

**WORLDWIDE EMERGING ENVIRONMENTAL ISSUES AFFECTING THE U.S. MILITARY**  
Contract No: DAAD19-02-D-0001/ Delivery Order 0456 with Battelle Columbus Operations for the U.S. Army  
Environmental Policy Institute

**MAY 2007 REPORT**

Note to Readers: Pages 1-10 comprise the summary and analysis of this report. Expanded details for some items are in the Appendix beginning on page 11.

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## **Item 1. OSCE to Develop an Environmental Security Strategy**

The Economic and Environmental Forum of the Organization for Security and Co-operation in Europe (OSCE), held in May 2007 in Prague focused on constructive actions that would help its 56 participating States and 11 Partners tackle environmental security threats and promote stability. OSCE Chairman-in-Office, Spanish Foreign Minister Miguel Angel Moratinos said: “Environmental co-operation can be an effective catalyst for reducing tensions, broadening co-operation and promotion of peace.” There was consensus that environmental security should top the Organization’s agenda and the parties agreed to study the implications of climate change on security, the role of environmental sustainability, and how OSCE's actions could complement other organizations’ efforts. An Environmental Security Strategy for the Organization will be developed over the coming year and debated at the OSCE Ministerial Council to be held in November in Madrid. Several follow-up events to the environmental forum are planned. A resolution may be introduced in the OSCE Parliamentary Assembly to further support this governmental initiative to help insure its implementation under the next Chairman-in-Chief of the OSCE.

### **Military Implications:**

The militaries of OSCE countries are likely to be called upon to further detail their roles in environmental security. This is an opportunity for the US Army’s Strategy on the Environment to be used as a discussion document in this process. Russia and the CIS (Commonwealth of Independent States) were among the first to have a definition of environmental security; hence, military collaboration should be fruitful. If not already done, the relevant military personnel should contact the Office of the Coordinator of OSCE Economic and Environmental Activities and the Environment and Security (ENVSEC) Initiative to collaborate on further development of the environmental security strategy and its implementation.

### **Sources:**

OSCE meeting transforms concern about environment security into action

[http://www.osce.org/eea/item\\_1\\_24652.html](http://www.osce.org/eea/item_1_24652.html)

OSCE meeting fosters co-operation to reduce environmental threats, says Chairman

[http://www.osce.org/eea/item\\_1\\_24589.html](http://www.osce.org/eea/item_1_24589.html)

## **Item 2. Pan-African Parliament Upgrades Environmental Policy**

Environmental issues were given increased emphasis during the Pan-African Parliament (PAP) Seventh Ordinary Session held in May 2007. Deputies and experts discussed the liability of Western countries relating to the continent’s environmental degradation, and called for financial compensation and technological assistance to correct the situation. The recommendations of the committee on the environment included: request the PAP strengthen legislation for protection of the environment and fighting against pollution; establish synergy among African scientific research institutions related to protecting the environment; create a network of environmental centers; create an African Environment Protection Observatory (AEPO); support regional initiatives; improve global cooperation and implementation of the Convention on Desertification; and strengthen international cooperation in scientific research and technology transfer. There were important debates about an African integration—a United States of Africa model—and the final

document recommends that the African Union further consider such a union's feasibility. It also recommends giving PAP, which started in 2004, the powers of a legislative organ.

**Military Implications:**

Military liaisons in the African region should be told about the Army Strategy on the Environment and be requested to seek areas of cooperation in response to the new PAP emphasis on the environment.

**Sources:**

PAP Concludes Seventh Ordinary Session

[http://www.pan-africanparliament.org/DocumentsResources\\_DisplayDocument.aspx?Type=Docs&ID=285](http://www.pan-africanparliament.org/DocumentsResources_DisplayDocument.aspx?Type=Docs&ID=285)

PAP Considers Committee Reports

<http://www.pan-africanparliament.org/News.aspx?ID=229> (link works randomly; relevant paragraph in the [Appendix](#))

'United States of Africa' in doubt

<http://www.sundaytimes.co.za/News/Article.aspx?id=463554>

South Africa: AU Chair Attends Pan African Parliament

<http://allafrica.com/stories/200705070262.html>

African Parliament blames west for environmental mess

[http://www.mg.co.za/articlepage.aspx?area=/breaking\\_news/breaking\\_news\\_africa/&articleid=308357](http://www.mg.co.za/articlepage.aspx?area=/breaking_news/breaking_news_africa/&articleid=308357)

### **Item 3. Global Division of Financial Responsibility for Global Warming Impacts**

Oxfam has called for a system to allocate costs of global warming damage per country based on its percentage of greenhouse contribution. Poorer countries are not included. They list the US with 44%, Japan with 13%, Germany 7%, and so forth. With China's increasing role, the percentages would be continually adjusted. China will release its first national plan to address climate change just prior to the G8 Meeting, which it will attend in Germany.

**Military implications:**

Although Oxfam's system is not likely to be accepted very soon, it seems inevitable that some system will be adopted eventually. If so, then the military should anticipate that it will be called upon to assess its share of national responsibilities.

**Source:**

Rich must pay bulk of climate change bill: Oxfam

<http://www.reuters.com/article/topNews/idUSL2835543520070529>

### **Item 4. United Nations Agreement to Protect the World's Forests Adopted**

Although not a legally binding document, the agreement on international forest policy and cooperation is an important instrument for sustainable forest management. By setting international standards for forest management, the agreement is expected to advance international cooperation on forest conservation, improve forest products trade, and develop national policies that would reduce deforestation, prevent forest degradation, and improve the living standard of all forest-dependent peoples. The agreement was adopted at the United Nations Forum on Forests, following 15 years of negotiations and debates on whether a treaty or an agreement is needed for

improving the world's forests management. A voluntary global financing mechanism for forest management is supposed to be adopted by 2009.

**Military Implications:**

The document should be reviewed for implications on military usage of land and forests, especially during future training missions.

**Sources:**

UN adopts new International Agreement to protect world's forests

<http://www.un.org/apps/news/story.asp?NewsID=22389&Cr=forests&Cr1=>

New Agreement on Sustainable Management of World's Forests Focus, As United Nations Forum Opens Two-Week Session

<http://www.un.org/News/Press/docs/2007/envdev919.doc.htm>

UNFF7 Documents

<http://www.un.org/esa/forests/session-documents.html>

## **Item 5. Technological Breakthroughs with Environmental Security Implications**

### **5.1 Biosensors Sniff out TNT and Possibly Other Dangers**

Temple University School of Medicine Fels Institute researcher Prof. Danny Dhanasekaran and colleagues have developed a new biosensor that uses a yeast strain genetically engineered with mammalian (rat) olfactory signaling machinery, linked to the expression of green fluorescent protein, to detect a chemical signature of TNT. The technique should be extendable to spot other chemical agents, such as sarin.

Biosensor 2200R, developed by Mine Safety Appliances Inc. of Pittsburgh, is a new biosensor able to determine the presence of a suspicious biological agent such as anthrax or ricin. The response time is less than 5 minutes (compared to about 45 minutes for the devices presently in use) and the unit has a very high accuracy, with only a one in a million chance of producing a false reading.

**Military Implications:**

The military should follow such developments as possibly suitable for handheld or remote unattended use.

**Source:**

Biosensor Sniffs Out Explosives

<http://www.sciencedaily.com/releases/2007/05/070508185845.htm>

Device makes quick work of suspected toxins

[http://www.pittsburghlive.com/x/pittsburghtrib/business/s\\_507097.html](http://www.pittsburghlive.com/x/pittsburghtrib/business/s_507097.html)

### **5.2 Advanced Membrane Technology for Water Treatment to Counter Water Scarcity**

The Advanced Membrane Technology for Water Treatment project conducted under the auspices of the Australian Commonwealth Scientific and Industrial Research Organization (CSIRO) seeks to develop advanced membrane technology for efficient, low energy processes to produce clean water from industrial and/or salt water resources, thus reducing the financial and environmental costs of addressing water scarcity problems. The research area consists of the following projects:

low energy desalination membranes; membrane technology for industrial water reuse; and carbon nanotube (CNT) membranes.

**Military Implications:**

Military developers should follow Australian progress in these research fields in order to make early use of any new technologies developed. Benefits could apply to force protection and military assistance in areas with water problems.

**Source:**

Advanced membrane technology for water treatment research  
<http://www.csiro.au/science/ps321.html>

**5.3 New Generator Produces Hydrogen from Aluminum and Water**

Prof. Jerry Woodall of Purdue University and associates have developed a new technique that uses aluminum-gallium alloy pellets to generate hydrogen from water, providing a novel source for the new "green fuel". Aluminum reacts with the oxygen in water, releasing hydrogen and transforming into aluminum oxide (alumina). The key to the new process is the use of gallium, which prevents the formation of a skin over the aluminum that would stop the process—with the gallium, all the aluminum in a container can contribute to the reaction. The researchers envision that the alumina could be recycled back into aluminum by electricity derived from nuclear plants. The advantage of this indirect hydrogen fuel process is that aluminum is much more easily stored and transported than hydrogen, so there are potential gains in producing the hydrogen at the point of use in an "aluminum-fueled" engine. However, serious questions come to mind about the environmental effects and the overall cost and energy efficiency of producing and recycling the aluminum, and transporting it and the alumina, and about driving range with a feasible load of metal. This complex "non-rechargeable battery" will require much careful end-to-end analysis in order to gain acceptance, but it is an interesting approach.

**Military Implications**

The military should follow this development and its evaluation, to determine its possible application to simplify logistics for environmentally friendly fuels.

**Source:**

New process generates hydrogen from aluminum alloy to run engines, fuel cells  
<http://www.physorg.com/news98556080.html>

**Item 6. Updates on Previously Identified Issues****6.1 UN Appoints Special Envoys for Climate Change**

As part of his commitment to enhance the UN's action in addressing climate change, Secretary-General Ban Ki-moon appointed three Special Envoys, former Norwegian Prime Minister Gro Harlem Brundtland, the President of the 56th Session of the UN General Assembly Han Seung-soo, and former President of Chile Ricardo Lagos. The Special Envoys will work with the Secretary-General, government leaders, and key stakeholders from around the world to advance negotiations and develop mitigation strategies to address climate change and its impacts. [See also *UK Initiates UN Security Council Debate on Climate Change and Security* in April, and *New Energy and Climate Change Policies* in March 2007 environmental security reports.]

**Military Implications:**

[Similar to previous on related issues] Environmental security is likely to get increasing attention in the UN and other international forums. The military should consider how this could change the nature, composition, and training requirements of future peacekeeping missions related to environmental security. This is not an issue of whether or what part of climate change is caused by humans, but of the consequences of scientifically documented climate change and actual impacts on societies.

**Sources:**

Ban Ki-moon names 3 prominent Special Envoys on Climate Change

<http://www.un.org/apps/news/story.asp?NewsID=22410&Cr=climate&Cr1=change>

Secretary-General Appoints Three New Special Envoys on Climate Change

<http://www.un.org/News/Press/docs//2007/sga1061.doc.htm>

U.N. appoints three envoys on climate change

[http://www.usatoday.com/news/world/environment/2007-05-01-un-climate\\_N.htm](http://www.usatoday.com/news/world/environment/2007-05-01-un-climate_N.htm)

Climate change must be tackled at the international political level, say UN envoys

<http://www.un.org/apps/news/story.asp?NewsID=22483&Cr=climate&Cr1=change>

**6.2 Nuclear Nonproliferation Treaty Stalemate Continues**

No progress was achieved by the two-week annual session for preparing the 2010 NPT Review Conference. After having its work delayed for six days due to Iran's disagreement with the agenda, the conference ended with disputes over the session's final statement. Iran and other Nonaligned Movement nations criticized the statement as being too focused on compliance and not enough on the need for nuclear-weapon states to move toward disarmament. [See also *Review Conference of the Non-Proliferation Treaty* in May 2005, and *Increasing Calls for Improved Management of Nuclear Materials and Nonproliferation* in January 2005 environmental security reports.]

Meanwhile, eight more nations joined the Global Initiative to Combat Nuclear Terrorism. Led by Russia and the U.S., this global effort was initiated in 2006, to improve security over nuclear materials and to deter nuclear smuggling. The group now includes 31 nations. The next meeting is scheduled to be held in June, in Kazakhstan.

**Military Implications:**

[Same as previous on this issue] The military should seek alternative means that might be more effective to work with the appropriate agencies to facilitate the NPT negotiations to improve global nuclear safety than is now the case.

**Sources:** (see a more expanded list in the [Appendix](#))

Preparatory Committee for the 2010 Non-Proliferation Treaty Review Conference

<http://www.un.org/NPT2010/index.html>

Countries Join U.S.-Russia-led Global Initiative To Combat Nuclear Terrorism

<http://www.state.gov/r/pa/prs/ps/2007/may/84503.htm>

Current Partner Nations to the Global Initiative to Combat Nuclear Terrorism

<http://www.state.gov/t/isn/82787.htm>

## 6.3 Stockholm Convention on POPs Adopts Evaluation but not Non-compliance

### Mechanisms

The third meeting of the Conference of the Parties (COP-3) to the Stockholm Convention on Persistent Organic Pollutants (POPs) occurred April 30–May 4, 2007, in Dakar, Senegal, with over 450 participants representing more than 180 governments and international and non-governmental organizations. Twenty-two decisions were adopted, including: measures to reduce or eliminate releases from wastes (integration with the Basel Convention for developing a framework for environmentally sound waste disposal); guidelines on best available techniques and draft guidance on best environmental practices; improving the reporting system; evaluation of implementation effectiveness through the Global Monitoring Programme (establishing a coordination group formed of three representatives from each of the five UN regions); technical assistance; and non-compliance (negotiations to continue and mechanisms to be considered for COP-4). COP-4 will be held May 4–8, 2009, in Geneva, Switzerland. [See also *Call for Reinforcements to Chemical Safety* in September 2006, *Stockholm Convention Updates* in November 2005, and other related items in previous environmental security scanning reports.]

### Military Implications

[Similar to previous on the same issue] Although the U.S. did not ratify the Convention, it should be prepared to comply with its requirements when acting in countries Party. Thus, in addition to the preparation for phase-out of the POPs banned, it should consider the military implications of the additional decisions adopted by the COP-3 and those proposed to be put forward at COP-4.

### Sources:

Stockholm Convention COP-3

[http://www.pops.int/documents/meetings/cop\\_3/meetingdocs/default.htm](http://www.pops.int/documents/meetings/cop_3/meetingdocs/default.htm)

Summary of the Third Meeting of the Stockholm Convention on Persistent Organic Pollutants

<http://www.iisd.ca/vol15/enb15154e.html>

Stockholm Convention <http://www.pops.int>

## 6.4 Climate Change

### 6.4.1 Mitigating Climate Change Effects

*Climate Change 2007: Impacts, Adaptation and Vulnerability*, third report of the UN Intergovernmental Panel on Climate Change (IPCC), calls for quick action to stabilize greenhouse gas emissions in order to avoid the worst climate change impacts. It states that greenhouse gas emissions must start declining by 2015 if the increase in global average temperature is to be capped at 2–2.4 degrees Celsius. The report points out that the more time passes, the costlier it will be. It estimates that stabilizing emission levels at 445–535 parts per million (ppm) would cost between 0.2% and 3% of world GDP by 2030 (about 0.12% per year); while after 2050, stabilizing emissions between 445–710 ppm would require a reduction of 5.5% in the world's GDP. This is consistent with the Stern report and other estimates. The report highlights that multiple strategies are already available for reducing global greenhouse gas emissions, such as utilizing cost-effective policies and current and emerging technologies.

Just before the IPCC report was released, the World Wildlife Fund issued its own report, *Stop Climate Change: It Is Possible*, which presented 15 actions to reduce CO<sub>2</sub> emissions. The World Resources Institute analyzed the impact of climate change on the ecosystem and its services for humans and suggested actions for ecosystem restoration in its report *Restoring Nature's Capital*:

*An Action Agenda to Sustain Ecosystem Services.* WRI president Jonathan Lash said we should “urgently expand the climate debate beyond reducing greenhouse gases to focus on how climate change is altering ecosystem services.”

Delegates at the latest OECD Council at Ministerial Level held in Paris, May 15-16, 2007 explored policy options to reduce human and economic costs of severe climate change and will work with the International Energy Agency to that end.

#### 6.4.2 New Climate Change Forecasts Show Conditions Worse than Forecasted

New research and models by the National Center for Atmospheric Research and the University of Colorado's National Snow and Ice Data Center found that the Arctic could be seasonally free of sea ice by 2020, 30 years sooner than predicted by the IPCC report. In addition to all the consequences for the ecosystem and the Nordic inhabitants, this might accelerate even more global warming, as reflection of the sun's heat and light will be strongly diminished.

An international team of researchers has found that the Southern Ocean's capacity to absorb man-made carbon dioxide from the atmosphere is weakening, stating that this is the first time they have “convincing evidence that a change in the uptake of CO<sub>2</sub> by the oceans is linked to climate change.” They didn't expect that to happen until much later in the 21st century.

Japan's Meteorological Agency announced that the ocean around Japan has warmed up by 0.7 to 1.6 degrees Celsius over the last century, far higher than the world average of 0.5 degree Celsius.

#### 6.4.3 Climate Change Refugees

Janos Bogardi, director of the UNU Institute for Environment and Human Security, called for the UN to create a legal framework to address future environmental refugees, while taking into account fears that by including environmental migrants in the international legislation protecting refugees, “we are weakening one of the strongest tools for protecting refugees.” Hence, the UN “should find other means of helping environmental migrants.” He also emphasized that environmental factors often lie at the root of more obvious causes of migration.

Christian Aid estimates that a billion people might be forced to migrate over the next 50 years, mostly as a consequence of environmental conditions. The vast majority will be from the world's poorest countries, the Sahara belt, south Asia, and the Middle East. Their report estimates that in 2007 there are 25 million displaced by conflict and human rights abuses, 25 million by natural disasters, such as earthquakes, and 105 million by large development projects, with 8.5 million now officially recognized as refugees. By 2050, it says, 250 million could be permanently displaced by climate change-related phenomena.

Bangladesh, with its 140 million people, is one of the most vulnerable places to climate change. It is likely to face increasingly violent storms, saltwater getting further into the country's rivers, erosion in the coastal areas, severe droughts in the north, and possibly a fifth of the country vanishing under water, if sea level rises by 3 feet by the end of the century. “One island here has more people than all of the small island states put together,” said Atiq Rahman, executive director of the Bangladesh Center for Advanced Studies.

#### 6.4.4 Negotiations for a Post-Kyoto Strategy to Continue to be Difficult

No results were produced by the two-week meeting of the U.N. Framework Convention on Climate Change (UNFCCC) held in Bonn, Germany, to negotiate a post-Kyoto treaty and next steps to tackle climate change. This was supposed to be a preparatory session for the world environment ministers' conference to be held in December in Bali, Indonesia, when it is hoped that

formal negotiations on a post-Kyoto treaty will be launched. Although the 1,800 delegates agreed on the urgency of the situation and the need for adopting long-term, legally binding emission reduction targets, no agreement was reached on new commitments or strategies.

The 15<sup>th</sup> session of the UN Commission on Sustainable Development's negotiations were hindered by the confrontation between the developed and developing world, and by the U.S., which opposed any targets and timetables for greenhouse gas reduction. The EU rejected a draft final document on the grounds that it was too weak and failed to adequately address the issues of energy efficiency, climate, air pollution, and industrial development.

The prospects are not very optimistic either for next month's G8 summit negotiations, since the U.S. and Canada seem to continue opposing the German draft statement and position.

Australia's government is developing a carbon emissions reduction plan that would recommend a trading scheme built on the six-nation Asia-Pacific Partnership on Clean Development and Climate (which includes Australia, China, India, Japan, South Korea, and the U.S.) The proposal is planned to be put forward at the 2007 Summit of the Asia-Pacific Economic Cooperation to be held in Sydney, in September.

The UNFCCC Secretariat Director considers the Kyoto Protocol's Clean Development Mechanism (CDM) successful so far, with some 645 CDM projects being registered in 44 countries, covering a wide range of sectors. At the same time, he cautioned that serious negotiations on a post-2012 regime would only be launched at the Bali conference, and not concluded there, given experience with the Kyoto Protocol, which took two years to negotiate and another two to ratify and bring into force.

### **Military Implications:**

[Same as previous on similar issues] The military should continue to reduce its environmental footprint, develop strategies to mitigate climate change effects, explore the military roles in addressing environmental refugee issues, and cooperate where possible with others to these ends.

**Sources:** (see a more expanded list in the [Appendix](#))

*Climate Change 2007: Impacts, Adaptation and Vulnerability*

<http://www.ipcc.ch/SPM6avr07.pdf>

US Rejects 'High Cost' Global Warming Scenarios

<http://www.planetark.com/dailynewsstory.cfm/newsid/41726/story.htm>

*Restoring Nature's Capital: An Action Agenda to Sustain Ecosystem Services*

[http://www.wri.org/biodiv/pubs\\_description.cfm?pid=4309](http://www.wri.org/biodiv/pubs_description.cfm?pid=4309)

Arctic Ice Retreating 30 Years Ahead of Projections

<http://www.ens-newswire.com/ens/apr2007/2007-04-30-04.asp>

Rapid rise in global warming is forecast

<http://www.timesonline.co.uk/tol/news/uk/science/article1805870.ece>

Ocean Around Japan Warming Up Fast – Report

<http://www.planetark.com/dailynewsstory.cfm/newsid/41923/story.htm>

U.N. Professor Says Climate Change Is Creating New Refugees Who Deserve U.N. Protection

<http://www.enn.com/today.html?id=12788>

*Human tide: the real migration crisis*

<http://www.christian-aid.org.uk/indepth/705caweekreport/index.htm>

Climate change to force mass migration

<http://www.guardian.co.uk/international/story/0,,2078839,00.html>

Deadlock at climate talks mars Kyoto hopes

<http://www.alertnet.org/thenews/newsdesk/L1840731.htm>

EU rejects 'weak' UN paper on climate change

<http://euobserver.com/9/24053/?rk=1> (by subscription only; full text in the [Appendix](#))

Commission on Sustainable Development (CSD) 115<sup>th</sup> session

<http://www.un.org/esa/sustdev/csd/policy.htm>

Australia demands "New Kyoto" in place of "Old"

<http://www.alertnet.org/thenews/newsdesk/SYD71858.htm>

Human tide: the real migration crisis.

<http://www.christian-aid.org.uk/indepth/705caweekreport/index.htm>

### **6.5 Proposed Global Early Warning System for Monitoring Pandemics**

Scientists propose a global early warning system to monitor possible pandemic outbreaks. A recent study led by Nathan Wolfe, professor of epidemiology at the University of California, Los Angeles, revealed that the “emergence of the major diseases of humanity is not a random process.” Understanding the patterns between origins of major infectious diseases in temperate and tropical countries and individuals exposed to wild or domestic animals might help prevent eventual migration to humans, as well as forecast and avoid eventual pandemics. Delegates to the 59th World Health Assembly also stressed the importance of rapid, worldwide sharing of knowledge on diseases, since “in a globalized world, health issues have an impact on the collective security of people around the world.” [See also *Global Pandemic Containment Efforts* in October 2006, *Bird Flu Spreads Increasing Threats of a Human Pandemic* in February 2006 and other related environmental security reports.]

#### **Military Implications:**

The military should consider contributing to the study, seeking liaison with systems to distinguish between biological warfare and more naturally occurring phenomena, and/or procedures for coordination with the early warning system.

#### **Sources:**

Origins of major human infectious diseases. *Nature* 447, 279-283 (17 May 2007)

<http://www.nature.com/nature/journal/v447/n7142/full/nature05775.html#abs> (by subscription only; abstract in the [Appendix](#))

Scientists: Early warning system for disease needed

<http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=3623&language=1>

Fifty-ninth World Health Assembly

<http://www.who.int/mediacentre/events/2006/wha59/en/index.html>

### **6.6 Nanotechnology Safety Issues**

Some noteworthy nanotechnology safety activities from May 2007 (more detailed description of each is available in the [Appendix](#)) are: a) European Nanotechnology Masters Recognition Scheme launched as part of EuroNanoforum 2007 as an online system for access to descriptions of nanotechnology-related master's degree programs throughout Europe; b) study shows that metal oxide nanoparticles might have up to 8 times the toxicity of the same metals in salt forms when brought into contact with lung epithelial cells; and c) *Green Nanotechnology: It's Easier Than You Think* report on links between nanotechnology and environmentally friendly development and production.

**Military Implications:**

[Same as previous on similar issues] Relevant military personnel should review information generated by these assessments on nanotech environmental health and safety to improve military and contractor practices, as well as to assist and cooperate with the organizations working on those issues for enriching their studies.

**Sources:**

Institute of Nanotechnology Nano Masters Course Directory

<http://www.nano.org.uk/nanomasters/>

A nano Trojan horse

[http://pubs.acs.org/subscribe/journals/esthag-w/2007/apr/science/lt\\_nano.html](http://pubs.acs.org/subscribe/journals/esthag-w/2007/apr/science/lt_nano.html)

*Green Nanotechnology: It's Easier Than You Think*

<http://www.nanotechproject.org/116/4262007-green-nanotechnology-its-easier-than-you-think>

**Item 7. Reports Suggested for Review****7.1 U.S. Regulations Related to Climate Change**

*Global Climate Change and U.S. Law*, published by the American Bar Association, is a comprehensive overview of U.S. law as it relates to global climate change. The book presents a scientific factual background on climate change; outlines the international and national legal framework related to climate change; presents emerging regional, state, and local actions, and a 50-state survey; issues of concern to corporations (including disclosure, fiduciary duties, insurance, and subsidies); and examines reduction programs such as voluntary efforts, emissions trading, and carbon sequestration. The book will be continuously updated on the American Bar Association's website (an update is already posted about the Massachusetts vs. EPA case.)

**Military Implications:**

The book—and especially the updates on the website—should be valuable for those who will have responsibilities for managing legal matters for the military on climate change.

**Sources:**

*Global Climate Change and U.S. Law*

<http://www.abanet.org/abastore/index.cfm?section=main&fm=Product.AddToCart&pid=5350156>

Climate Change Having Major Effect on U.S. Law, ABA Book Finds

[http://www.arnoldporter.com/news\\_news.cfm?publication\\_id=1511](http://www.arnoldporter.com/news_news.cfm?publication_id=1511)

## APPENDIX

### Reference Details

This Appendix contains expanded background information on some items.

### Item 2. Pan-African Parliament Upgrades Environmental Policy

#### PAP Considers Committee Reports

<http://www.pan-africanparliament.org/News.aspx?ID=229> (link works randomly; excerpt of relevant text below)

#### Rural Economy, Agriculture, Natural Resources and Environment

The Committee on Rural Economy, Agriculture, Natural Resources and Environment presented a report on its recommendations to the Cote d'Ivoire authorities and the PAP on a fact-finding mission that went to Cote d'Ivoire to gather information on the dumping of toxic waste in that country.

Among its recommendations to the Cote d'Ivoire authorities were that the health of victims, who were affected by the dumping of toxic waste in Abidjan, must be closely monitored, at least over the next ten years with a view to detecting, if necessary, effects which may come up in the long run. Also, it called on the authorities to keep the dumping sites under control so as to detect the medium and long term effects on the contaminated soil, subterranean and surface waters.

Another recommendation that the Committee made to the Ivorian authorities is that they take appropriate measures to ratify and apply the Basel and Bamako Conventions on the Cross-Border Traffic of Toxic Waste. It also called upon all the AU Member States, who have not yet ratified these Conventions to do so as a matter of urgency.

It also called for the adoption by PAP of a recommendation to the Heads of State and Government of the AU on the creation of an African Observatory to keep watch over and exchange information on toxic waste traffic.

Also the Committee called on PAP to recommend to African States to strengthen their legislation to protect the environment in general and fight against pollution in particular.

The Committee also called for the sending of a mission to the African Regional Office of UNEP in Nairobi, Kenya, with a view to studying the practical details for cooperation and signing a partnership agreement.

The Committee also presented a report on a workshop on desertification held in Algiers, where it also recommended that on the national level, an appropriate budgetary item be included in national

budgets for actions to fight against desertification and poverty as well as strengthen national organs and coordinating action programmes to combat desertification and make sure that decentralisation measures are improved to guarantee their efficiency at the local level.

It also urged African countries to better involve themselves in the research and monitoring of the desertification phenomenon and improve communication between scientists and political decision makers so as to better promote the results of scientific research.

On the Regional level, the Committee recommended the establishment of a synergy between African scientific research institutions related to protecting the environment in general, and combating desertification in particular, as well as implement the Syrte Declaration on the creation of centres of excellence on the environment and their networking.

Among other recommendations, it also called for the strengthening of regional and continental cooperation to face up to the serious environmental phenomena through the establishment of an African Environment Protection Observatory (AEPO) and support regional initiatives.

At the world level, the Committee recommended for improved cooperation in the framework of implementing the Convention on Desertification by granting sufficient and foreseeable financial resources to combat desertification, notably as regards the Global Environment Facility (GEF). It also called for increased investments in favour of the rural population in the fight against desertification and poverty to turn the present tendency around and also to strengthen international cooperation in scientific research and technology transfer, relating to the use of clean and renewable energy, as well as the use of space tools to help in making decisions to fight against desertification and climate change.

## **Item 6. Updates on Previously Identified Issues**

### **6.2 Nuclear Nonproliferation Treaty Stalemate Continues**

**Sources**—a more expanded list:

Preparatory Committee for the 2010 Non-Proliferation Treaty Review Conference

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Iran, NAM countries downgrade atom treaty text

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Israel, Afghanistan and Sri Lanka Join Global Initiative to Combat Nuclear Terrorism

<http://www.state.gov/r/pa/prs/ps/2007/may/84852.htm>

Cape Verde, Cyprus, Czech Republic, Denmark, Georgia, Montenegro, Netherlands and Spain Countries Join U.S.-Russia-led Global Initiative To Combat Nuclear Terrorism

<http://www.state.gov/r/pa/prs/ps/2007/may/84503.htm>

Armenia, Cambodia, Macedonia and Romania Join U.S.-Russia-led Global Initiative to Combat Nuclear Terrorism

<http://www.state.gov/r/pa/prs/ps/2007/may/84246.htm>

Global Initiative To Combat Nuclear Terrorism--Japan Hosts Counterterrorism Seminar

<http://www.state.gov/r/pa/prs/ps/2007/may/84247.htm>

The Global Initiative to Combat Nuclear Terrorism

<http://www.state.gov/t/isn/c18406.htm>

Current Partner Nations to the Global Initiative to Combat Nuclear Terrorism

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## 6.4 Climate Change

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Secretary-General Welcomes Report on Mitigation of Climate Change, Says Package on Way Forward Must Be Launched At Bali Conference

<http://www.un.org/News/Press/docs/2007/sgsm10976.doc.htm>

9th Session of IPCC Working Group III and 26th Session of IPCC: 30 April - 4 May 2007

<http://www.iisd.ca/climate/ipwg3>

Experts Meet on UN Report but Time Running Out

<http://www.planetark.com/dailynewsstory.cfm/newsid/41638/story.htm>

UN Climate Talks Down to Wire, EU and China Spar

<http://www.planetark.com/dailynewsstory.cfm/newsid/41708/story.htm>

Tackling climate change. A bargain. Economist.com, May 4th 2007

[http://www.economist.com/daily/news/displaystory.cfm?story\\_id=9135283&fsrc=nwl](http://www.economist.com/daily/news/displaystory.cfm?story_id=9135283&fsrc=nwl)

China seen as a roadblock to U.N. climate report. Beijing wants the U.S. and Europe to bear most of the blame and costs for controlling global warming.

By Alan Zarembo, Times Staff Writer, May 3, 2007

<http://www.latimes.com/news/printedition/asection/la-sci-warming3may03,1,3027774,full.story?ctrack=2&cset=true>

US Rejects 'High Cost' Global Warming Scenarios

<http://www.planetark.com/dailynewsstory.cfm/newsid/41726/story.htm>

*Restoring Nature's Capital: An Action Agenda to Sustain Ecosystem Services*

[http://www.wri.org/biodiv/pubs\\_description.cfm?pid=4309](http://www.wri.org/biodiv/pubs_description.cfm?pid=4309)

Restoring Nature's Capital: An Action Agenda to Sustain Ecosystem Services—WWICS session

[http://www.wilsoncenter.org/index.cfm?fuseaction=events.event&event\\_id=235464](http://www.wilsoncenter.org/index.cfm?fuseaction=events.event&event_id=235464) (video)

Chair's summary of the OECD Council at Ministerial Level, Paris, 15-16 May 2007 - Innovation:

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[http://www.oecd.org/document/22/0,2340,en\\_2649\\_201185\\_38604566\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/22/0,2340,en_2649_201185_38604566_1_1_1_1,00.html)

UN Experts Near Deal on Climate After Disputes

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Global Warming to Devastate Indian Coast – Expert

<http://www.planetark.com/dailynewsstory.cfm/newsid/41512/story.htm>

China Says Global Warming Threatens Development

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Environmental Change Institute, University of Oxford

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Arctic Ice Retreating 30 Years Ahead of Projections

<http://www.ens-newswire.com/ens/apr2007/2007-04-30-04.asp>

Arctic sea ice decline: Faster than forecast (abstract)

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Arctic melt worse than predictions

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Ocean Around Japan Warming Up Fast – Report

<http://www.planetark.com/dailynewsstory.cfm/newsid/41923/story.htm>

U.N. Professor Says Climate Change Is Creating New Refugees Who Deserve U.N. Protection

<http://www.enn.com/today.html?id=12788>

*Human tide: the real migration crisis*

<http://www.christian-aid.org.uk/indepth/705caweekreport/index.htm>

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<http://www.guardian.co.uk/international/story/0,,2078839,00.html>

The first refugees of global warming. Bangladesh watches in horror as much of the nation gives way to sea

<http://www.chicagotribune.com/news/nationworld/chi-0705010817may02,1,7033000.story?coll=chi-newsnationworld-hed&ctrack=1&cset=true> (free registration required; full text in this [Appendix](#))

Sessions of the Subsidiary Bodies, 7-18 May 2007, Bonn, Germany

<http://unfccc.int/meetings/sb26/items/3919.php>

UN meeting in Bonn moves world closer to action on climate change

<http://www.un.org/apps/news/story.asp?NewsID=22595&Cr=climate&Cr1=change>

Deadlock at climate talks mars Kyoto hopes

<http://www.alertnet.org/thenews/newsdesk/L1840731.htm>

Climate change official sees new willingness from developing countries to talk

<http://www.iht.com/articles/ap/2007/05/18/europe/EU-GEN-Germany-Climate-Conference.php>

UN Urges Climate Action; Nations Split on Tactics

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Diplomats Begin Work on Climate Accord

<http://www.washingtonpost.com/wp-dyn/content/article/2007/05/07/AR2007050700963.html>

Suspicious Among Nations Hold Back Climate Pacts

<http://www.planetark.com/dailynewsstory.cfm/newsid/41843/story.htm>

UN Climate Chief Says Time Short to Find 2012 Pact

<http://www.planetark.com/dailynewsstory.cfm/newsid/41841/story.htm>

EU rejects 'weak' UN paper on climate change

<http://euobserver.com/9/24053/?rk=1> (by subscription only; full text in this [Appendix](#))

Commission on Sustainable Development (CSD) 115<sup>th</sup> session

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U.S. Rejects G-8 Climate Proposal

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Climate change conflict

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Regional carbon trade plan

<http://www.theaustralian.news.com.au/story/0,20867,21757380-30417,00.html> (article available for a limited time; full text in this [Appendix](#))

Australia demands "New Kyoto" in place of "Old"

<http://www.alertnet.org/thenews/newsdesk/SYD71858.htm>

Confusion threatens to limit potential of key Kyoto Protocol mechanism – UNFCCC Executive Secretary

[http://unfccc.int/files/press/news\\_room/press\\_releases\\_and\\_advisories/application/pdf/070502\\_pressrel\\_carbon\\_expo.pdf](http://unfccc.int/files/press/news_room/press_releases_and_advisories/application/pdf/070502_pressrel_carbon_expo.pdf) (alternative: UN official warns of confusion over key Kyoto Protocol

mechanism <http://www.un.org/apps/news/story.asp?NewsID=22425&Cr=climate&Cr1=change>)

### **The first refugees of global warming**

Bangladesh watches in horror as much of the nation gives way to sea

By Laurie Goering, Tribune foreign correspondent, May 2, 2007

<http://www.chicagotribune.com/news/nationworld/chi-0705010817may02,1,7033000.story?coll=chi-newsnationworld-hed&ctrack=1&cset=true> (free subscription requires)

ANTARPARA, Bangladesh -- Muhammad Ali, a wiry 65-year-old, has never driven a car, run an air conditioner or done much of anything that produces greenhouse gases. But on a warming planet, he is on the verge of becoming a climate refugee.

In the past 10 years the farmer has had to tear down and move his tin-and-bamboo house five times to escape the encroaching waters of the huge Jamuna River, swollen by severe monsoons that scientists believe are caused by global warming and greater glacier melt in the Himalayas.

Now the last of his land is gone, and Ali squats on a precarious piece of government-owned riverbank -- the only ground available -- knowing the river probably will take that as well once the monsoons start this month.

"Where we are standing, in five days it will be gone," he predicts. "Our future thinking is that if this problem is not taken care of, we will be swept away."

Bangladesh, which has 140 million people packed into an area a little smaller than Illinois, is one of the most vulnerable places to climate change. As the sea level slowly rises, this nation that is little more than a series of low-lying delta islands amid some of Asia's mightiest rivers -- the Ganges, Jamuna-Brahmaputra and Meghna -- is seeing saltwater creep into its coastal soils and drinking water. Farmers near the Bay of Bengal who once grew rice now are raising shrimp.

Notorious for its deadly cyclones, Bangladesh is likely to face increasingly violent storms as the weather warms and see surging seas carry saltwater farther and farther up the country's rivers, ruining soils, according to scientists.

On Bangladesh's southern coast, erosion driven in part by accelerating glacier melt and unusually intense rains already has scoured away half of Bhola Island, which once covered an area nearly 20 times the size of Chicago. Land disputes, many driven by erosion, now account for 77 percent of Bangladesh's legal suits. In the dry northwest of the country, droughts are getting more severe. And if sea level rises by 3 feet by the turn of the century, as some scientists predict, a fifth of the country will disappear.

"Bangladesh is nature's laboratory on disaster management," said Ainun Nishat, Bangladesh representative of the World Conservation Union and a government adviser on climate change. As temperatures rise and more severe weather takes hold worldwide, "this is one of the countries that is going to face the music most," he said.

Bangladesh is hardly the only low-lying nation facing tough times as the world warms. But scientists say it in many ways represents climate change's "perfect storm" of challenges because it is extremely poor, extremely populated and extremely susceptible.

"One island here has more people than all of the small island states put together," said Atiq Rahman, executive director of the Bangladesh Center for Advanced Studies and a top national climate change expert.

With so many huge rivers discharging into the ocean, the country couldn't build dikes to hold back the sea even if it had the money, Rahman said. And though it has created virtually none of the pollution driving global warming, it is unlikely to receive the international assistance it needs to adapt to conditions created by others.

What that might mean for big polluting nations such as the United States, China and India is that "for every hundred thousand tons of carbon you emit, you have to take a Bangladeshi family," Rahman said, only half joking. India already is building a fence along its border with Bangladesh.

The extent of Bangladesh's coming problem is evident in Antarpara, a village stuck between the Jamuna and Bangali rivers five hours northwest of Dhaka, the capital. In it and other low-lying villages nearby, more than half of the 3,300 families have lost their land to worsening river erosion. Some have moved their homes a dozen times and are running out of places to flee.

Antarpara's village head, who once owned 700 acres, is now penniless. The village's school has had to close for two to three months each time the community flees the intruding Jamuna. In the past year, the river has marched 300 feet toward the village's latest temporary homes on government land, and now the closest shack is just 30 feet from the roiling waters. Visitors are warned not to venture near the edge.

"Please protect this land, so we can stay here," begs Monwara Begum, 35, a mother of three. "We are wondering how we will live, how we will manage this river."

"Slowly, it has destroyed village after village," said Ali, the farmer, whose son operates a bicycle rickshaw in Dhaka.

Bangladesh's capital today is home to a growing sea of landless rural migrants like Jaha Nura Begum, 35, who lives in a rickety bamboo hut perched on stilts over a fetid backwater of the Turag River. Her family and 20 others fled Bhola Island three years ago when "the river took all our land, and there was nothing," she said. Now her husband breaks bricks as a day laborer at a nearby kiln and "we only eat if we can find work."

With climate migrants accounting for at least a third and perhaps as many as two-thirds of rural dwellers flooding to Dhaka, even that work is hard to get. "As more and more come, it is more chaotic here," Begum said.

Bangladesh's government is doing what it can to prepare for coming hard times. With the help of non-profit organizations, it is testing new salt-resistant crops, building thousands of raised shelters to protect those in the path of cyclones and trying to elevate roads and bridges above rising rivers. Leaders who once insisted that the West created the problem and should clean it up "now accept we should prepare," Nishat said.

The alternative could be ugly: insufficient food, a destabilized government, internal strife that could spread past the country's borders, a massive exodus of climate refugees and more extremism, Rahman said.

"A person victimized and displaced will not sit idle," he predicted. "There will be organized climate-displaced groups saying, 'Why should you hang onto your place when I've lost mine and you're the one who did this?'"

"That," he said, "is not a pleasant scenario."

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### **EU rejects 'weak' UN paper on climate change**

By Helena Spungenberg

May 14, 2007

<http://euobserver.com/9/24053/?rk=1> (by subscription only)

EUobserver - The European Union has rejected a draft UN document on sustainable development voicing disappointment and frustration over its lack of content on the issue of global warming.

"The European Union deeply regrets that the United Nations Commission on Sustainable Development (CSD) was unable to agree on an ambitious text on energy, climate, air pollution and industrial development," EU environment commissioner Stavros Dimas and German environment minister Sigmar Gabriel said in a joint statement on Saturday (12 May).

The two were in New York last week for the 10-day UN discussion on climate change, energy efficiency and issues related to economic development, which turned into a confrontation between the developed and developing world, media reports indicate.

Delegates spoke of a climate of "distrust," reports German press agency DPA.

Because of the negative votes of the EU member states the 15th parliamentary session of the CSD - the most important intergovernmental environmental organ of the UN – ended without a final conclusion.

Mr Dimas said it was "unfortunate that the CSD 15 was unable to deliver" on the challenges posed by climate change.

EU governments agreed in March to cut the bloc's CO2 emissions by 20 percent by 2020 and to work for a deal to cut emissions by 30 percent by 2020 in developed nations across the world.

EU leaders argued that this way it would be easier to get an international deal in place, however. But the prospects of getting the US and China – some of the world's biggest polluters – on board looks bleak.

In the meantime, the US is fighting to water down a declaration on global warming being prepared for next month's G8 summit organised by Germany which holds both the EU and the G8 presidencies in the first half of 2007.

Washington objects to pledges to limit global temperature rises by 2 degrees Celsius this century and to reduce total world greenhouse gas emissions to 50 percent below their 1990 levels by 2050, according to Reuters.

"They have rejected any mention of targets and timetables, don't want the UN to get more involved and refuse to endorse carbon trading because it must by definition involve targets," Reuters quoted a "well placed" source as saying.

### **Climate change conflict**

TheStar.com - News

The issue of cutting greenhouse gas emissions could divide G-8 government leaders at their meeting in June

Les Whittington, Ottawa Bureau, May 26, 2007

OTTAWA—Stephen Harper, whose government has repeatedly failed to connect with Canadians on the environment, is likely to join U.S. President George W. Bush as the odd men out when world leaders try to tackle global warming at this year's G-8 summit.

The meeting in Germany June 6 to 8 promises to be a challenging exercise in other ways for Harper, whose two closest international allies – Bush and British Prime Minister Tony Blair – suffer from the status of lame ducks in their own countries.

With the faces around the G-8 conference table changing, the 32-year-old ad hoc group is in flux, searching for answers to a growing list of old and new problems in an increasingly globalized and trigger-happy world.

Harper, whose foreign policy has been, above all, focused on the Afghan theatre in the Bush-led war on terror, will have to turn his attention to African aid, social issues, nuclear proliferation, world trade liberalization and energy security – as well as the thorny issue of climate change.

It is the Prime Minister's second trip to the summit of the Group of Eight large industrial democracies that also includes the U.S., Japan, Britain, France, Italy, Germany and Russia.

This year's meeting in the old-world, Baltic-Sea resort of Heiligendamm will showcase the fresh leadership of its host, German Chancellor Angela Merkel. A former East German physicist and environment minister who came to power in late 2005, Merkel, 52, has dazzled with dynamic moves to improve German-U.S. relations and overcome vexing frictions within Europe.

Newly chosen French President Nicolas Sarkozy will debut on the world stage at Heiligendamm, as will Japanese Prime Minister Shinzo Abe.

While Merkel has set out a wide-ranging agenda, success will likely rest on the leaders' ability to break the current international logjam on the environment.

The Europeans are pushing hard to enlist U.S. support for urgent action to fight climate change and for a commitment to join in negotiations to set agreed-upon targets for greenhouse gas reductions after the Kyoto Protocol expires in 2012.

But in the behind-the-scenes manoeuvring in advance, the U.S., which declined to ratify Kyoto in 2001 for economic reasons, has been reportedly watering down the proposed leaders' agreement on specific future targets for carbon emission reductions. And Bush can count on the support of Harper, whose government has also rejected Kyoto targets in its long-term plan to reduce pollution and greenhouse gases.

This could put Harper in conflict with Blair, Merkel, Sarkozy and others who see the need for concerted global environmental action as a top priority.

"There's a major difference there," John Bennett of Climate for Change says. "The European members of the G-8 will be on his (Harper's) case not to back Bush on this issue. Our relations with the European Union are at risk here."

But the outcome of the climate change discussion at Heiligendamm is all the more uncertain because Merkel wants this G-8 meeting to enhance the role at these summits of China and India, among other developing nations. The fact that China and India did not need to commit to emissions-reduction targets under Kyoto was one of the main reasons the U.S. refused to ratify it. So there is potential for an open-ended agreement on expanded future talks on post-Kyoto measures.

After climate change, Merkel has elevated African poverty issues to the top of the G-8 agenda. The leaders agreed at the Blair-led 2005 summit to double aid to Africa by 2010 but DATA, the advocacy group set up by U2 singer Bono, says many G-8 countries, including Canada, are not increasing aid fast enough to meet that goal.

With alarm over Iran's nuclear ambitions reaching new heights and violence flaring in Lebanon, the Middle East will once again weigh heavily on the summit. Blair (who leaves office on June 27) and Bush have already seen their political strength sapped by the war in Iraq, and other G-8 leaders cannot help but be concerned about the potential for further chaos in the Middle East as the situation in Iraq spins out of control.

"We're just one year closer to the Americans losing the war in Iraq and that could bring a lot of big negatives for the world and for the G-8," says John Kirton, director of the G8 Research Group at the University of Toronto.

Beyond that, the leaders' talks on security issues are certain to focus on anti-terrorism, North Korea and Afghanistan, including drug trafficking and the role of Pakistan in the NATO-led campaign against Afghan insurgents.

And economic issues – from breaking down trade barriers to the social ills of globalization and energy sufficiency – will figure prominently at Heiligendamm.

The meeting will take place against a backdrop of mushrooming expectations and demands for the G-8. In a shrinking world, the eight leaders are under intense pressure to put aside their national demands and respond more meaningfully to developing countries and non-governmental groups demanding transformative action on poverty, disease, war, terrorism and other global woes.

And the annual summit remains a magnet for protests – peaceful and otherwise. To head off attempts to violently disrupt this year's meeting, German authorities have tightened border controls, raided offices of anti-globalization activists and spent \$17 million (U.S.) raising a 2.5 metre metal and concrete fence around the seaside resort where the leaders will gather.

Before the G-8, Harper will go to Berlin on June 4 to meet with Merkel, who also holds the presidency of the European Union, for Canada-EU talks.

Following in the steps of the U.S., the Harper government is seeking to open talks on a wide-ranging trade pact with the EU, Canada's second-largest trading partner after the Americans. But the EU, which wants to pursue trade deals with expanding Asian economies, appears in no rush for closer commercial ties with Ottawa.

### **Regional carbon trade plan**

Dennis Shanahan, Political editor

May 19, 2007

<http://www.theaustralian.news.com.au/story/0,20867,21757380-30417,00.html>

AUSTRALIA is developing a regional carbon emissions trading scheme that would include China and the US and could form the basis of a "Sydney declaration" at this year's APEC summit.

As the host of the September APEC gathering, Australia is moving rapidly towards adopting an emissions trading scheme that places a price on carbon and adopts a target for greenhouse gas emissions.

The scheme would use as its bedrock the existing Asia-Pacific Partnership on Clean Development and Climate -- which brings together the so-called AP6 nations of Australia, China, the US, Japan, South Korea and India.

It could also be expanded to include other regional partners.

The possibility of using the AP6, which was created to tackle climate change by promoting cleaner technologies, is the first sign the US is considering an international emissions trading scheme and represents a big shift in the Australian Government's position.

The proposed emissions trading scheme would be based on finding "a mechanism" to set a target for greenhouse gas emissions. Polluters who could not meet their emissions cap would be able to use the trading scheme to buy credits to emit extra greenhouse gases.

The APEC agenda will be framed by John Howard's carbon trading emissions taskforce report, which is due at the end of this month.

It is expected to recommend a carbon trading system that will indirectly raise the price of carbon fuels -- such as coal -- but not set a formal target for reductions.

The ALP has adopted a target of cutting greenhouse emissions by 60 per cent of 2000 levels by 2050 and joining the Kyoto trading principles. The party has not set an interim emissions target.

The Prime Minister has previously refused to set a greenhouse emissions reduction target or join any emissions trading group.

But it now appears likely the Howard Government will adopt a target based on a price mechanism recommended in the emissions trading taskforce report.

Mr Howard has accused Labor of arbitrarily adopting a greenhouse emissions target without proper analysis of whether it would devastate an Australian economy so reliant on fuel exports.

Mr Howard has rejected the Labor premiers' plan for a national emissions trading scheme but is now leaning towards an AP6-plus scheme building on regional relationships and bilateral climate change agreements.

Three weeks ago, Mr Howard announced the \$200 million global initiative to combat deforestation, especially in Indonesia, which the British Stern report into the impact of climate change identified as one of the greatest contributors to global warming.

It is expected that other regional countries will eventually become involved in the new emissions trading scheme, with the possibility of some European nations getting involved.

Gordon Brown, the British Chancellor and successor to Prime Minister Tony Blair, yesterday praised Australia's position on climate change and said he looked forward to working with Australia.

"Let me say I applaud what is being discussed in Australia at the moment," Mr Brown said in London.

Mr Brown said the key to climate change -- "and what has eluded us" -- is an agreement that all countries are prepared to sign, "America and China particularly".

The US and China are both founding members of the six-nation AP6 and will be in Sydney for the APEC meeting, along with Russia.

Mr Howard wrote to APEC leaders in March putting climate change on the agenda and aligning it with the AP6 philosophy of using technical transfer, such as clean coal technology, to limit greenhouse gas emissions without hurting developing economies.

APEC members are responsible for 60 per cent of the world's energy consumption. Demand for energy in the Asia-Pacific region is expected to double in 20years.

Although Mr Howard has never ruled out some kind of target for greenhouse emissions he has resisted pressure to nominate even a long-term figure.

Mr Howard is still not expected to produce a unilateral target and will insist any pricing mechanism and trading scheme does not damage the economy or put Australia at a trading disadvantage.

It also signals an end to the argument that Australia should wait until all countries are in a trading scheme.

The AP6 plan would mean that China, India and the US -- among the world's biggest polluters -- would be involved.

The Prime Minister's emissions trading taskforce is due to report on May 31 and is expected to back an emissions-trading scheme as the best way to put a price on carbon and thus reduce emissions.

But rather than recommend greenhouse emissions targets for 2015 and 2050, the taskforce is expected to produce a mechanism that would allow Australia and other countries to work out suitable targets.

## 6.5 Proposed Global Early Warning System for Monitoring Pandemics

### Origins of major human infectious diseases

Nathan D. Wolfe<sup>1</sup>, Claire Panosian Dunavan<sup>2</sup> & Jared Diamond<sup>3</sup>

*Nature* 447, 279-283 (17 May 2007) | doi:10.1038/nature05775; Received 8 September 2006;

Accepted 22 March 2007

<http://www.nature.com/nature/journal/v447/n7142/full/nature05775.html#abs> (by subscription only)

#### Abstract

Many of the major human infectious diseases, including some now confined to humans and absent from animals, are 'new' ones that arose only after the origins of agriculture. Where did they come from? Why are they overwhelmingly of Old World origins? Here we show that answers to these questions are different for tropical and temperate diseases; for instance, in the relative importance of domestic animals and wild primates as sources. We identify five intermediate stages through which a pathogen exclusively infecting animals may become transformed into a pathogen exclusively infecting humans. We propose an initiative to resolve disputed origins of major diseases, and a global early warning system to monitor pathogens infecting individuals exposed to wild animals.

## 6.6 Nanotechnology Safety Issues—Details

European Guide to Green Masters Programs Launched. The Institute of Nanotechnology has announced the official launch of the European Nanotechnology Masters Recognition Scheme, for 10:30 a.m., 20 June 2007, at the Congress Center, Düsseldorf, as part of EuroNanoforum 2007. The Scheme site, which can be visited at <http://www.nano.org.uk/nanomasters/>, offers online access to descriptions of nanotechnology-related master's degree programs throughout Europe. Source: Institute of Nanotechnology Nano Masters Course Directory

<http://www.nano.org.uk/nanomasters/>

Toxic Metals Carried into Cells by Nanoparticles. Scientists at the Swiss Federal Institute of Technology (ETH) Zurich and the Swiss Federal Laboratories for Materials Testing have discovered that metal oxide nanoparticles had up to 8 times the toxicity of the same metals in salt forms when brought into contact with lung epithelial cells. The explanation by one researcher is that "cell membranes provide a selective barrier against ions, preventing the dissolved metal salts from entering. Once a metal-containing nanoparticle has penetrated a cell, however, metal ions can leach from the particle and generate ROS [reactive oxygen species] in the cell interior". The degree of the toxicity is related to the specific metal being introduced.

Sources:

A nano Trojan horse

[http://pubs.acs.org/subscribe/journals/esthag-w/2007/apr/science/lt\\_nano.html](http://pubs.acs.org/subscribe/journals/esthag-w/2007/apr/science/lt_nano.html)

New Report Links Nanotechnology and Green Engineering. A new report, *Green Nanotechnology: It's Easier Than You Think*, from the Project on Emerging Nanotechnologies of the Woodrow Wilson International Center, discusses links between nanotechnology and

environmentally friendly development and production. It also presents recommendations for proactive federal policy measures to encourage such applications of nanotech.

Sources: Index to the report: <http://www.nanotechproject.org/archive>

Sources:

*Green Nanotechnology: It's Easier Than You Think*

<http://www.nanotechproject.org/116/4262007-green-nanotechnology-its-easier-than-you-think>

Nanotechnology Provides Green Path To Environmentally Sustainable Economy

[http://www.spacemart.com/reports/Nanotechnology\\_Provides\\_Green\\_Path\\_To\\_Environmentally\\_Sustainable\\_Economy\\_999.html](http://www.spacemart.com/reports/Nanotechnology_Provides_Green_Path_To_Environmentally_Sustainable_Economy_999.html)