en/news/archive/2005/10/pr_impac_opening.pdf

6.5 EU Legislation Issues Updates

6.5.1 EU Committee Proposes Banning Fluorinated Gases

The European Parliament has voted to ban the use of fluorinated gases (F-gases) in certain products, including shoes, and car air conditioning systems. This is a much watered-down regulation compared to previous plans. The committee proposes to regulate the F-gases on an environmental basis and not on an internal market basis, which avoids countries having to adopt environmental standards higher than those of the EU's, thereby making themselves subject to trade sanctions. [See also *EU Environment Ministers Propose post-Kyoto Protocol Climate Policies* in October 2004 and *Europe to Reduce Fluorinated Gas Emission* in March 2004 environmental security reports.]

Military Implications:

[Similar to that of March 2004 on the same issue] Hydrofluorocarbon (HFC) 134a use will be banned in car air conditioning systems from 2011 for new vehicle models and from 2017 for all new vehicles sold in the EU. The situation regarding military equipment or foreign-owned vehicles is not clear. Military components operating in the EU should review their affected materiel to ensure that it all will meet these standards when they are enacted. In addition, the standards might also impact future generations of equipment developed for fielding in Europe.

Sources:

EU Lawmakers Back Cutting Greenhouse Gases in Cars

<http://www.planetark.com/dailynewsstory.cfm/newsid/33186/story.htm>

EU committee adopts ban on fluorinated gas

http://news.webindia123.com/news/showdetails.asp?id=136808&n_date=20051014&cat=World

6.5.2 The REACH Debate Continues

The full assembly vote on REACH (Registration, Evaluation and Authorisation of Chemicals), a regulation designed to reduce the impacts of hazardous chemicals on public health and the environment, is scheduled for November. However, the debate continues among different European parliamentary committees, industry lobbying groups, and environmental groups. The environment committee, which has the lead role in shepherding REACH, supported changes that would ease requirements for companies that deal with listed hazardous substances in volumes of 1-10 tonnes annually; but, would keep the registration rules for those handling over 10 tonnes annually, while another parliamentary committee recommended just requiring companies to replace hazardous substances with safe ones when substitutes are available. The European Eco-Forum pleads for strengthening REACH and extending it to the rest of the pan-European region, a suggestion that they want to include on the agenda of the Belgrade 2007 “Environment For Europe” Conference. [See also *REACH Closer to Finale* in August 2005, *The REACH Program Closer to Entry Into Force* in March 2005, *Leading Cancer Specialists call for REACH Strengthening* in May 2004, and *EU Chemical Policy Reforms* in January 2004 environmental security reports.]

Military Implications:

[Same as in previous reports on the same issue] Assessment of the REACH system’s latest proposed changes and their impacts on the U.S. Forces in Europe in relation to existing SOFAs and other agreements remains important. As currently proposed, the REACH system still implies the registration of all compounds in use by military forces operating within the EU. If implemented, that could raise security issues, as well as create major record keeping problems.

Sources:

EU Lawmakers Ease Chemicals Rules, Fight Looms

<http://www.planetark.com/dailynewsstory.cfm/newsid/32806/story.htm>

EU Likely to Reach Deal on Major Chemicals Bill

<http://www.planetark.com/dailynewsstory.cfm/newsid/32934/story.htm>

Towards Belgrade-2007

European Eco-Forum Newsletter, 21 Oct 2005 (email newsletter; full text in the [Appendix](#))

6.6 Climate Change Updates

6.6.1 Second European Climate Change Program and post-Kyoto Negotiations

On Monday, 24 October, Environment Commissioner Stavros Dimas launched the second European Climate Change Program (ECCP II) at a stakeholder conference in Brussels. ECCP II will focus on strategies and technologies that would allow the EU to reduce its greenhouse gas emissions (including carbon capture and storage) and to adapt to the effects of climate change. Commissioner Dimas outlined the Commission’s views on the further development of EU climate change policy including after 2012 and called on all states to adhere to the eventual post-Kyoto measures. He underlined EU commitment to initiate a process that will lead to international negotiations on a global climate change regime. Global negotiations for post-2012 strategies will take place at the UN Climate Change Conference (COP 11 and COP/MOP 1) to be held on November 28-December 9, 2005 in Montreal. [See also *UN Meeting Fails to Agree on Post-Kyoto Strategy* in May 2005 and other previous environmental security reports.]

Military Implications:

[Similar to previous on this topic] ECCP II will affect U.S multinationals and military stationed in countries covered by it. The military and its contractors should be prepared to anticipate and accommodate the necessary changes. Since the state-of-knowledge of carbon sequestration to address greenhouse gases is not well established, the military should consider the options available and research necessary to develop its own carbon sequestration strategies.

Sources:

Stavros Dimas, Member of the European Commission, Responsible for Environment
Developing the European Climate Change Programme, Stakeholder conference launching the
Second European Climate Change Programme, Brussels, 24 October 2005
<http://europa.eu.int/rapid/pressReleasesAction.do?reference=SPEECH/05/635&format=HTML&aged=0&language=EN&guiLanguage=en>

EU Must do More to Fight Climate Change—Dimas
<http://www.planetark.com/dailynewsstory.cfm/newsid/33141/story.htm>

6.6.2 Increased Concerns over Rising Sea Level as Effect of Glaciers' Breakup and Melting

Recent studies show that breakup and melting of glaciers is happening faster than expected, increasing concerns over rising sea levels and threatening low-lying regions of the world. Sunlight previously reflected by ice will not be absorbed, hence furthering the warming effect. A new report by researchers from five U.S. and European institutes and universities analyzes the possible impacts of the rapid dynamic of glacial change in Greenland and Antarctica, warning that this could significantly speed up the melting of major ice sheets, worsening the present projections for the sea level's rise. Recent models by the Max Planck Institute for Meteorology in Hamburg show that the average global temperature could rise by as much as 4.1° Celsius by the end of the century, melting sea-ice in the Arctic and raising world sea levels by 30 centimeters (12 inches). During the conference of Antarctic climate experts held by the Royal Society in London, Dr. Tony Payne Monday, professor of glaciology at the University of Bristol and co-director of the UK's Centre for Polar Observation and Modelling, warned that West Antarctica ice melting "would lead to a sea level rise of five or six meters (16 to 19 feet) around the world, or sufficient to cause effects such as the inundation of much of the state of Florida." Such research will influence the Fourth Assessment Report from the Intergovernmental Panel on Climate Change, which is due to be published in 2007. [See also *Melting of Permanent Frozen Areas Accelerates under Climate Change Issue* in the August 2005 environmental security report.]

Military Implications:

[Similar to previous on Climate Change-related issues] The new models and discoveries, along with others, represent guidelines and/or warnings of what could happen if the greenhouse gases emissions increase continues. It is likely that national and regional anti-pollution measures will become more drastic. The military should enhance its efforts to reduce climate-affecting pollution from all sources and all stages of production and use, to comply with potentially tougher regulations and also to set an example.

Sources:

Breakup Of Glaciers Raising Sea Level Concern
<http://www.sciencedaily.com/releases/2005/10/051023122913.htm>

Global Sea Level Rise Forecast to Flood Low-Lying Coastlines

<http://www.ens-newswire.com/ens/oct2005/2005-10-18-02.asp>

Global sea levels could rise 30 cm by 2100- study

<http://www.alertnet.org/thenews/newsdesk/L30704966.htm>

6.7 Avian Flu Update

Comprehensive roundups of the latest news on the spread of the bird flu virus and the threat to human health map the cases by countries, and identify actions to counter its spread and effects. Noteworthy actions are the UN Food and Agriculture Organization effort in assembling a 'task force' of health and veterinary specialists to help Indonesia face bird flu; efforts to find/test a vaccine that might be efficient both for birds and humans; the pledge of health ministers from 30 countries to coordinate efforts to fight an eventual influenza pandemic; and some countries (as the UK) commitment to have vaccine for every person in the country. [See also *Worries over Avian Influenza Pandemic Increase* in September, and *Avian Influenza New Developments* in April 2005 environmental security reports.]

Military Implications:

The military should continue to coordinate with the networks of WHO and CDC country representatives and their local information collection system and help strengthen these networks to become more globally integrated with the use of pattern recognition and analytic software.

Sources:

Bird flu update: 24 October 2005. SciDev.Net 24 October 2005

<http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=2434&language=1>

UN task forces battle misconceptions of avian flu, mount Indonesian campaign

<http://www.un.org/apps/news/story.asp?NewsID=16342&Cr=bird&Cr1=flu>

Woodrow Wilson center, Global Health Initiative

Emerging Pandemic: Costs and Consequences of an Avian Influenza Outbreak

http://wilsoncenter.org/index.cfm?topic_id=116811&fuseaction=topics.event_summary&event_id=142787

Health Ministers Pledge Coordinated Fight Against Bird Flu

<http://www.ens-newswire.com/ens/oct2005/2005-10-27-02.asp>

European scientists develop H7N1 avian flu vaccine

<http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/05/1354&format=HTML&aged=0&language=EN&guiLanguage=en>

6.8 Publication of Data Dangerous to the Environment

A recent article by futurist and inventor Ray Kurzweil reminds us of the question of how to weigh the need for free interchange of the results of scientific research against the possibility that those results would offer a recipe for an environment-destroying terrorist attack. The particular example cited was the publication in the GenBank database of the full genome of the 1918 influenza virus. This information could theoretically lead to the reconstruction of the virus, and its possible release in weaponized form. The threat to the environment from this kind of information dissemination has received relatively little attention so far outside of the nuclear field, but is certain to become a

major topic for international discussions. [See also *Control of Pathogenic Chimeras and GMOs under Study* in January 2004, *Bioweapons Are Already Possible to Make, Says New CIA Report* and *New Lethal Viruses Developed* in November 2003 environmental security reports].

Military Implications

Since the mouse-pox story of three or four years ago, military and research labs around the world have introduced the “sensitive information” notion that actually does exactly what this item suggests. The GenBank data base idea could increase attention to this issue leading to better enforcement of the international agreement with sanctions. The military might explore cooperating with other organizations developing approaches (perhaps analogous to “sensitive but unclassified”) for the public availability of scientific data that could be hazardous to the environment or health.

Source:

Ray Kurzweil calls for 1918 flu genome to be 'un-published'

http://www.kurzweilai.net/news/frame.html?main=news_single.html?id%3D4934

Item 7. Reports to Review

7.1 Nordic Countries Suggest Actions to Cope with Global Warming

Conservation of Nordic Nature in a Changing Climate is a report commissioned by the Nordic Council of Ministers to analyze global warming causes and to address strategies concerning the Nordic Countries' abilities to cope with climate change effects. Experts from environmental research institutes in the five-country region affirm that climate changes are mainly caused by humans and urge the region's governments to take joint action against global warming as well as to design strategies to deal with more extreme weather patterns. The report identifies some concrete strategies and tools for adaptation to climate change effects—such as management and administration aspects, including some regarding “natures’ goods and services.”

Military Implications:

Beside its possible effect of adding pressure on governments to strengthen environmental protection agreements and regulations, and to more vigorously enforce the restrictions that are in place, the report might be a valuable source for actions that the military could also use to reduce the effects of its activities and climate change.

Source:

Conservation of Nordic Nature in a Changing Climate (TemaNord 2005:572)

<http://www.norden.org/pub/sk/showpub.asp?pubnr=2005:572>

7.2 Energy and Security: Toward a New Foreign Policy Strategy

Although focusing on America’s energy dependency on oil, the book assesses the world’s prospective on oil and gas, the key and most sensitive energy sources for the near future. A contribution of 36 top foreign policy and energy experts, sometimes with divergent opinion, *Energy and Security: Toward a New Foreign Policy Strategy* suggests new strategies and policy approaches that could mitigate the risks implied by continued dependence on oil.

Military Implications:

A military expert might review the book for implications for the military and distribute the findings to relevant personnel.

Sources:

Energy and Security: Toward a New Foreign Policy Strategy. Edited by Jan H. Kalicki and David L. Goldwyn. Johns Hopkins University Press, 2005, 640 pp. \$65.00 (paper, \$29.95)

Book Launch--Energy and Security: Toward a New Foreign Policy Strategy (video)

http://www.wilsoncenter.org/index.cfm?topic_id=1413&fuseaction=topics.event_summary&event_id=139630#

Economic, Social, and Environmental (*Foreign Affairs* review)

<http://www.foreignaffairs.org/20051101fabook84621/jan-h-kalicki-david-l-goldwyn/energy-and-security-toward-a-new-foreign-policy-strategy.html>

7.3 Toxicogenomic Technologies and Risk Assessment of Environmental Carcinogens: A Workshop Summary

This report is a summary of the workshop organized by the National Research Council's Committee on How Toxicogenomics Could Inform Critical Issues in Carcinogenic Risk Assessment of Environmental Chemicals. Scientists, policymakers, and advisors participated in the workshop. They assessed how toxicogenomics could address critical knowledge gaps in risk assessments, including how toxicogenomic data could be applied to improve risk assessments, particularly cancer risk from environmental exposure to chemicals. After an overview of the types of data gaps that make regulatory risk assessment difficult, the workshop analyzed the types of toxicogenomics and their role in carcinogen risk assessment, and discussed the types of research that could move the field forward.

Military Implications:

Military personnel working in the toxicity risk assessment field should consider this report for eventual insights useful for advancing their own research.

Source:

Toxicogenomic Technologies and Risk Assessment of Environmental Carcinogens: A Workshop Summary

<http://www.nap.edu/catalog/11335.html>

APPENDIX

Reference Details

This Appendix contains the full text for the articles that are not available on the Internet or are usually stored for a limited time on the respective Web sites.

Item 3. Preparatory Process Started for the EfE 6th Ministerial Conference

and Item 6. Updates on Previously Identified Issues

6.5 Updates on EU Legislation Issues

6.5.2 The REACH Debate Continues

TOWARDS BELGRADE-2007

ENVIRONMENT FOR EUROPE

EUROPEAN ECO-FORUM NEWSLETTER

SPECIAL ISSUE. OCTOBER 2005

Organization: European ECO-Forum

From: eecoforumnews@AIVaschenko.home.bio.msu.ru (European ECO-Forum News)

Date: Fri, 21 Oct 2005 12:54:40 +0400 (MSD)

Reply-To: "European ECO-Forum News" <kyiv-2003-eco-forum@online.com.ua>

Subject: TOWARDS BELGRADE-2006. EUROPEAN ECO-FORUM NEWS, October 2005

TOWARDS BELGRADE-2007

ENVIRONMENT FOR EUROPE

EUROPEAN ECO-FORUM NEWSLETTER

SPECIAL ISSUE

OCTOBER 2005

In this issue:

1. OFFICIAL PREPARATORY PROCESS TO THE 6TH MINISTERIAL CONFERENCE "ENVIRONMENT FOR EUROPE" STARTS

2. EUROPEAN ECO-FORUM PROPOSALS FOR BELGRADE-2007 "ENVIRONMENT FOR EUROPE" AGENDA

1. OFFICIAL PREPARATORY PROCESS TO THE 6TH MINISTERIAL CONFERENCE "ENVIRONMENT FOR EUROPE" STARTS 1st SESSION OF THE WORKING GROUP OF SENIOR OFFICIALS

International preparatory process to the 6th Ministerial Conference "Environment for Europe" started officially.

Specially set by the UNECE Committee on Environmental Policy, ad hoc open-ended Working Group of Senior Officials (WGSO) held its 1st session in Geneva, 12-13 October 2005.

As it was decided earlier by the UNECE CEP the Conference will take place in Serbia and Montenegro in October 2007.

Mr. Miroslav Spasojevic, Ministry of Science and Environment protection of Serbia, representing the host country - Union of Serbia and Montenegro - was elected as a Chair of the WGSO.

European ECO-Forum, a pan-European Coalition of Environmental Citizens Organisations, was represented at the WGSO-1 by Mara Silina, EEB, PPCC Coordinator, John Hontelez, EEB, PPCC Chair, Olga Ponizova, ECO-Accord, EAP Issue Group Coordinator, Marie Kranendonk, WECF (on behalf of E&H Issue Group Coordinator), Yusup Kamalov, UDASA, PPCC member, Victoria Elias, ECO-Accord, CB Chair and Education Issue Group Coordinator.

After the adoption of the agenda Ms. Monika Linn (Team Leader for EfE in the UNECE Secretariat) made a brief review on Kiev- 2003 decisions and preparations to Belgrade.

The following issues were proposed by the CEP already:

- + Belgrade State of Environment (SoE) report
- + Review of EECCA Environmental Strategy implementation
- + Special segment on ESD and UNECE ESD Strategy implementation (together with Ministers of Education)
- + Addressing sustainable production and consumption issue (SPAC) - now clear yet in which format
- + Energy and progress report on energy efficiency initiative
- + Experience of the 2nd round of Environmental Performance Reviews (EPRs)
- + UNECE Conventions, their coordination and implementation
- + Closer links to other int. processes (in particular Environment and Health and Forests)

Further to that organizational arrangement of the Executive Committee (Execom) was presented by the Chair with the reference to the WGSO document on Terms of Reference and announced geographical balance of countries to be at the Execom, then he also referred to observers (those are CEP Chair, PEBLDS Bureau Chair, EAP TF representative, EU Presidency, European Commission representative, ECO-Forum and one representative from RECs).

The Chair asked observers to present themselves and their preparations to Belgrade. EEA presented a proposed structure of the Belgrade SoE report (that will include not only SoE data, but also information on policies implementation. The report will contain data on EU according to EEA indicators and on EECCA and SEE according to other indicators based on EECCA Env Strategy and REReP. Earlier at the CEP session EEA also said that there will be consultations with stakeholders, but NGOs were not mentioned. ECO-Forum raised this issue and further agreed

bilaterally that will look for a way, probably using Internet forum or help of other international organisations, e.g. UNEP and others for organising a meeting).

After the EEA, the EAP Task Force Secretariat presented the Almaty+5 process (reforms of water and sanitation municipal systems in EECCA) and mentioned that Yerevan Ministerial Meeting (November 2005) will contribute to Belgrade preparations. They also stressed the need to review the EECCA Environmental Strategy implementation in Belgrade.

The PPC (Project Preparation Committee) Secretariat reported on their activities and said that in addition to 5 existing staff (3 in EECCA, 2 in London), they will have 2 more: 1 in Central Asia and 1 in Washington.

The Energy Charter Secretariat reported that they do not cover all UNECE members but will be ready to report in Belgrade.

Following the example of the others, and with explicit agreement of the Chair, ECO-Forum then presented its' proposals for Belgrade agenda, that were elaborated on the basis of consultations held earlier this year at several meetings, electronically, as well as within Issue Groups. ECO-Forum proposed a Strategy to phase out unsustainable production and consumption patterns in the region as an overarching theme for the conference. It also stressed the need to review implementation of all previous decisions of the EfE, proposed to decide in Belgrade on a pan-European policy on Chemicals, strengthen work on Education for Sustainable Development and the review the implementation of the UNECE Strategy on ESD. ECO-Forum also called upon governments to put biodiversity high on the EfE agenda and suggested to organise within the Ministerial conference agenda a 3-hours roundtable for Ministers and NGOs on the theme of biodiversity (similar to roundtables on Public participation and Environmental Policy Integration that ECO-Forum organised in Aarhus-98 and Kiev-03). ECO-Forum proposals presented at WGSO-1 are published in the next article of this newsletter.

The PEBLDS General Secretary supported ECO-Forum suggestion on biodiversity and stressed the importance of this issue and also supported our proposal on the roundtable with Ministers on this issue (also adequate time allocation).

After this round of interventions by observers UNECE member- countries discussed their ideas and suggestions.

The Netherlands mentioned that it was inspired by the ECO-Forum presentation and said that it is a right time for SPAC issue on EfE agenda. It also highlighted importance of energy issues on agenda.

Norway referred to the EU intervention at the CEP session, when it was said that EU is committed to continue its involvement in EfE (there will be 27 members of 55 UNECE by the time of Belgrade). Norway brought issues of Poverty, further development of Monitoring, EECCA Strategy, Education for SD. SPAC is a difficult theme but may be Eco-efficiency would be a solution. It supported Biodiversity, stressed the need to have closer links with E&H process and

look at water-borne diseases, air pollution, climate change and energy (all latter from the health angle) .

UK was speaking on behalf of the EU. They reconfirmed EU commitment to EfE and said that they will work on a paper on implementation of previous agreements (independent report would be a good solution in EU's view). They suggested that this should be a basis for 2,5 days discussion. No new legally binding documents ("no need for additional instruments") should be signed in Belgrade. They suggested to link discussions with those at global level, such as MDG, WSSD Plan of Implementation, etc. UK also stressed that there is a need to put EfE focus on environmental issues, not SD, develop subregional initiatives and give preference to such tools as soft law doc's and recommendations). Belgrade Ministerial should become a "Conference of delivery".

Other countries stressed some particular issues further, while most agreed that implementation is a key approach. Latvia supported ECO-Forum proposal on new policy on Chemicals, linking it to SAICM - Strategic Approach to International Chemicals Management. Hungary stressed Biodiversity and also called for a specific focus on Balkan countries. The Czech Rep said that we need to think how to continue EfE after Belgrade and have small but attractive topics, in particular stressed, ESD (including education for official and private sector), Energy (and the fact that energy resources are in EECCA). Cz also called for better links with the CSD cycle.

Sweden stressed Education for Sustainable Development (ESD) and said that there should be a special segment or back-to-back Ministerial meeting. Decision will be taken at the December 2005 Regional Steering Committee meeting on ESD. It also suggested first to listen to all ideas and then decide on topics for the conference (probably next WGSO). On SPAC in particular they said that it is a difficult issue, we need to try to narrow down it and find what will be deliverables (cleaner production, etc.) Agriculture may be an interesting issue to tackle.

USA supported EU in general, questioned ESD and SPAC as well as Biodiversity, but then supported the need to review Leaded petrol phase-out. They also said that water issues should be on agenda (quality and quantity).

Russia also supported the need to review implementation and then raised particular themes of water resources (management of), air pollution, biodiversity, monitoring, ESD, transboundary issues. Russia said that there should not be a long negotiating process on the outcoming documents (actually - no Ministerial declaration).

IUCN stressed Biodiversity (also to include this to EPR!) and criticized USA, called them to ratify CBD before Belgrade.

UN CCD (Convention to Combat Desertification) expressed interest to further cooperate with EfE and to address issues of environmental and economic consequences of land degradation.

Turkey stressed Energy issues.

Belarus mentioned ESD, Biodiversity, Chemicals, GMOs and called for attention to Conventions implementation.

Chair summarized the discussion in several main points:

- + Need to assess what has been done in EfE
- + Need of Independent report on EfE decisions implementation
- + Possibility to have thematic reports to Belgrade on specific issues
- + Request to focus on specific region (f.ex South-East Europe/Balkans)
- + Conventions
- + All proposals (may be in more detailed format) to be sent in written form to the Secretariat by 1 December 2005.

There was also a report on host country preparations (will be in video format at the next WGSO). Mr. Spasojevic informed the WGSO that there is no federal Ministry of Environment in Serbia and Montenegro, so there are 2 of them (one in Serbia and one in Montenegro) involved. Therefore the Council of Ministers of the S&M Union established a State Board on preparations to the EfE conference. It consists of President, Vice-President, 17 members from different Ministries and also includes 3 NGO representatives.

The 6th EfE Ministerial Conference is planned for the 1st or the 2nd week of October 2007.

EXECOM establishment

At the end of the meeting after consultations taken during 12-13 October WGSO agreed on the EXECOM composition.

Following countries are members:

Serbia and Montenegro - Chair, Miroslav Spasojevic

Hungary - Ms. Aloisa Lakosz

Italy - Mr. Massimo Cozzone

Sweden - Mr. Jon Kahn

Switzerland - Mr. Jorg Schneider

USA - Mr. Chuck Ashley

Russia -person t.b.c.

Kyrgyzstan - person t.b.c.

Observers:

CEP Chair (Mr.Zaal Lomtadze, Georgia)

EU Presidency (currently represented by UK)

European Commission

EAP TF

PEBLDS (represented by the Chair)

European ECO-Forum (represented by the CB Chair Victoria Elias)

RECs (informed that they will rotate a representative depending on the theme, for the time being it is Bulat Essekin of CAREC).

The 1st organisational meeting of ExeCom took place immediately after the WGSO-1.

One more WGSO issue (passed by CEP to WGSO) was Environment for Europe Communication Strategy. But this was delegated to Execom, which further decided to take this issue at the 2nd meeting 28 February 2006.

Next meeting of the WGSO will be in June 2006 (1st week).

Documents and information on WGSO-1 are available at
<http://www.unece.org/env/wgso/Belgrade/wgsoMeetings.htm>

2. EUROPEAN ECO-FORUM PROPOSALS FOR BELGRADE-2007 "ENVIRONMENT FOR EUROPE" AGENDA

WGSO-1, Geneva, 12-13 October 2005

European ECO-Forum - a pan-European coalition of more than 200 environmental citizens' organizations - supports the urgency and need to put specific attention to the implementation of all agreements and decisions taken in the process, including both legally-binding and soft law ones. In this respect we strongly support the reviews of implementation of the:

- + SEA and PRTR protocols (Kiev-03)
- + EECCA Environmental Strategy (Kiev-03)
- + Aarhus-98 Guidelines on phasing out leaded petrol (deadline was 1 January 2005)
- + Decisions of Aarhus-98 on phasing out environmentally harmful energy subsidies
- + Pan-European Biological and Landscape Diversity Strategy (Sofia-95)
- + Environmental Program for Europe (Sofia-95)

All these reviews should be action oriented.

We also strongly support the proposal to organise a special segment on the Education for Sustainable Development and UNECE Strategy on ESD implementation at the Belgrade conference.

PUT SUSTAINABLE PRODUCTION AND CONSUMPTION PATTERNS AT THE HEART OF THE ENVIRONMENT FOR EUROPE PROCESS

We consider Sustainable Consumption and Production Patterns to be a very important overarching theme and goal for our region. In particular, we call upon the governments to decide to work in the framework of "Environment for Europe" on a pan-European regional strategy to phase out unsustainable production and consumption patterns, with a period of implementation of 10 years. Besides the material impacts such a strategy is to have in our own region, such a united effort could create the necessary trust with developing countries, a precondition for progress at the global level.

As ECO-Forum stressed in its' Kiev-2003 statement, "an important element of this strategy should be the systematic promotion of environmental policy integration, and include the broader use of price mechanisms, the removal of environmentally harmful subsidies, increasing market access to

environmental goods and services, including by public procurement, extended producer responsibility, as well as specific objectives for sectoral policies, in particular transport, energy and agriculture.

+ The strategy should include regulation of advertising in order to prevent unsubstantiated and/or misleading environmental claims. The regional strategy should include the organisation of transfer of environmentally sound technologies within the region as well as the prevention of further exports of obsolete technologies.

+ The strategy should include common guidelines for "green accounting": inclusion of environmental performance of the economy in the calculation of its GDP. Furthermore it should promote the systematic provision of information to all levels of society and authorities on how environmental factors are influencing economical and social development.

+ The strategy should be designed in such a way that it explicitly contributes to the alleviation of poverty in the region and the respect for people's right for access to resource to fulfil their basic needs."

PUT CHEMICALS ON THE AGENDA!

A very important policy is now being developed in the EU, REACH (Registration, Evaluation, Authorisation of Chemicals). An effective REACH can drastically reduce the impacts hazardous chemical on public health and the environment. REACH can also give a boost to innovation in this sector.

We think that the benefits of REACH should not be limited to the EU. We are convinced that REACH can also bring great advantages to the rest of the region. Therefore we suggest to discuss in Belgrade how REACH can be extended to the pan-European region. Building a regional policy on chemicals may become one of the attractive outcomes of the Belgrade Conference.

THE BELGRADE 2007 STATE OF THE ENVIRONMENT REPORT

We call upon the EEA to include in the Belgrade report the ecosystems assessment of the pan-European region. We also urge the EEA to prepare the Belgrade report in a format of an integrated assessment of the whole region, including EU, South- East Europe and EECCA. Partnerships with all stakeholders, in particular environmental NGOs is very important in the process of the report elaboration.

NGO - MINISTERIAL ROUNDTABLE

Despite all existing policies, natural ecosystems and biodiversity remain under serious threat in the region. ECO-Forum volunteers to organise a roundtable for Ministers and NGOs in the Belgrade Ministerial conference, where the main focus will be made on biodiversity, also in light on "Countdown 2010" initiative and UN Millennium Ecosystems Assessment We call for sufficient time for the Roundtable. Previous experience of Environment for Europe conferences in Aarhus-98 and Kiev-03 shows that such a roundtable can provide for open and frank discussion between ministers and NGOs on issues of urgency and importance. For that we call upon allocation of 3 hours on during the Conference.

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Reference to European ECO-Forum Digest is required