

Bringing Health into the Climate Change Regime: The Opportunity for Copenhagen 2009 and Muskoka 2010

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Executive Summary

Global health governance, global climate governance and the connection between climate change and health have been rising on national and international governmental and scientific agendas in recent years. They are increasingly addressed by international organizations such as the United Nations, plurilateral summit institutions such as the Group of Eight (G8) major market democracies, non-governmental organizations (NGOs) in both the health and environmental spheres, and key national governments across the globe. As the connections between health and climate change become clearer and more compelling, however, attention from the UN’s leading climate change body —the United Nations Framework Convention on Climate Change (UNFCCC) — has virtually disappeared.

The UNFCCC recognized the direct health-climate connection at its start and robustly from 1999 to 2003. But the connection has disappeared from the Conference of the Parties (COP) and from the Meeting of the Conference of the Parties (MOP) since 2005. The UNFCCC has continued to acknowledge the key pathways that connect climate change to health, such as natural disasters, food, agriculture and nutrition, biodiversity and development. Moreover, other global governors, such as the G8 and the Major Economies Forum (MEF) (formerly known as the Major Economies Meeting [MEM]), along with regional organizations led by the Arctic Council and the Organisation for Economic Co-operation and Development (OECD) have dealt with the link. The World Health Organization (WHO) has recently become active, with Director-General Margaret Chan speaking on the issue, the 2008 World Health Assembly (WHA) choosing climate change as a theme, and the WHO mounting a workshop at the COP-14 in Poland in December 2008.

Several upcoming opportunities can be used to bring the health-climate connections to the central global governance agenda and the “beyond Kyoto” climate change regime — notably the COP-15 in Copenhagen at the end of 2009 and the G8 and the Group of Twenty (G20) summits in Canada in June 2010, as well as the G20 summit in Korea in November 2010. The combined consensus from the COP-MOP, scientific Intergovernmental Panel on Climate Change (IPCC) and plurilateral summits suggests that an agenda for inserting health into the key climate negotiations should focus on the loss of life as a result of natural disasters and inadequate public health, healthcare systems, medical practice, disease and disease control, with malaria taking pride of place. There is a premium, from the IPCC’s work and in the wake of the current global financial and economic crisis, on strategies that fuel economic growth and development while enhancing both climate and health. Such strategies should follow the three principles of health first, forging the finance and economic connection and leadership from the top.

On this basis the health community should seek to advance the climate agenda to achieve climate change objectives and better public health through mitigation, adaptation, finance, investment and technology. While the connections between climate and health are comprehensive and complex, it is important to begin strategically and selectively, emphasizing those connections that are clear to the scientific community, closely connected to current political agendas, and command consensus among key actors in the field. The WHO should mobilize the leadership and support of key national governments, from both the developed and emerging world, starting with the United States and China, followed by Japan, Britain, Italy, Canada and Norway. Also important are the well-established, well-financed, recognized and effective NGOs and public-private partnerships (PPPs), especially within the health community, that have begun to work on climate change. The new WHO-catalyzed, multi-stakeholder climate-health forum and the business community, notably the insurance industry, play important roles.

Collaboration among these components to create a strategy for forging the climate-health connection by injecting health considerations into the climate change community could unfold in five steps: restore the COP-MOP consensus, reinforce the consensus more broadly, bring the WHO into the climate negotiations, form alliances with other international organizations, and build the scientific case.

Introduction

It is increasingly clear that there is a close, compounding, complex climate-health connection (Steiner 2009; Sturchio 2009; Walpole, Rasanathan and Campbell-Lendrum 2009). In 2008 the World Health Organization (WHO) reported that “a warmer and more variable climate threatens to lead to higher levels of some air pollutants, increase transmission of diseases through unclean water and through contaminated food, to compromise agricultural production in some of the least developed countries (LDCs), and increase the hazards of extreme weather” (WHO 2008d). In 2009, *The Lancet* published a report that concluded that “climate is the biggest global health threat of the 21st century” (Costello et al. 2009). This challenge must be addressed for the benefit of both climate change control and global health. Within the United Nations system, the WHO and World Health Assembly (WHA) have recently highlighted the climate-health link (WHO 2008a, 2008b, 2008c, 2008d, 2008f; see also Appendix A). Within the UN’s environmental community, this call has been echoed by the United Nations Environmental Programme (UNEP), the Intergovernmental Panel on Climate Change (IPCC) (IPCC 2007a), UN secretary general Ban Ki-moon and the General Assembly itself (UN 2008).

In other key centres of global health and climate governance, the connection has been accepted and acted on as well. The Group of Eight (G8) major market democracies first recognized the link at its 1997 U.S.-hosted summit when it stated: “overwhelming scientific evidence links the buildup of greenhouse gases in the atmosphere to changes in the global climate system. If current trends continue into the next century, unacceptable impacts on human health and the global environment are likely” (G7 1997). More recently, at the July 2008 Japanese-hosted Major Economies Meeting (MEM) (which has since been renamed the Major Economies Forum [MEF]), the leaders stated: “Conscious of our leadership role in meeting such challenges, we, the leaders of the world’s major economies, both developed and developing, commit to combat climate change in accordance with our common but differentiated responsibilities and respective capabilities and confront the interlinked challenges of sustainable development, including energy and food security, and human health” (MEM 2008a).

At the regional level, the link has been recognized by the European Union Council, the Asia-Pacific Economic Cooperation (APEC) forum, the Asia-Pacific Partnership on Clean

Development and Climate (APP), the North American Free Trade Agreement (NAFTA) and the North American Leaders Summit (NALS), and the Arctic Council.

In the UN's Conference of the Parties (COP)/Meeting of the Conference of the Parties (MOP) process, however, the climate-health connection has disappeared, even at the latest installments at Bali in December 2007 and Poznan in December 2008. The compelling question for global health and climate governance is thus how can health be effectively brought into the central climate change negotiations to produce a regime that will improve global outcomes in both climate change and health.

The Climate-Health Connection at and beyond the UN

The COP-MOP Record and Prospects for Connecting Climate and Health

The Creation of the UNFCCC and the COP-MOP Process

The COP is the “supreme body” and highest decision-making authority of the UN's Framework Convention on Climate Change (UNFCCC). It is responsible for ensuring that efforts to tackle climate change stay on course. COPs review the implementation of the UNFCCC, examine the commitments made and explore new scientific findings and experience gained in implementing climate change policies. A key task is to review the national communications and emission inventories submitted by the parties. Based on this information, the COP assesses the effects of the measures taken by parties and the progress made in achieving the ultimate objective of the convention. The COP usually meets every year (UNFCCC “Essential Background” 2008).

In the early 1990s, the UNFCCC set an overall framework for the international community to tackle climate change. It was adopted on May 9, 1992, opened for signature in June 1992 and entered into force on March 21, 1994 (UNFCCC “Essential Background” 2008). The climate-health connection was there in this “constitutional” document from the start. Articles 1 and 4 declared, as the core connecting principle, that climate change caused “significant deleterious effects” for (public) health and that the signatories should “minimize adverse effects” on health. Also identified were climate-health pathways such as drought, food, agriculture, water, natural disasters and other social consequences (UNFCCC 1992; Smith and Martínez 2008; appendices B and C).

The COP-MOP Record through Poland 2008

From this strong start, however, recognition of the climate-health connection varied and has recently disappeared.

In Berlin, at the first session of the 1995 COP, there were only indirect references. The parties simply referenced the “adverse effects” of climate change (UNFCCC 1995). However, at the second session in Geneva in 1996, the direct connection returned. The “adverse effects” of climate change on human health were declared to be “potentially irreversible” (UNFCCC 1996).

At Kyoto in 1997, in arguably the most important document and agreement to come out of the UNFCCC to date, the Kyoto Protocol made no direct link. The protocol referred to adverse consequences on society and on agriculture, but not on health (UNFCCC 1998a, 1998b). In the UN's move from a general framework convention to a specific, action-oriented protocol, the health connection disappeared.

At Buenos Aires in 1998 the COP made only one, rather indirect but revealing link. Resolution 2 spoke of “the considerable loss of life and devastation caused by Hurricane Mitch in Honduras, Nicaragua, Guatemala, El Salvador, Belize, Costa Rica and Panama” (UNFCCC 1999). The shock of extreme weather events due to climate change pointed to natural disasters as the primary pathway through which climate change, in the form of such events, could destroy human life.

At Bonn in 1999 after a two-year absence, the direct climate-health connections returned in two ways. One concerned impacts on the least developed countries and the other regarding ozone-destroying chemicals for climate change. The concept of health and loss of human life (from 1998) was broadened to include “medial” impacts (UNFCCC 2000).

At the Hague in 2000 there were three direct health-climate references — the most ever and the first time that direct connections appeared for two years in a row. The link was made in one of the six decisions and two of the three resolutions, with several other indirect connections arising elsewhere (UNFCCC 2001). The trilogy of direct references brought the extreme weather link from the Americas to Africa. It endorsed adaptation and monitoring for health, and also referred to “diseases” and “disease control.” But it also put climate change and health as competitors for the resources flowing from debt relief. The finance and economic connection had intruded in an unhelpful way. Nonetheless, climate, health and the economy were brought together for the first time.

At Marrakesh in 2001 the parties again made three direct references to the link, now noted for an unprecedented third year in a row (UNFCCC 2002). Here they shifted to synergies, mobilized climate funds for health and added forecasting, early warning and prevention of disease to the general adaptation, monitoring and debt relief finance from before. A number of other indirect connections were made, including several references to working with other organizations, such as the Food and Agriculture Organization (FAO) and the bodies for biodiversity and desertification. But the WHO itself was left out.

At New Delhi in 2002 there were two direct links, now coming for the fourth year in a row (UNFCCC 2003). The COP called for integrated objectives, in an extension of the beneficial synergy. It added technology transfer as an instrument. Indirect references included the social implications and adverse impacts on water and agriculture.

At Milan in 2003 the health-climate connection, with two direct references, continued for a fifth year in a row (UNFCCC 2004). Yet no new elements were added to the evolving causal, action-oriented mix. Indirect references were again made to the adverse effects on agriculture, water and drought.

At Buenos Aires in 2004, at the 10th session, the direct link disappeared, as it had in Buenos Aires in 1998. The parties mentioned only the adverse effects on agriculture, water and disasters (UNFCCC 2005).

At Montreal in 2005 the silence continued at the COP. But the first MOP, of those who had ratified the Kyoto Protocol, made two direct references to health. Both brought afforestation and reforestation into the causal mix. There were also a number of indirect health-climate connections in the lengthy 36 article report. The FAO was referenced three times, with a focus on information sharing. Other organizations such as the International Energy Agency (IEA) were noted. Again, the WHO was not (UNFCCC 2006a, 2006b).

At Nairobi in 2006, in both the COP and MOP meetings, direct references disappeared. (UNFCCC 2007a, 2007b).

At Bali in 2007 the silence continued. There were only indirect references to the adverse effects and social consequences of climate change. Under the COP's Annex I, the passage on "Mechanisms for Technology Transfer" indicated that there should be collaboration with a number of organizations including the FAO, the IEA and the United Nations Development Programme (UNDP). This time the parties went further than they had in 2005. But again the WHO was left out (UNFCCC 2008a, 2008b).

At Poznan in 2008 there was no direct link, now for the fifth consecutive year for the COP and the third consecutive year for MOP. In the lead-up to the meeting, the provisional agendas and annotations noted only one indirect connection for COP-14 and MOP-4. There was a statement that the Subsidiary Body for Implementation (SBI) would "address other aspects of the implementation of decision 1/CP.10 relating to adverse impacts of climate change and to the impacts of response measures in accordance with the conclusions of the SBI at its twenty-eighth session" (UNFCCC 2009a). Even here, the "adverse impacts" were not a matter for the COP to take up, but one for the SBI. The COP-MOP processes instead focused more on the climate-economy connection, perhaps as a result of the financial and economic crisis now affecting the world. Ban Ki-moon made this topic the focus of his speech to the participants (Ban 2008). The COP-MOP decisions focused mostly on the creation of the new Adaptation Fund (UNFCCC 2008c).

One significant climate-health connection came at the experts' level. In March 2008 at the UNFCCC Experts Meeting in Trinidad, Hans-Martin Füssel made a presentation titled "Socioeconomic Information in Climate Impact, Vulnerability and Adaptation Assessment for Human Health." He drew clear links between climate change and health and noted that the research in this area was still very limited (Füssel 2008). This suggested that those involved in the UNFCCC were well aware of the scientific health-climate connection. The question remains why, in recent years, the health-climate connection has disappeared from the COP-MOP meetings.

From the UNFCCC's record, several conclusions arise. Most centrally, health was there from the beginning in the 1992. After a slow start, its relevance grew to a peak in 2003. But it then soon disappeared, as a half decade of silence came. Even at the peak of attention, the WHO was never recognized as a relevant international organization, even though several other UN bodies were. With regard to this particular pattern of COP-MOP attention, two potential causes stand out. First, attention has diminished and disappeared when the world has been afflicted by a global financial and ensuing economic crisis, which has diverted the attention of policymakers, as in 1994-45, 1997-98, and 2007-08. Second, and less strong, attention has faded when COP-MOP has been hosted by developing, emerging or transition countries, rather than by developed countries such as the Netherlands 2000 and G7 members Italy 2003 and Canada 2005, or in Geneva, where the headquarters of the WHO and other UN specialized and affiliated agencies are housed. Prospects are thus slightly more promising for the connection to be forged in Copenhagen in December 2009, as long as the urgency of the 2008-09 financial and economic crisis continues to fade.

Nonetheless, since 1992 the COP-MOP processes have generated a considerable body of direct climate-health "common law" to use as the foundation for a claim to put health back in, now along with its central guardian, the WHO (see Appendix D). It has identified climate change in general, and extreme weather events and ozone-affecting chemicals in particular, as the cause. It has identified the health effects as significant, deleterious, adverse and potentially irreversible. It has identified the impacts on health in general, and on public health, loss of life, medical practice,

disease and disease control in particular. It has identified developing countries, small island states, Central America and Africa as affected most. It has specified the principles and instruments for minimizing adverse effects as the expression of regret, adaptation, the monitoring of debt relief finance, climate funds, forecasting, early warning, prevention, the setting of integrative objectives, technology transfer, and afforestation and reforestation. It has also named the IPCC as the actor responsible for doing the work. As a coherent whole, this collection puts much more emphasis on the places that are most affected, rather than on the climate causes, connections, health effects or responsible actors. In the discourse familiar to environmentalists, it is an “end of pipe” approach.

Nonetheless, it forms a robust and action-oriented foundation on which to build. This consensus, as a comprehensive and cumulative whole, should be codified and reconfirmed at the Copenhagen COP-15, as a foundation for the new “beyond Kyoto” climate change regime. The WHO should be an equal partner in producing this codification, and an equal participant at COP-15. Initial additional efforts should concentrate on assessing how the specified instruments are and could be working for both climate and health, what other actors should be mobilized in this effort and what the impact of the scientific climate-health cause-connector is.

Prospects for Copenhagen 2009

At COP-13 in Bali, the parties launched negotiations to strengthen international action on climate change. These negotiations are set to conclude at the COP-15 in Copenhagen on November 30-December 11, 2009. But the prospects that the climate community, by itself, will restore the earlier climate-health connection here are very poor indeed.

In September 2009, Yvo de Boer, UNFCCC executive secretary, did not mention the health-climate connection with reference to the forthcoming COP. He did note that “given that climate change impacts can hinder and undo development progress, Copenhagen 2009 also needs to deliver on adaptation” (de Boer 2008). Without a direct connection it is unlikely that significant advances will be made by either the COP or the MOP. But because Copenhagen is set to serve as the key step in defining the beyond Kyoto regime, it is critical that the health-climate connection be made.

One promising result from Bali was the establishment of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention (AWG-LCA). The AWG-LCA provided a place for international organizations, states and non-state actors to issue papers and reports to the UNFCCC. Since then the WHO, the FAO, the International Labour Organization (ILO), the UN High Commissioner for Refugees (UNHCR), as well as many others, have put forth individual and collaborative reports. In 2009 the WHO issued a statement that welcomed the “opportunity to express suggestions in the framework of the work of the Ad Hoc Working Group on Long Term Cooperative Action (AWG-LCA) related to health issues” (UNFCCC 2009b). The AWG-LCA will present the outcomes of its work in Copenhagen.

The IPCC Consensus

The scientific case for forging the climate-health connection, and doing so fast and in full, is not in doubt. Indeed, the scientifically focused IPCC has done much more to recognize the climate-health connection than its politically oriented UN counterpart, the UNFCCC. In the scientific world, the comprehensive, complex, direct climate-health connection and the WHO’s relevance have been consistently clear and compelling.

The climate-health connection and the WHO as a relevant actor were identified as early as the

IPCC's Second Assessment Report in 1995 (IPCC 1995). Both were again included in the Third Assessment Report in 2001. More recently, the section on "Observed Effects of Climate Change" in the IPCC's "Climate Change 2007: Synthesis Report" noted that "effects of temperature increase have been documented with *medium confidence* in ... some aspects of human health, such as excess heat-related mortality in Europe, changes in infectious disease vectors in parts of Europe, and earlier onset of and increases in seasonal production of allergenic pollen in Northern Hemisphere high and mid-latitudes" (IPCC 2007a, 33). In the section on "Impacts of Future Climate Changes," there is a subsection on health that notes that:

- The health status of millions of people is projected to be affected through, for example, increases in malnutrition; increased deaths, diseases and injury due to extreme weather events; increased burden of diarrheal diseases; increased frequency of cardio-respiratory diseases due to higher concentrations of ground-level ozone in urban areas related to climate change; and the altered spatial distribution of some infectious diseases.
- Climate change is projected to bring some benefits in temperate areas, such as fewer deaths from cold exposure, and some mixed effects such as changes in range and transmission potential of malaria in Africa. Overall it is expected that benefits will be outweighed by the negative health effects of rising temperatures, especially in developing countries. Critically important will be factors that directly shape the health of populations such as education, health care, public health initiatives, and infrastructure and economic development (IPCC 2007a, 48).

Economic development came into the climate-health connection as well.

Other health-climate references in the IPCC report include region-specific concerns, adaptive capacities, broader environmental concerns, aggregate impacts and extreme weather events. A much more detailed analysis of the connection was put forward in the IPCC's Working Group II Report, "Impacts, Adaptation and Vulnerability." The executive summary of Chapter Eight, which was dedicated exclusively to health, notes 15 health-climate challenges (see also Appendix E).

In June 2008, the IPCC released its fourth technical paper on climate change and water. Section 4.3 noted that "human health, incorporating physical, social and psychological well-being, depends on an adequate supply of potable water and a safe environment. ... malnutrition and water scarcity may be the most important health consequences of climate change" (IPCC 2008, 68).

This integrated product was the result of an integrated process. Since 1990 the WHO has sat on the IPCC and published a series of reports on the health risks of climate change. Since 2000, the WHO has also worked with the World Meteorological Organization (WMO) and UNEP on these issues.

Other UN Institutions

Other UN institutions have also made the link. The FAO's 2008 report, "Food, Energy and Climate: A New Equation," focused on the close connection between food, energy and climate change, particularly how biofuels and bioenergies linked the three areas. The report also pointed to the connection between these issues and health, notably the close link to the spread of diseases, with a particular emphasis on avian influenza (FAO 2008a). In October 2008, the FAO joined with the WHO and the European Food and Safety Authority (EFSA) to produce a seminar on the health implications of climate change (FAO 2008b).

The World Trade Organization (WTO) has also made the link. In 2006, Pascal Lamy, director general, spoke to the Commission on Sustainable Development on the environmental dimensions of the Doha round. He stated: “Global warming has now become the most serious environmental challenge of the century. Our energy policies have also taken their toll on human health. This is not surprising since most people are obliged to continue to live in the environment they pollute. Many of the world’s biggest cities are now suffering from serious air pollution due to transportation and industrial development. High levels of lead in the human bloodstream is only one of many consequences” (Lamy 2006). Again, at the WTO Public Forum in October 2007, the connection was prevalent. In session eight, “Natural Resources, Sustainable Development and Trade Rules — New Instruments to Promote Sustainable Development through Trade Agreements” one of the main questions was: “How international desertification and climate change problems, international forestry practices, and domestic mining health and safety laws influence the current Doha Development Agenda” (WTO 2007).

United Nations Summits

At the highest summit level, the UN has also recognized the climate-health connection, if not in any prominent, reliable or sustained way. The 2000 Millennium Summit’s main declaration made no direct link. It did, however, highlight the importance of tackling both environmental and health challenges (United Nations 2000).

The report of the 2002 World Summit on Sustainable Development (WSSD) did forge the link. It noted:

The global environment continues to suffer. Loss of biodiversity continues, fish stocks continue to be depleted, desertification claims more and more fertile land, the adverse effects of climate change are already evident, natural disasters are more frequent and more devastating, and developing countries more vulnerable, and air, water and marine pollution continue to rob millions of a decent life ...

Change in the Earth’s climate and its adverse effects are a common concern of humankind. We remain deeply concerned that all countries, particularly developing countries, including the least developed countries and small island developing States, face increased risks of negative impacts of climate change and recognize that, in this context, the problems of poverty, land degradation, access to water and food and human health remain at the centre of global attention (UN 2002, 3, 28).

Many broader health-environment connections in the report focused on environmental impacts, particularly on the high prevalence of debilitating diseases, health gains for the whole population, the causes of ill health (including environmental causes), women and children, vulnerable groups, people with disabilities, elderly persons and indigenous people (UN 2002).

The WHO was represented at the WSSD by the director general, who made a speech. The 16 other intergovernmental organizations included the Commonwealth Secretariat, the Council of Europe and the Nordic Council. Non-governmental organizations (NGOs), such as the International Committee of the Red Cross, also attended.

The 2005 World Summit made no direct health-climate change connections in its final documents. However, it did tie the two areas together through another common channel—biodiversity. The report stated that the loss of biodiversity was “worrying in its own right” and

“severely undermines health, livelihoods, food production and clean water, and increases the vulnerability of populations to natural disasters and climate change” (United Nations 2005, 19). Thus, while it did not directly connect health and climate change, it did highlight the axis in another important way.

Gaps and Opportunities

The scientific IPCC, the political COP-MOP, other UN functional organizations and the UN at the summit level have all repeatedly recognized the direct connection between climate change and health. The first two have now recognized the role that the WHO can and should play. However, the disappearance of the direct link from the COP-MOP processes in recent years — particularly in 2008, after the AWG-LCA was established — indicates that there is still much work to be done if health is to be included in a new climate change control regime defined in December 2009.

The Performance and Prospects of Plurilateral Institutions

Plurilateral informal institutions such as the G8, MEM/MEF and regional bodies such as the EU, NAFTA/NALS, APEC, the APP and the Arctic Council have helped to restore and reinforce recognition of the direct climate-health connection, reinsert it into the COP-MOP and make it a core element of the future global climate change regime. The record suggests they have already done much, and have a critical role to play in the coming years, with the G8 and its partners in the lead (see Appendix F).

G8

In 1997, when the Kyoto Protocol was concluded with no attention to the climate-health connection, at the Denver Summit the G7/8 made the link for the first time. The leaders declared:

Overwhelming scientific evidence links the build-up of greenhouse gasses in the atmosphere to changes in the global climate system. If current trends continue into the next century, unacceptable impacts on human health and the global environment are likely. Reversing these trends will require a sustained global effort over several decades, with the involvement of all our citizens, and changes in our patterns of consumption and production (G8 1997).

The leaders thus declared that climate change was a problem, one that affected human health, did so in unacceptable negative ways and required sustained, strategic, long-term action involving everyone, starting right away. The COP coming a few months later did not comply with the call, perhaps because human health was seen as a luxurious concern only of rich countries.

After an absence of several years, during which the COP’s attention to the connection flourished and the G8 was free to focus on other pressing things, the G8 returned to the connection in 2003, just as the COP’s emphasis and innovation began to wane. In “Science and Technology for Sustainable Development: A G8 Action Plan” released at the 2003 Evian Summit, the G8 stated that “we recognise the need, as acknowledged in the World Summit on Sustainable Development (WSSD) Plan of Implementation, to support the development of cleaner, sustainable and more efficient technologies. Co-operative scientific research on transformational technologies offers potential to improve public health by cutting pollution and reduce greenhouse emissions to address the challenge of global climate change” (G8 2003). Like the COP in 2002, the G8 recognized the importance of the WSSD as well as the importance of reducing greenhouse gas emissions in order to limit the impacts on human health. Here the G8 complied with the

commitment made by the UN, at the summit level, for co-operative research on transformational technologies to improve health.

The climate-health connection, missing from 2004 Sea Island Summit, came back at the Gleneagles Summit the following year. Climate change and African development were the priority themes. In “Climate Change, Clean Energy and Sustainable Development” the leaders declared, “We face serious and linked challenges in tackling climate change, promoting clean energy and achieving sustainable development globally. ... Reducing pollution protects public health and ecosystems. This is particularly true in the developing world. There is a need to improve air and water quality in order to alleviate suffering from respiratory disease, reduce public health costs and prolong lives” (G8 2005a). The G8 went further than in past years to identify the specific impacts on respiratory disease and healthcare costs. In doing so it forged for its first time the trilateral climate-health-economy link.

The climate-health connection also appeared in the “Gleneagles Plan of Action: Climate Change, Clean Energy and Sustainable Development,” under the subheading “Transforming the Way We Use Energy.” The leaders said that “improvements to energy efficiency have benefits for economic growth and the environment, as well as co-benefits such as reducing greenhouse gas emissions, preventing pollution, alleviating poverty, improving security of energy supply, competitiveness and improving health and employment” (G8 2005b). Under the subheading “Managing the Impact of Climate Change,” the leaders stated that “all countries need further access to information and to develop the scientific capacity that will allow their governments to integrate climate, environmental, health, economic and social factors into development planning and resilience strategies.” The G8 thus endorsed the co-benefits that would arise from an integrated, preventive, scientifically based health-climate strategy.

The climate-health connection was missing from Russia’s first-ever hosted summit in 2006, even though energy and health, along with education, were priority themes. But at the 2007 Heiligendamm Summit, where climate change was the central focus, the statement on “Growth and Responsibility in Africa” stated that the G8 “will focus on promoting growth and investments in order to combat poverty and hunger, to foster peace and security, good governance and the strengthening of health systems, and to assist the fight against infectious diseases. We also recognize that the impacts of climate change in combination with other stresses present increased risks to sustainable development in Africa” (G8 2007). Here the climate-health-economy connection was regionally based, with a focus on the impacts in Africa.

At the 2008 Hokkaido-Toyako summit in Japan, the leaders made the climate-health connection more directly, both in their own communiqué and in the broader MEM meeting within the G8 framework. Under the heading “Water and Sanitation” in the document on development and Africa, the G8 leaders declared that

We will promote integrated water resource management and the concept of “Good Water Governance,” with a particular focus on Sub-Saharan Africa and Asia-Pacific, by taking necessary actions such as strengthening of trans-boundary basin organizations, sharing of water-related expertise and technology with developing countries, support for capacity building for water-related initiatives, promotion of data collection and utilization, and adaption to climate change. We also acknowledge that ensuring adequate water supplies for human, industrial and environmental uses while minimizing the impacts of extreme hydrological variability are critical to protecting human health, promoting sustainable economic growth, and ensuring peace and security (G8 2008).

In the MEM statement the leaders stated, “Conscious of our leadership role in meeting such challenges, we, the leaders of the world’s major economies, both developed and developing, commit to combat climate change in accordance with our common but differentiated responsibilities and respective capabilities and confront the interlinked challenges of sustainable development, including energy and food security and human health” (MEM 2008a). Climate, health, the economy and security were now combined in an interlinked whole.

At the 2009 L’Aquila Summit in Italy, the climate-health connection arose again, again with the economy but without security. The leaders stated:

We are deeply concerned about the consequences of climate change on development, ecosystem services, water and food security, agricultural output, forests, health and sanitation, particularly for LDCs and SIDS [small island developing states], but also for the poor and most vulnerable in all countries. ... We will address these issues in a spirit of partnership between developed and developing countries and confirm our commitment to effectively address adaptation in the Copenhagen agreement (G8 2009).

Thus in sharp contrast to the COP-MOP, the G8 has given increasing attention to the direct health-climate connection, especially during the most recent years when it has disappeared from the COP-MOP. That attention has been strongest when the summit has had climate change as a priority issue, as in 1997, 2003, 2005, 2007, 2008 and 2009, as opposed to 2004 or 2006. It has also been strongest when the summit and its host have been closely connected to Africa and thus to the acute health challenges there (Cooper, Kirton and Schrecker 2007). The one time that health was a priority theme (in 2006) the connection disappeared. It is thus promising that the summit that will be hosted by Canada on June 25-27, 2010, has had climate change among the themes in Prime Minister Stephen Harper’s first announcement of his priorities for the agenda and that Canada is a member of both the Commonwealth and La Francophonie, where the membership consists mostly of African states. By June 2009, Harper added development to his already declared themes, which included the economy and security (Harper 2009a). There thus appears to be a clear place for the climate-health link to be forged.

MEM/MEF

The MEM/MEF was an American initiative created in mid 2007 to advance the talks on climate change and to prepare for the December 2009 UNFCCC’s Copenhagen conference. It is a forum for political discussion that gathers 16 countries, accounting for 80 percent of global carbon dioxide emissions.

In the first two MEM meetings, hosted by the U.S., no health-climate connection was evident in the documents available (MEM 2007, 2008b). However, when France took over as host for the third meeting in April 2008, Nicolas Sarkozy noted the health-climate connection in his speech: “The situation is urgent, since climate change already poses a major security challenge. ... We must without delay take the full measure of the vital problems faced by the countries of the South, where there is increasing demand for food but shrinking food supply and worsening health conditions” (Sarkozy 2008). The climate-health-security combination, for the South, thus arose.

At the first meeting of the MEM at the leaders’ level, as part of the G8 summit in 2008, the climate-health connection came through more directly and definitively. It now came from all 16 members, from both North and South, in their communiqué (MEM 2008a; Appendix G).

The MEF (the name changed when Barack Obama took office in 2009) met again at the leaders' level as part of the G8 L'Aquila Summit in 2009. This time there was no health-climate connection. Instead, the task was assumed by the G8.

European Union

The European Council has recurrently made the climate-health connection in general terms. According to the 2001 Presidency Conclusions, "building on the Commission communication on sustainable development, the 6th Environmental Action Programme and the sector strategies for environmental integration, the European Council has, as a first step, singled out a number of objectives and measures as general guidance for future policy development in four priority areas: climate change, transport, public health and natural resources, thus complementing decisions on social and economic issues taken by the European Council in Stockholm" (European Council 2001). Here climate change and public health were grouped together in parallel, rather than with linear causality, under the social and economic issues heading. The council has made this more general environment-health connection every year since 1997, with the exception of 2004 and 2007. Often the two issues meet under the comprehensive framework of sustainable development or the European Investment Bank (see Appendix H). The European Council and its members, including Denmark, which will host the COP-MOP in December 2009, could thus be a useful ally and agent in getting the health-climate connection in. But they are unlikely to take the lead.

NAFTA/NALS

Since 2005 the leaders of Canada, Mexico and the United States have met annually at the North American Leaders Summit. While they have not made the specific health-climate connection, they have made the broader environment-health link (see Appendix I; Kirton and Guebert 2010). Through the North American Commission for Environmental Cooperation (CEC), created in 1994, these countries at the ministerial level have dealt with such issues in parallel for a longer time, under American Democratic and Republican administrations alike. While they have not directly taken up climate change, they have achieved notable successes on issues such as the sound management of chemicals to protect the health of vulnerable populations in the Arctic (Kirton 2007). The CEC's agenda on children's health was pioneered by Carol Brown, administrator of the U.S. Environmental Protection Agency, who returned as the new White House coordinator for climate change and energy in the Obama administration (Kirton 2008/09). The U.S., together with Canada and Mexico, could thus be looked to for leadership in forging the climate-health connection in North America and in a global regime.

APEC/APP

Across the Pacific, APEC, created at the ministerial level in 1989 and at the summit level in 1993, has yet to make the specific climate-health connection, although it has also made the more general environment-health one. In 1997, under the heading "A Vision for the 21st Century," the members declared that the "rapid growth of urban centres poses daunting challenges such as bottlenecks, supply constraints, as well as health and environmental concerns. Governments must strive to ensure adequate access to infrastructure for people in all walks of life, urban or rural. Capacity building through economic and technical cooperation is essential to ensure the ability of all economies to address these critical challenges" (APEC 1997).

The APP, created to focus on climate change and clean energy, has also not made the climate-health link. However, it is still young, only having had its first meeting in 2006, its second in 2007 and its third in October 2009. It does include the critical carbon-producing powers of China, the United States, Japan and India, along with Canada, which joined in 2008.

Arctic Council

Around the Arctic Circle, where the climate change challenge is acute, stands the Arctic Council. Unlike the other regional institutions, it has recognized the climate-health connection from its start, through its focus on atmospheric contaminants. In its 1997 Alta declaration the Council “endorse[d] continuation of activities for monitoring, data collection, exchange of data on the impacts, and assessment of the effects of contaminants and their pathways, increased Ultraviolet-B (UV-B) radiation due to stratospheric ozone depletion, and climate change on Arctic ecosystems. Special emphasis is required on human health impacts and the effects of multiple stressors” (Arctic Council 1997).

In 2006, at its ministerial meeting, the council declared that it “accept[ed] with appreciation the Assessment report on Acidifying Pollutants, Arctic Haze and Acidification in the Arctic (AAHA), highlighting that further improvement and recovery can be expected for Arctic ecosystems, that significant health effects of acidic emissions are not seen in the Kola Peninsula, and that future assessments should review acidification in the wider context of air pollution and climate change” (Arctic Council 2006). It also encouraged Arctic Monitoring and Assessment Programme “to continue its ongoing contaminants monitoring and assessment activities, including long-term temporal trend monitoring, and monitoring of spatial trends, human health, and biological effects of contaminants in the Arctic, with a special emphasis on the collection of information on new contaminants, assessment of the combined affects on climate (and UV) and contaminants, emerging issues, and providing improved information on sources of contaminants” (Arctic Council 2006).

Every year since the start of the Arctic Council in 1996, the health-environment connection has been referred to either directly or indirectly. The council contains in a compact club the key carbon-producing powers of the United States, Russia and Canada, and clean energy and global health pioneers such as Norway. It met on April 28-29, 2009, in Tromsø, Norway, in the critical lead-up to the G8 in Italy in July and the COP-MOP in Copenhagen in December 2009. Host Norway, supported by America and Canada, led the Arctic Council in highlighting the climate-health connection once again. On April 28, at a meeting co-hosted by Al Gore and Norway’s foreign minister Jonas Støre, the climate-health link was clearly drawn. The chair’s summary stated: “There is also a need to consider actions that will make an impact on ice melting in the near future, in particular measures to effectively address short-lived climate pollutants, such as black carbon, methane and tropospheric ozone. ... In addition, some of these pollutants cause great harm to human health, for instance indoor pollution leading to respiratory illnesses, warranting responses for these reasons alone” (Arctic Council 2009a). The following day when the Council released its final declaration, the link was highlighted again. The ministers noted “the human health impact from transboundary pollution” (Arctic Council 2009b).

At its sixth meeting, the Arctic Council also highlighted the need to reach an adequate agreement at the COP-15 in Copenhagen in December. With Denmark now chair of both the Arctic Council and host of the December COP, this regional body might be able to use its influence to move the climate-health connection to the global level.

Organisation for Economic Co-operation and Development

Other plurilateral international institutions of global reach are helping forge the link. The Organisation for Economic Co-operation and Development (OECD) has long identified the need for countries to work together on global challenges. In 2006 at the meeting of its Development Assistance Committee (DAC) and Environment Policy Committee (EPOC), the participating ministers concluded that “global environmental challenges, such as climate change, biodiversity

loss, and desertification, have important implications for the achievement of many development objectives: poverty alleviation, enhances access to primary education, gender equity, reduced child mortality, improved maternal health, and the eradication of many diseases are closely linked to a healthy environment” (OECD 2006). More recently, secretary general Angel Gurría has remarked that “climate change is the defining issue of our era. Our health, our security and our economies are being threatened by climate change. Although uncertain, the damage is likely to be unevenly distributed, with poorer economies and households incurring greater losses” (Gurría 2008). The OECD has thus brought the quadrumvirate of climate, health, the economy and security together at the highest level in doctrine terms.

In October 2009, the OECD reported on the connection between health and other major challenges, including climate change, the economy and food security. On the climate-health connection, it stated:

Climate change, which manifests itself in more frequent droughts and higher temperatures, has adverse effects on health, too. Not only are infectious diseases spread more easily, accounting for roughly 15 million deaths annually, but the quantity and quality of drinking water and food stocks are also threatened. Doctors across the globe agree that action to promote health must go well beyond healthcare. The conditions in which people are born, grow, live, work and age, and the factors that influence those conditions — power, money and resources, or the lack thereof — must also be addressed. So must the scourge of war and the displacement of populations — ideal environments for the spread of disease — that usually accompanies war. It is evident from these considerations that what is good for the climate is good for health (OECD 2009).

Thus the OECD has highlighted the need for health advocates to look beyond their traditional area to attain positive health outcomes. Health could benefit from supporting and advocating for the climate change agenda.

Group of Twenty

Another potentially useful body is the G20 finance ministers and central bank governors from systemically significant countries, who have met annually each fall since 1999. Recently the forum has dealt with climate change, and earlier touched on health. The G20 leaders met for the first time in Washington DC on November 14-15, 2008, where they said they “remain committed to addressing other critical challenges such as energy security and climate change, food security, the rule of law, and the fight against terrorism, poverty and disease” (G20 2008). In 2009, at the second summit held in London on April 1-2 and the third summit held in Pittsburgh on September 24-25, no climate-health connection was made. The G20 will be hosted in 2010 by South Korea, the newest member of its rotating multi-year governing troika, and Canada, as the 2010 chair of the G8. The G20 is particularly relevant as a club of equal established and emerging countries that can forge the climate-health connection amidst the financial and economic crisis now afflicting the world (Kirton and Koch 2008, 2009a, 2009b; Horton 2009).

This analysis suggests that, apart from the Arctic Council, regional bodies are not positioned well to help push health into the COP-MOP. But the global summit-level plurilateral bodies of the G8 and MEM/MEF are, with support from the OECD and the G20. An OECD work program on the climate-health connection could advance the cause while direct G8/MEF/G20 summit intervention is required for rapid results.

Injecting the Central Health-Climate Connections

The Critical Connections

There are numerous critical climate-health intersections, both direct and indirect, that are rising in number and intensity in the physical world (Haines, McMichael and Epstein 2000). However, amidst this evolving science, a selective, strategic, diplomatically sensitive approach is useful at the start in the political world.

Here, one should first look at what climate-health connections have been made most prominently and repeatedly by key institutions in the past. The first such example is the UNFCCC COP-MOP, where the health-climate connection has been since the start, has grown in a robust way and is the key target for action in 2009 (see appendices B and C). The initial task is to get this cumulative consensus restored, by focusing on the connections already accepted there. These include minimizing impacts on public health and loss of life and improving medical practice, disease and disease control as well as the impacts on developing countries, SIDS, Central America and LDCs, through adaptation, monitoring, debt relief finance, climate funds, forecasting, early warning, prevention, integrated objectives, technology transfer, and afforestation and reforestation.

Second, climate-health intersections that should also receive attention are those that link closely to non-climate, environmentally related areas that have already been a focus of the COP-MOP, such as natural disasters, and food and agriculture. John Holmes, the UN's under secretary general for humanitarian affairs and emergency relief co-ordinator, has emphasized that "climate change will be the main driver. Nine out of every ten disasters are now climate-related. Recorded disasters have doubled in number from 200 a year to more than 400 over the past two decades. In 2007 my office ... issued an unprecedented 15 funding appeals for sudden natural disasters, five more than the previous annual record; all but one resulted from climatic events" (Holmes 2008, 110).

Third, the intersections identified with higher degrees of confidence among the scientific community should be noted. The IPCC's 2007 Working Group II Report notes three climate-health links that have "very high confidence" and eight that have "high confidence" (see Appendix E) (IPCC 2007b). The very-high confidence trilogy consists of disease, malaria and the inability of economic development to allow countries to adapt. These should be highlighted when moving forward.

Fourth, those intersections highlighted at the summit level by the global institutions of the G8, MEF and now G20 should be given pride of place. They are backed by the predominant power of the countries that count, across the North-South development divide. These intersections include public health, health care systems, and respiratory and infectious disease.

The combined list of intersections suggests that there should be a focus on loss of life through natural disasters and inadequate public health, healthcare systems, medical practice, disease and disease control, with malaria taking pride of place (UNFCCC 2008d).

The Likely COP-MOP Connections

Even those critical intersections that rank most highly on the list and those that have been most recognized and repeatedly reaffirmed by COP-MOP during the past decade and a half are unlikely to emerge naturally at COP-15 in Copenhagen. They have disappeared from COP-MOP attention for the last three years, even as the scientific and outside policy attention to the

connection has proliferated. Moreover, during the year leading up to Copenhagen, they faced severe pressures for being crowded out by the financial and global crisis afflicting the world and likely to be a policy preoccupation at least another year.

The crisis threatens to distract attention from the environment to the economy, replace the former with the latter as the subject for swift action and shift government spending priorities from relevant investments to traditional social programs implemented in traditional ways. It further constrains the large-scale and venture capital needed for climate mitigation measures such as clean energy investments and technology, and makes all wary of the increasing costs that stronger renewable energy standards or cap-and-trade systems would bring. Moreover, when energy prices plummeted, Americans and others started to drive more, even as no new technological substitute for reliable fossil fuel base-load energy emerged to compete with abundant and cheap coal in key countries such as the U.S., China and India. Indeed, coal is leading the current historic re-carbonization of the world's energy supply, despite its severe, clear and long-known costs to both climate and health. The sense that strong government action on climate change is inevitable and immediate, and thus that industry should act now on its own, is slipping away. In several consequential counties, including America, direct government financial support for struggling automotive firms comes with no major climate control or health conditions attached. At COP-14 several countries had already begun to back off their earlier enthusiasm, as environment ministers found it more difficult to convince their finance colleagues to move.

Yet a strong alternative logic can prevail with the proper advocates and arguments. The financial shock creates a stronger awareness of how everyone is vulnerable to the complex, uncertain, unintended consequences of actions by non-state actors and of the resulting need to act early at low cost against cumulative risks that could burst with much more devastation later on. Federal government stimulus, now back in fashion in many leading countries led by the U.S., Britain, Japan and China, can create a firm foundation for investment that simultaneously promotes climate and health goals. Government stimulus directed at social spending could be targeted in part on new programs that achieve both climate and health objectives. The economic slowdown is producing fewer emissions from factories and power plants, and thus temporarily lessening climate, pollution and related health costs. The recession makes firms more willing to cut waste, increase efficiency and seek strategies that simultaneously enhance several goals. It remains for political leadership, mobilizing the available, credible science, to build on this current short-term window of opportunity to set the new course and convince a concerned electorate that there is a better path.

The Critical Missing Connections

Injecting the critical missing links into this context requires immediate, well-targeted, strategic action from several actors in the intergovernmental, governmental, NGO, business and research fields. Three elements are critical to this strategy: health first, the finance and economic connection, and leadership from the top.

Health First

The "health first" component flows from the greater strength and effectiveness of those in the health field, relative to those in the environment/climate field, in mobilizing government action. The health field is older and more established; it enjoys much greater scientific certainty and credibility and has a more immediate connection to individual human life, from G8 leaders down to their mass voters alike (Costello et al. 2009; Kirton 2008/09, 2009; WHO and Health Without Harm 2009). It is thus able to move leaders and mass public opinion on climate change, where a range of other environmental and economic arguments do not.

A 2001 GlobeScan poll of 30 countries asking which impacts of climate change concerned respondents personally (if any) found that human health was the single most frequent response (at 32 percent), followed, after a great gap, by droughts and water shortages (17 percent), species loss (15 percent), extreme weather (13 percent), economic costs (6 percent) and sea level rise (4 percent) (Leiserowitz 2007). Respondents in developing countries, including Indonesia, China and India, along with Russia and Japan were more concerned about human health impacts than those in developed ones. Thus a health-first strategy of forging the climate-health connection promises to mobilize citizens in those countries that have been most reluctant to control their carbon at home.

A 2005 GlobeScan poll of 22 countries asking about the most important problem facing the world at that moment found HIV/AIDS and health ranked ninth, while climate change ranked 18th. A 2005 poll in the U.S. found that health care ranked third, while global warming came tenth out of ten. Not surprisingly, during the 2008 presidential campaign in the U.S. neither candidate featured climate in campaign speeches or debates, even though both agreed that much more should be done. And during the eight years under George Bush's administration, there was striking bipartisan American leadership on global health, but little on climate change (Holbrooke 2007).

This health-first balance is also seen at the intergovernmental organizational level. Here the WHO is much more established than the small, separated set of institutions dealing with climate change. The same is true in national governments, where health ministries are older, more equipped and more prestigious than environmental ones. It is also the case in the world of public-private partnerships (PPPs) and foundations, led by the historic Rockefeller Foundation and contemporary Bill and Melinda Gates Foundation's investments in global health.

The Finance and Economic Connection

The second "economic link" component reflects the current reality that the global financial and economic crisis will likely remain the dominant policy preoccupation of governors and citizens for the next few years. It is no longer a division between developing countries putting economic growth first while the already developed countries choose the environment and health instead. Both are increasing united over the conviction that economic growth comes first. To take advantage of this new unity, it is desirable to focus on those consensus-oriented international forums where developed and developing countries are relatively equal in number and status, and where the case can be effectively made that acting on the climate-health connection helps the economy too. The climate-health-economy trilogy needs to be emphasized now (Sturchio 2009).

Leadership from the Top

The third component, leadership from the top, reflects the fact that leaders alone can authoritatively forge the connection between climate change and health, and do so in the context of today's predominant concern with the economy. This is true at the national level, where leaders with present priorities on, or previous experience in climate, health or both, or who have recently arrived in office promising new directions, are well positioned to take the lead. It is also true at the international level, where meetings of national leaders of consequential countries have become far more frequent in recent decades. The UN system, however, still operates as a separated, single silo system, where climate, health, finance and development are each governed by different functional organizations, led only at the ministerial level by the relevant portfolio minister from the member states. While their respective international organization secretariats increasingly engage in lateral co-ordination, their ministers seldom do. Nor is there any

ministerial body responsible for co-ordination, even though the Security Council and the International Monetary Fund (IMF) and World Bank are more powerful than the others, as the foreign and finance ministers who govern them tend also to be back home.

At the UN, summits of national leaders have become far more frequent since the children's summit start in 1990. But these remain subject or theme-specific gatherings and do not take place on a reliable or regular basis. Moreover, the most recent ones relevant to the climate-health connection — the WSSD in 2002, the Millennium Summit in 2000 and the World Summit in 2005 — have done little in this regard. The next available opportunity — the Millennium Development Summit in 2015 — will likely be too late to forge the link in time (UNFCCC 2008d). While action within the UN system remains essential, it is also important to look outside to leaders-level institutions meeting annually to cover climate, health, finance and economics, to provide a catalytic thrust. Here, the most promising are the annual G8 summit (with its invited additional participants including the Group of Five [G5] countries of Brazil, China, India, Mexico and South Africa, as well as African leaders), the MEF and the new, now institutionalized G20 summit. All embrace developed and developing countries alike. At the ministerial level, the OECD and the Arctic Council serve as the most promising prospects.

Future Possibilities

The G8 will meet in Canada on June 25-27, 2010. The summit will deal with both climate change and health to some degree, with climate change already identified as one of the priority themes (Harper 2009a, 2009b). Moreover, G8 leaders could be joined by the MEF for the climate change discussion, by the G5 for a broader agenda, and by heads of several international organizations as well. The summit will receive a report from the extended Heiligendamm-L'Aquila Process (HAP) of structured official-level dialogue between the G8 and G5 on the designated topics of clean energy and climate change, development, investment and intellectual property and newer ones (Kirton 2008). It will also receive accountability reports on G8 members' compliance with their commitments, building on the four pilot reports issued in 2009 (G8 2009).

The G8 summit will be accompanied by a G20 one as well, joined as much as possible in time and place, and agenda and action too. A stand-alone G20 summit will follow, in South Korea in November 2010 (see Appendix J).

Health's Contribution to the Climate Change Regime

Given these international institutional opportunities, health and health actors can work strategically to best advance the climate agenda in its vision, mitigation, adaptation, reduction targets and timetables, sectoral actions, finance, investment and technology, to achieve better climate change and public health outcomes.

The Critical Connections

Although the connections between climate and health are comprehensive and complex, it is important to begin strategically and selectively, by emphasizing those that are clear, close and already command the consensus of the key actors in the field.

Vision: Killer Climate Shocks

The construction of an overall vision requires assembling and promoting the cumulative consensus of the COP-MOP starting in 1992. To this foundation can be incrementally added additional components identified by the G8 and other consequential intergovernmental

organizations and actors. Consequently, the evolving science as approved and articulated by the IPCC can enrich the vision in a more complex and comprehensive way.

This three-stage strategy should start in stage one, as the COP-MOP cadence did, with the comprehensible shocks that command attention and arouse political action. In health parlance, the acute outbreak events rather than the chronic climate problems should come first. The message should thus concentrate on surprising visible events concentrated in time and space, notably the extreme weather events of hurricanes, tsunamis, forest fires, deforestation, heat waves, droughts and oil tanker spills that come from carbon-producing activities, but that directly cause human deaths. Here the emphasis is on immediate gains in health, with longer term, less visible gains from climate change.

The ultimate anchor for this shock-first vision should be preventing through timely low-cost action those climate change impacts that create the greatest burden of disease and death. A major research effort should be mounted as a priority to systematically identify what these are.

Mitigation: Coal, Forest Fires, Energy

This “shock first” strategy can also be used to identify the mitigation links. Yet here the emphasis shifts from how carbon harms health to how both climate change and health lose from concentrated activities that can readily be reduced. One starting point is the need to reduce the use of coal, which clearly causes global warming and harms human health all along its life cycle, from deaths in mining accidents and black lung disease, through to mercury emissions and ambient air emissions from sulphur dioxide when coal is burned. A second such activity is forest fires, from Indonesia and Malaysia in Asia, Greece, Spain and France in Europe, and Canada and the United States in North America. Here the initial focus should be those where the climate and health losses are clear and severe in both the developed North and emerging South.

More broadly, mitigation depends centrally, on the supply side, on energy, whose component sources have well-established climate and health effects. A systematic study should be undertaken to identify where both the climate and health benefits are greatest, on a full life cycle basis, across all energy sources, from wood, peat and coal, through oil and gas in various forms, to nuclear, hydroelectricity, wind, geothermal, solar and tidal. The results would help guide efforts in finance, investment and technology.

Here the case of coal again stands out. Its double cost to climate (through heavy carbon emissions) and health (through mercury emissions and smog, causing sulphur dioxide emissions, which cause acid rain) are the most established, direct and easily understood. It will be important to affirm an alternative logic as the current economic crisis threatens to drive many back toward cheap and abundant but “dirty killer” coal.

Adaptation: Malaria and West Nile Virus

In the realm of adaptation, emphasis should shift to the way in which greater health action can help the climate community, even as the latter helps with health. A premium should be placed on well-known deadly diseases that gradual global warming is bringing further north, such as malaria and West Nile virus. Here anti-malarial activity in the southern homeland can help prevent the spread to the north. In highlighting the climate-malaria connection, former British prime minister Tony Blair could serve as a credible “celebrity” champion for the cause.

A second category of “adaptation at source” is where the pathway is more diffuse, as with the long-range transport of air pollutants through the atmosphere on an interregional scale. Coal burning and forest fires could be included.

A third category of adaptation efforts are those that directly cause death in large volume. Drought, desertification, natural disasters, famine and water contamination are at the core here. There is also the new and growing challenge of “climate refugees” (including those who bring diseases with them) and the expensive development and humanitarian efforts that they could pose.

Finance: Mutual Assessment, the International Monetary Fund, the Financial Stability Board and the Insurance Industry

In the realm of finance, the task is to mobilize the established international financial institutions (IFIs), national governments now engaged in fiscal stimulus, NGOs, and professionals and businesses to finance activities that simultaneously enhance climate change control and health. One priority is to get the climate institutions to systematically identify and assess ex ante the health impacts of their programs and proposals and then use the results as criteria in the funding that is allocated. The converse is true for the health organizations, starting with the WHO. Another priority is to have the major IFIs, above all the IMF and Financial Stability Board (FSB) but also the World Bank and regional development banks, categorically identify the climate and health impacts of their activities and privilege those activities where the climate-health co-benefits are most pronounced. Stopping subsidies for the coal-based system (from production through transportation to use) is an obvious case, as are financing healthy and clean energy alternatives and reducing energy subsidies, as the G20 Pittsburgh Summit in September 2009 agreed to do. By way of background science, a new “Stern report” could be commissioned to focus on the costs and savings from the climate-health link and thus support a stronger economic case.

One important ally here could be the insurance industry. It has long focused on health risks with sophisticated methods. It is increasingly involved in calculating and insuring climate risks. It can be encouraged to make the climate-health connection in its methodologies and business practices, and create incentives for individual and corporate behaviour that benefit both.

Investment: Injecting Health into Green Infrastructure

Investment incentives should similarly focus on areas where the climate-health co-benefits loom largest. This largely involves adding health into the major new green infrastructure investment currently underway and about to be launched. One task is to ensure that more energy-efficient buildings are designed and built in ways that do not harm human health in its physical and mental dimensions (WHO and Health Without Harm 2009). Another task is to ensure that health investments have the surge capacity to cope with the added demand generated by climate change in both its concentrated and cumulative forms. For example, health clinics should be designed to withstand the loss of electricity and destruction from extreme weather events, such as hurricanes, strong winds, floods and ice storms, and the reduced water and food that global warming brings.

Technology

Technology development, transfer and diffusion should also emphasize climate-health co-benefits. Attention should be directed away from big, commercially unproven technologies such as carbon capture and sequestration that may help climate but likely have less benefit for health. Emphasis instead should be on developing, transferring and diffusing technologies, such as

renewable and alternative energy, where the benefits for both are likely to be large and globally widespread.

Mobilizing Key Governments

Forging the climate-health connection at the international level requires the leadership and support of key national governments, from both the developed and emerging world. Here the most important countries are the United States and China, followed by leading powers in Asia, the Americas and Europe.

The United States

The U.S. stands out as offering the greatest opportunity. It has a new president and congress committed to ambitious action on climate change control (Kirton 2008/09). But they are confronting a challenging domestic healthcare reform, soaring health costs, and the financial and economic crisis as well. Barack Obama entered office on January 20, 2009, with three priorities: infrastructure spending as part of his fiscal stimulus, healthcare costs for an aging population and climate change control. The challenge is to have his administration and congress address these three issues in an integrated fashion, in order to maximize the climate-health co-benefits in a fiscally sustainable way. Thus far these connections have not been adequately forged in the Obama administration's policy, personnel or government organization. One way to do so is to have the president's team of science advisors, coming from both the climate and health fields, make the link. Another is to activate America's well-positioned, leading climate crusaders who are aware of health issues, notably Al Gore (who forged the link at the Arctic Council meetings in 2009) and Hillary Clinton, to promote the cause. They will be supported by the mass public that has recently, at least in California, accepted the reality and importance of the climate-health link (see Appendix K).

China

The second key country is China. Along with America it has recently been afflicted by climate-associated extreme weather and health shocks. For example, a World Bank study estimated that climate change kills approximately 400,000 to 750,000 people per year in China and that it cost about 6 percent of Chinese gross domestic product (Wiener 2008). China has also suffered from the health shocks of severe acute respiratory syndrome (SARS) and avian influenza. Facing the reality of social unrest, and the prospect of more during the current economic downturn, under pressure from its own citizens and abroad to do more to control its carbon and having a limited social welfare net to protect its citizens' health, China's leaders have an interest in pioneering climate-health co-benefits. They could join with the U.S. to take the lead in this regard in APEC and the APP, as well as the G8-plus, the MEF, the G20 and COP-MOP.

Japan

Typhoon-afflicted, energy-dependent, health-conscious Japan, with an aging population and exceptional fiscal burden, has a strong interest too. It has a legacy of recent effective leadership on climate change and on health from the 2008 G8 Hokkaido-Toyako Summit it hosted and on health at its G8 Okinawa Summit in 2000. It also joins the U.S. and China as a major power in APEC and the APP, as well as China in the recent East Asian Summit. It will also chair the APEC leaders meeting in November 2010. Japan's strong support of UN-centred multilateralism makes it a natural ally of the WHO in promoting the climate-health link.

Britain

Within Europe, Britain has been a leader on climate change, most notably at the G8 Gleneagles Summit it hosted in 2005. It has also been a leader on global health, especially on malaria. As the chair of the G20 in 2009 and of the G20 London Summit on April 1-2, Prime Minister Gordon Brown, a veteran G8 practitioner, is well placed to forge the climate-health link in ways that respond to the financial and economic crisis of today. It is likely that Britain's prime minister, regardless of who wins the next general election due to take place by June 2010, will be similarly committed to climate change control.

Italy

Italy has a key interest in climate change as a coastal state subject to sea-level rise as well as in health due to its proximity to Africa and the diseases and migrants from there. It played a critical role in advancing global health at the Genoa Summit it hosted under its current prime minister Silvio Berlusconi in 2001, and had health on the agenda again in L'Aquila in 2009. The G8's 2009 agenda focused on the world economy, climate change, energy, including nuclear energy, terrorism, Africa, food security, intellectual property and the Heiligendamm Process. It highlighted two major climate-health connectors: water and sanitation, and food and agriculture.

Canada

Within the Americas, Canada is important, primarily as host of the 2010 G8 and G20 summits that will be called on to forge the new climate change regime should the Copenhagen COP-MOP not get the job done. In a G8 context Canada has been a leader on both climate and health in the past, especially where African development is concerned. With climate change already one of the Canadian summits' priority themes, the challenge is to insert health, beyond the children's and maternal health issue that Prime Minister Stephen Harper has already identified (Harper 2009a). One way is to encourage G8 leaders to keep all of the 33 commitments they made between 1997 and 2008 to accomplish ten major goals by 2010. Three of these goals relate to health, one to climate change, one to biodiversity and one to development assistance. Finding ways to move ahead on all, through a combined climate-health strategy, could have considerable appeal. It should also have appeal for the minority Canadian government's domestic political management, for Canadians have overwhelmingly accepted the importance of the climate-health link (see Appendix K).

Mobilizing Other Actors

Beyond key national governments, other actors can be mobilized to advance the climate-health cause. The advocacy NGO community has a proven record of bringing about global change on health issues related to other communities, notably on access to affordable medicines in relation to the WTO (Cooper and Kirton 2009; Kirton 2009). Campaign coalitions, such as Jubilee 2000 and Make Poverty History, have also been able to effect change in a G8 context in relation to African development, especially on debt relief to improve health. Even in the United States with its "big ten" environmental NGOs, there has been less success on climate change, although this has changed somewhat since the Obama administration took office. The effort should thus start with getting the health and development NGOs that are well established, well financed, recognized and effective to forge the climate link.

One place to start is with those groups that have already recognized the connection, if in a selective way. The Global Fund to Fight AIDS, Tuberculosis and Malaria has already identified the climate-health connection. Their information on malaria states that "more than 41 percent of the world's population is at risk of acquiring malaria, and the proportion increases yearly due to

deteriorating health systems, growing drug and insecticide resistance, climate change, and war” (Global Fund 2004). The climate-mosquito-malaria connection is a generally well-known issue.

Another attractive candidate is the Bill and Melinda Gates Foundation, which already has a well-established global health program. It has focused on issues that are key climate-health connectors such as diarrhea, malaria and nutrition (Bill and Melinda Gates Foundation 2009). Professional associations in the health community also have a role.

Outside the United States, environmental NGOs may be more promising. In Canada, the David Suzuki Foundation, Pollution Probe and AcidRain.org have all identified climate-health challenges. Several development-based organizations such as World Neighbors have too.

Yet even for a prospective climate-health champion, this theme will remain only a small portion of its work. There is therefore a need to bring together the major climate and health NGOs and PPPs in a structured and ongoing way. The WHO could take the lead in doing so, perhaps by creating a multi-stakeholder forum, targeting major multilateral ministerial meetings and plurilateral summits in this regard. Established events such as the American-created Earth Day and World Environment Day (held annually on June 5) could be used to bring the health connection to light.

The private sector business community could be part of such a forum. The key sectors of interest should be those whose operations will be harmed by climate-associated extreme weather events that create further harm to the health of workers, managers, customers and suppliers. Another important sector is the insurance industry, as noted above.

A Strategy for Forging the Climate-Health Connection

Working with these components, a strategy for forging the climate-health connection by injecting health considerations into the climate community could unfold in five key steps: restore the COP-MOP consensus, expand the consensus, bring the WHO into the climate negotiations, form alliances with other international organizations and build the scientific case.

The first step is to restore the historical, evolving COP-MOP consensus about the link by combining and codifying the cumulative connections that the COP-MOP has identified in the UNFCCC since 1992.

The second step is to have this codification reaffirmed by consequential international organizations, as the foundation for principles and action in a new climate change regime. The WHO should be present at UNFCCC preparatory meetings and in the COP-MOP in various ways. In addition, the WHO should seek to secure a seat inside the meetings, as it has at the G8 in the past. This way the WHO can ensure that health concerns are given a prominent place on the agenda along with climate change and that the link between the two is made. The presence of the WHO’s director general at the G8’s Okinawa Summit in 2000 was essential in catalyzing the G8’s work in creating the Global Fund — an initiative that was accepted by the full G8 at the 2001 Genoa Summit. The presence of the WHO and a robust health agenda will also contribute to the already established priority on food security, which is a key pathway through which health is connected to climate change. Using the agricultural pathway could be a focus of the 2010 G8 effort, along with the Arctic and biodiversity. An emphasis on Africa should be relevant. The climate-health connection could be considered for its relevance as an item for the expanded HAP to take up, as a combination of the development, investment and clean energy-climate change agenda it already has.

The case for inclusion in the COP-15 itself can be based on Article 7.2 of the UNFCCC. It calls on the COP to “seek and utilize ... the services and cooperation of, and information provided by, competent international organizations and intergovernmental and non-governmental bodies” (UNFCCC 1992). It is important to ensure that the COP is dealing with the appropriate bodies so that they are using the information necessary to tackle climate change and that they are addressing all of the potential linkages and connections. Thus far the UNFCCC website states that relevant linkages should include activities under the three Rio conventions: the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD) and the UNFCCC (UNFCCC “Cooperation with International Organizations”).

The UNFCCC’s Subsidiary Body for Scientific and Technological Advice also notes its appreciation for statements from the FAO, the World Bank, the UNDP, the UNCCD and UNEP on “their activities and efforts to address climate change and their contributions to the work of the Convention” (UNFCCC “Cooperation with International Organizations”). They also acknowledge the IPCC and its fourth assessment report. There is no mention of the WHO.

Form Alliances with Other International Organizations

The case for inclusion can be advanced by forging alliances with other fellow multilateral organizations that have been more involved in the climate change regime and that have a clear interest in bringing in health and the WHO. These include the secretariats of the CBD, the FAO, the WTO and the representatives for water such as the World Bank and its International Finance Corporation (IFC). The UNDP, UNEP and the Commission on Sustainable Development could also be useful allies.

In addition, one could mobilize plurilateral and regional organizations to support the political and scientific case. One promising candidate is the Arctic Council, which has been long involved and affected. The European Commission and CEC could be useful too.

Build the Scientific Case

At the same time, the scientific case for the close climate-health connection should continue to be built, but in a way that resonates with public and climate community concerns. The scientific program should flow from the findings of the IPCC.

While there has already been ample and important efforts made to acknowledge the climate-health connection, much more needs to be done (WHO 2008a, 2008b, 2008c, 2008d, 2008f). The climate-health connection continues to grow. Climate and health continue to decline as a result of the negative impacts each has on one another. More and more organizations are starting to recognize the connection and the impacts of climate change on human health and health on climate change, but the strong approach needed to tackle these interconnected issues has yet to be established. The health-climate axis needs to be placed back on the COP-MOP agenda. It is critical that this happens as it is the one body that the international community depends on to tackle climate change in a serious way, now and in the future.

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Appendix A: The World Health Organization at COP-14

The 14th Conference of the Parties (COP 14) to the United Nations Framework Convention on Climate Change (UNFCCC) took place in December 2008 in Poznan, Poland. Climate change poses multiple threats to health, from heat waves in Europe to storms and floods in the Americas, to malnutrition and vector-borne disease in Africa.

The WHO aims to turn the attention of policymakers to some compelling evidence from the health sector and to ensure that the health implications of climate change are fully considered in the negotiations being carried out toward the 15th Conference of the Parties in 2009. The WHO is therefore organizing a side event and a panel discussion at the conference in order to:

- raise awareness about health as one of the main neglected impacts of climate change;
- clearly state what is known about climate change and its health risks; and
- establish what still needs to be known to improve the effectiveness of actions.

The COP-14 was an important half-way mark in the two-year negotiating process to reach a post-2012 climate change agreement in Copenhagen in 2009. Countries were expected to agree in Copenhagen to an ambitious climate change protocol that will come into effect in 2012 when the first phase of the UN's Kyoto Protocol expires.

Source: WHO 2008e.

Appendix B: Direct Climate-Health Connections in the COP-MOP Conclusions, 1992-2008

The UNFCCC 1992. Under article 1, definitions, the UNFCCC stated that “‘Adverse effects of climate change’ means changes in the physical environment or biota resulting from climate change which have *significant deleterious effects* on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on *human health and welfare*” (UNFCCC 1992; emphasis added). The drafters thus realized from the start that climate change was harming human health. The first line of the convention also implicitly recognized the health-climate connection stating: “*The Parties to this Convention, Acknowledging that change in the Earth’s climate and its adverse effects are a common concern of humankind.*” The ‘adverse effects’ of the changing climate, which as noted in article 1 included human health, were thus a concern. Article 4 of the Convention also made a direct health-climate connection. It committed signatories to “take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to *minimizing adverse effects* on the economy, on *public health* and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change” (UNFCCC 1992; emphasis added).

Geneva 1996. Under Section Three, “Other Action Taken by the Conference of the Parties,” noting the IPCC’s Second Assessment Report the parties stated that “the projected changes in climate will result in significant, often adverse, impacts on many ecological systems and socio-economic sectors, including food supply and water resources, and on *human health*. In some cases, the *impacts are potentially irreversible*; developing countries and small island countries are typically more vulnerable to climate change.” Other indirect references were made, including to drought, natural disasters, water, agriculture and social ramifications in general (UNFCCC 1996; emphasis added).

Bonn 1999. Under Decision 12 “Implementation of Article 4, paragraphs 8 and 9, of the Convention and matters relating to Article 3, paragraph 14, of the Kyoto Protocol,” the parties stated: “*Having considered* the report of the above-mentioned workshop regarding the specific needs and concerns of *developing country Parties*, and the specific needs and special situations of the *least developed countries* where widespread *poverty limits adaptive capacity*, particularly in relation to the impacts of the adverse effects of climate change on socio-economic conditions, including, *inter alia*, water resources, agriculture and food security, economic activities, coastal zones and *health*, and the impact of the implementation of response measures on, *inter alia*, terms of trade, international capital flows and developmental efforts.” Decision 17, “Relationship between efforts to protect the stratospheric ozone layer and efforts to safeguard the global climate system,” encouraged “each Party to give consideration to this information on available and potential ways and means of limiting emissions of hydrofluorocarbons and perfluorocarbons, taking into account, *inter alia, health, medical*, environmental and safety considerations, energy efficiency and associated emissions in carbon dioxide equivalent, and technical and economic considerations” (UNFCCC 2000; emphasis added).

Hague 2000. In Box A, “Capacity building, technology transfer, Implementation of Articles 4.8/4.9; 3.14, finance” under the heading of “Adverse effects of climate change,” the text noted that “actions to be taken by Annex II Parties include: Pilot or demonstration projects to show how

adaptation planning and assessment can be practically translated into projects and integrated into national policy and sustainable development planning. Non-Annex I Party national communications, other relevant sources and the staged approach endorsed by the COP will serve as a basis. Adaptation projects, when sufficient information is available to warrant such activities, *inter alia*, in the areas of water resources management, land management, agriculture, *health*, infrastructure development, ecosystems, and integrated coastal zone management; Improved monitoring of *diseases and disease control and prevention* for Parties affected by climate change; Avoidance of deforestation and prevention of land degradation, insofar as these activities are related to climate change; Strengthening and establishing national and regional centers and information networks for rapid response to extreme weather events, utilizing information technology as much as possible” (UNFCCC 2001; emphasis added). Under Resolution 1, “Solidarity with southern African countries, particularly with Mozambique,” the parties stated, “with deep concern the considerable loss of life, devastation and destruction caused by Cyclone Eline in southern Africa, in particular Mozambique, *Aware* of the high vulnerability of African countries to climate phenomena, *Concerned* that global warming may contribute to the increasing frequency and severity of extreme weather events” (UNFCCC 2001; emphasis added). Here, the parties again made a statement where the direct connection was between climate and natural disasters, however they also made the direct distinction that natural disasters can cause ‘loss of life.’ In Resolution 2, “Input to the Third United Nations Conference on the Least Developed Countries,” the parties noted that they encouraged “the Third United Nations Conference on the Least Developed Countries, when considering the establishment of debt relief mechanisms, to fully take into account the effects of climate change on productivity in the agricultural and other economic sectors as well as on *health*.”

Marrakesh 2001. Decision 1.3 stated that “the problems of poverty, land degradation, access to water and food and *human health* remain at the centre of global attention; therefore, the *synergies* between the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity, and the United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, should continue to be explored through various channels, in order to achieve sustainable development” (UNFCCC 2002; emphasis added). Decision 5.8 stated that “the following activities shall be supported through the special climate change *fund* (in accordance with decision 7/CP.7) and/or the adaptation fund (in accordance with decision 10/CP.7), and other bilateral and multilateral sources (a) Starting to implement adaptation activities promptly where sufficient information is available to warrant such activities, *inter alia*, in the areas of water resources management, land management, agriculture, *health*, infrastructure development, fragile ecosystems, including mountainous ecosystems, and integrated coastal zone management; [and] (b) Improving the monitoring of *diseases* and vectors affected by climate change, and related forecasting and early-warning systems, and in this context improving *disease* control and prevention.” Under Decision 28, “Guidelines for the preparation of the national adaptation programmes of action,” point 16 declared that this set of locally driven “criteria for prioritization will be applied to, *inter alia*: (a) Loss of life and livelihood; (b) Human *health*; (c) Food security and agriculture; (d) Water availability, quality and accessibility; (e) Essential infrastructure; (f) Cultural heritage; (g) Biological diversity; (h) Land-use management and forestry; (i) Other environmental amenities; (j) Coastal zones, and associated loss of land.”

New Delhi 2002. In Decision 1, the parties stated, “National sustainable development strategies should integrate more fully climate change objectives in key areas such as water, energy, *health*, agriculture and biodiversity, and build on the outcomes of the World Summit on Sustainable Development” (UNFCCC 2003; emphasis added). This was a very specific indication by the parties that more needed to be done to address the interconnected issues, such as climate and

health. They went on to state that “Technology transfer should be strengthened, including through concrete projects and capacity-building in all relevant sectors such as energy, transport, industry, *health*, agriculture, biodiversity, forestry and waste management. Technological advances should be promoted through research and development, economic diversification and strengthening of relevant regional, national and local institutions for sustainable development.”

Milan 2003. Decision 5, “Further guidance to an entity entrusted with the operation of the financial mechanism of the Convention, for the operation of the Special Climate Change Fund,” stated that a fund would be established and that it would include “implementation of adaptation activities where sufficient information is available to warrant such activities, *inter alia*, in the areas of water resources management, land management, agriculture, *health*, infrastructure development, fragile ecosystems, including mountain ecosystems, and integrated coastal zone management;” and “Improving the monitoring of *diseases* and vectors affected by climate change, and related forecasting and early warning systems, and in this context improving disease control and prevention” (UNFCCC 2004; emphasis added).

Montreal 2005. Under the MOP’s Decision 5, “Modalities and procedures for afforestation and reforestation project activities under the clean development mechanism in the first commitment period of the Kyoto Protocol,” Appendix B, “Project design document for afforestation and reforestation project activities under the clean development mechanism,” stated: “Documentation on the analysis of the environmental impacts, including impacts on biodiversity and natural ecosystems, and impacts outside the project boundary, of the proposed small-scale afforestation or reforestation project activity under the CDM. This analysis should include, where applicable, information on, *inter alia*, hydrology, soils, risk of fires, pests and *diseases*” (UNFCCC 2006b; emphasis added). The second mention was under Decision 6, “Simplified modalities and procedures for small-scale afforestation and reforestation project activities under the clean development mechanism in the first commitment period of the Kyoto Protocol and measures to facilitate their implementation,” Appendix A, “Project design document for small-scale afforestation and reforestation project activities under the clean development mechanism,” and it stated the exact same phrase as noted under Decision 5.

Appendix C: COP-MOP Health-Climate References, 1992-2008

Year	Total Health-Climate Mentions	Total Health-Climate Sentences	Total Health-Climate Paragraphs
1992	2	2	2
1995	0	0	0
1996	1	1	1
1997	0	0	0
1998	1	1	1
1999	2	2	2
2000	4	4	3
2001	5	5	3
2002	2	2	1
2003	2	2	1
2004	0	0	0
2005 (x2)	2	2	2
2006 (x2)	0	0	0
2007 (x2)	0	0	0
2008 (x2)	0	0	0
Total	21	21	16

Notes:

“Total CC-Health Mentions” refers to the number of times climate change and health, or cognate terms of climate change and health, were mentioned simultaneously in the official documents for the year specified. The words are calculated by sentence and paragraph because the sentence/paragraph is the unit of analysis.

“Total CC-Health Sentences” refers to the number of sentences that climate change and health, or cognate terms of climate change and health, were mentioned simultaneously in the official documents for the year specified.

“Total CC-Health Paragraphs” refers to the number of paragraphs that climate change and health, or cognate terms of climate change and health, were mentioned simultaneously in the official documents for the year specified.

“x2” indicates that there were two meetings that year, one COP and one MOP.

1992 UNFCCC

Article 1

DEFINITIONS

For the purposes of this Convention:

1. “Adverse effects of climate change” means changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on **human health** and welfare.

Article 4

COMMITMENTS

1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:

(f) Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on **public health** and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change;

1996 COP

III. OTHER ACTION TAKEN BY THE CONFERENCE OF THE PARTIES

Annex

The Geneva Ministerial Declaration

The Ministers and other heads of delegations present at the second session of the Conference of the Parties to the United Nations Framework Convention on Climate Change

2. The projected changes in climate will result in significant, often adverse, impacts on many ecological systems and socio-economic sectors, including food supply and water resources, and on **human health**. In some cases, the impacts are potentially irreversible; developing countries and small island countries are typically more vulnerable to climate change.

1998 COP

II. RESOLUTIONS ADOPTED BY THE CONFERENCE OF THE PARTIES

Resolution 1/CP.4

Solidarity with Central America

Having learned, with deep sadness, of the considerable **loss of life** and devastation caused by Hurricane Mitch in Honduras, Nicaragua, Guatemala, El Salvador, Belize, Costa Rica and Panama...

1999 COP

Decision 12/CP.5

Implementation of Article 4, paragraphs 8 and 9, of the Convention and matters relating to Article 3, paragraph 14, of the Kyoto Protocol

Having considered the report of the above-mentioned workshop regarding the specific needs and concerns of developing country Parties, and the specific needs and special situations of the least developed countries where widespread poverty limits adaptive capacity, particularly in relation to the impacts of the adverse effects of climate change on socio-economic conditions, including, inter alia, water resources, agriculture and food security, economic activities, coastal zones and **health**, and the impact of the implementation of response measures on, inter alia, terms of trade, international capital flows and developmental efforts...

Decision 17/CP.5

Relationship between efforts to protect the stratospheric ozone layer and efforts to safeguard the global climate system

1. Invites each Party to give consideration to this information on available and potential ways and means of limiting emissions of hydrofluorocarbons and perfluorocarbons, taking into account, inter alia, **health, medical**, environmental and safety considerations, energy efficiency and associated emissions in carbon dioxide equivalent, and technical and economic considerations...

2000 COP

Box A. Capacity building, technology transfer, Implementation of Articles 4.8/ 4.9; 3.14, finance Adverse effects of climate change

Actions to be taken by Annex II Parties include:

- Pilot or demonstration projects to show how adaptation planning and assessment can be practically translated into projects and integrated into national policy and sustainable development planning. Non-Annex I Party national communications, other relevant sources and the staged approach endorsed by the COP will serve as a basis.
- Adaptation projects, when sufficient information is available to warrant such activities, inter alia, in the areas of water resources management, land management, agriculture, **health**, infrastructure development, ecosystems, and integrated coastal zone management

- Improved monitoring of **diseases and disease control and prevention** for Parties affected by climate change
- Avoidance of deforestation and prevention of land degradation, insofar as these activities are related to climate change
- Strengthening and establishing national and regional centers and information networks for rapid response to extreme weather events, utilizing information technology as much as possible...

*II. RESOLUTIONS ADOPTED BY THE CONFERENCE OF THE PARTIES
AT THE FIRST PART OF ITS SIXTH SESSION*

Resolution 1/CP.6

Solidarity with southern African countries, particularly with Mozambique

*Noting with deep concern the considerable **loss of life**, devastation and destruction caused by Cyclone Eline in southern Africa, in particular Mozambique...*

Resolution 2/CP.6

Input to the Third United Nations Conference on the Least Developed Countries

*2. Encourages the Third United Nations Conference on the Least Developed Countries, when considering the establishment of debt relief mechanisms, to fully take into account the effects of climate change on productivity in the agricultural and other economic sectors as well as on **health**...*

2001 COP

I. THE MARRAKESH MINISTERIAL DECLARATION

Decision 1/CP.7

The Marrakesh Ministerial Declaration

The Ministers and other heads of delegation present at the seventh session of the Conference of the Parties to the United Nations Framework Convention on Climate Change

*3. Recognize that, in this context, the problems of poverty, land degradation, access to water and food and **human health** remain at the centre of global attention; therefore, the synergies between the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity, and the United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, should continue to be explored through various channels, in order to achieve sustainable development...*

I. ADVERSE EFFECTS OF CLIMATE CHANGE

8. Decides that the implementation of the following activities shall be supported through the special climate change fund (in accordance with decision 7/CP.7) and/or the adaptation fund (in accordance with decision 10/CP.7), and other bilateral and multilateral sources:

*(a) Starting to implement adaptation activities promptly where sufficient information is available to warrant such activities, *inter alia*, in the areas of water resources management, land management, agriculture, **health**, infrastructure development, fragile ecosystems, including mountainous ecosystems, and integrated coastal zone management;*

*(b) Improving the **monitoring of diseases and vectors** affected by climate change, and related forecasting and early-warning systems, and in this context improving **disease control and prevention**...*

ANNEX

Guidelines for the preparation of national adaptation programmes of action

15. A set of locally-driven criteria will be used to select priority adaptation activities. These criteria should include, *inter alia*:

- (a) Level or degree of adverse effects of climate change;
- (b) Poverty reduction to enhance adaptive capacity;
- (c) Synergy with other multilateral environmental agreements;
- (d) Cost-effectiveness.

16. These criteria for prioritization will be applied to, *inter alia*:

- (a) **Loss of life** and livelihood;
- (b) **Human health**;
- (c) Food security and agriculture;
- (d) Water availability, quality and accessibility;
- (e) Essential infrastructure;
- (f) Cultural heritage;
- (g) Biological diversity;
- (h) Land-use management and forestry;
- (i) Other environmental amenities;
- (j) Coastal zones, and associated loss of land.

2002 COP

Decision 1/CP.8

Delhi Ministerial Declaration on Climate Change and Sustainable Development

The Ministers and other heads of delegation present at the eighth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change

(c) National sustainable development strategies should integrate more fully climate change objectives in key areas such as water, energy, **health**, agriculture and biodiversity, and build on the outcomes of the World Summit on Sustainable Development;

(i) Technology transfer should be strengthened, including through concrete projects and capacity-building in all relevant sectors such as energy, transport, industry, **health**, agriculture, biodiversity, forestry and waste management. Technological advances should be promoted through research and development, economic diversification and strengthening of relevant regional, national and local institutions for sustainable development...

2003 COP

Decision 5/CP.9

Further guidance to an entity entrusted with the operation of the financial mechanism of the Convention, for the operation of the Special Climate Change Fund

2. *Decides also* that the implementation of adaptation activities shall be supported through the Special Climate Change Fund, taking into account national communications or national adaptation programmes of action, and other relevant information provided by the applicant Party, and include:

- (a) Implementation of adaptation activities where sufficient information is available to warrant such activities, *inter alia*, in the areas of water resources management, land management, agriculture, **health**, infrastructure development, fragile ecosystems, including mountain ecosystems, and integrated coastal zone management;
- (b) Improving the monitoring of **diseases and vectors** affected by climate change, and related forecasting and early warning systems, and in this context improving **disease control and prevention**...

2005 MOP

APPENDIX B

Project design document for afforestation and reforestation project activities under the clean development mechanism

(i) Documentation on the analysis of the environmental impacts, including impacts on biodiversity and natural ecosystems, and impacts outside the project boundary of the proposed afforestation or reforestation project activity under the CDM. This analysis should include, where applicable, information on, inter alia, hydrology, soils, risk of fires, pests and **diseases**.

APPENDIX A

Project design document for small-scale afforestation and reforestation project activities under the clean development mechanism

(i) Documentation on the analysis of the environmental impacts, including impacts on biodiversity and natural ecosystems, and impacts outside the project boundary, of the proposed small-scale afforestation or reforestation project activity under the CDM. This analysis should include, where applicable, information on, inter alia, hydrology, soils, risk of fires, pests and **diseases**.

**Appendix D:
Codified Causal Map of Initial Health-Climate Connections in
COP-MOP**

Year	Climate	Connection/Connector	Health	Where/Whose	Principle/Instrument	Actors/Responsible
1992	Climate change	Significant deleterious effects	Health; public health		Minimize adverse effects	
1995		-	-	-	-	-
1996	Climate change	Significant, often adverse, potentially irreversible	Health	Developing countries/small island developing states	-	Intergovernmental Panel on Climate Change
1997		-	-	-	-	-
1998	Hurricane Mitch	-	Loss of life	Central America	Deep sadness	
1999	Ozone chemicals		Medical	Least developed countries		
2000			Disease, disease control	Africa	Adaptation; monitoring; debt relief finance	
2001			Disease		Climate funds; forecasting; early warning; prevention	
2002					Integrated objectives; technology transfer	
2005					Afforestation; reforestation	

Note:

Direct references to human health only, by first appearance.

Appendix E: IPCC Health-Climate Challenges, by Varying Confidence

Very High Confidence	High Confidence	Medium Confidence	Low Confidence
Climate change currently contributed to the global burden of disease and premature deaths	Emerging evidence of climate change effects on human health shows that climate change has altered the seasonal distribution of some allergenic pollen species	Emerging evidence of climate change effects on human health shows that climate change has altered the distribution of some infectious disease vectors	Projected trends in climate change–related exposures of importance to human health will increase the number of people at risk of dengue
Projected trends in climate change–related exposures of importance to human health will have mixed effects on malaria: in some places the geographical range will contract, elsewhere the geographical range will expand and the transmission season may be changed	Projected trends in climate change–related exposures of importance to human health will increase malnutrition and consequent disorders, including those relating to child growth and development	Emerging evidence of climate change effects on human health shows that climate change has increased heat wave–related deaths	
Economic development is an important component of adaptation, but on its own will not insulate the world’s population from disease and injury due to climate change	Projected trends in climate change–related exposures of importance to human health will increase the number of people suffering from death, disease and injury from heat waves, floods, storms, fires and droughts	Projected trends in climate change–related exposures of importance to human health will increase the burden of diarrheal diseases	
	Projected trends in climate change–related exposures of importance to human health will continue to change the range of some infectious disease vectors		
	Projected trends in climate change–related exposures of importance to human health will increase cardio-respiratory morbidity and mortality associated with ground-level ozone		
	Projected trends in climate change–related exposures of importance to human health will bring some benefits to health, including fewer deaths from cold, although it is expected that these will be outweighed by the negative effects of rising temperatures worldwide, especially in developing countries		
	Adaptive capacity needs to be improved everywhere; impacts of recent hurricanes and heat waves show that even high-income countries are not well prepared to cope		

	with extreme weather events		
	Adverse health impacts will be greatest in low-income countries. Those at greater risk include, in all countries, the urban poor, the elderly and children, traditional societies, subsistence farmers and coastal populations		

Source: IPCC 2007b.

**Appendix F:
Health-Climate Change References in G8 Leaders' Documents,
1975-2009**

Year	Total Health-Climate Mentions	Total Health-Climate Sentences	Total Health-Climate Paragraphs
1975	0	0	0
1976	0	0	0
1977	0	0	0
1978	0	0	0
1979	0	0	0
1980	0	0	0
1981	0	0	0
1982	0	0	0
1983	0	0	0
1984	0	0	0
1985	0	0	0
1986	0	0	0
1987	0	0	0
1988	0	0	0
1989	0	0	0
1990	0	0	0
1991	0	0	0
1992	0	0	0
1993	0	0	0
1994	0	0	0
1995	0	0	0
1996	0	0	0
1997	1	1	1
1998	0	0	0
1999	0	0	0
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	1	1	1
2004	0	0	0
2005	3	4	3
2006	0	0	0
2007	1	0	1
2008	2	1	2
2009	1	1	1
Total	9	7	9

Notes:

Refers to all official documents in English.

“Total CC-Health Mentions” refers to the number of times climate change and health, or cognate terms of climate change and health, were mentioned simultaneously in the official documents for the year specified. The words are calculated by sentence and paragraph because the sentence/paragraph is the unit of analysis.

“Total CC-Health Sentences” refers to the number of sentences that climate change and health, or cognate terms of climate change and health, were mentioned simultaneously in the official documents for the year specified.

Catalogue of References

The following is a catalogue of passages dealing with health-climate change in the written documents issued by G8 leaders at their annual summits from 1975 to 2008. Key subjects are highlighted below. Subjects that are not included here have also been highlighted. These subjects have been captured in other issue areas to which they are better suited.

List of Subjects Included:

Climate change

Global warming

Kyoto

Emissions

Greenhouse gas (carbon dioxide, CO₂)

Carbon

Carbon Capture and Storage (CCS)

Carbon Sequestration Leadership Forum (CSLF)

Gleneagles Plan of Action

Health

Health systems

Infectious diseases

Public Health

Diseases

Respiratory Problems

List of Subjects Excluded:

Energy efficiency

Clean energy

Nuclear energy

Alternative energy

(all captured in the “energy” catalogue)

Better life

Health as an adjective to describe something other than health as an issue area itself (ex. Healthy economy)

Coding Rules:

The unit of analysis is the sentence/paragraph.

Need a direct reference to health-climate change or a cognate term

Cognate or extended terms can be used without a direct reference to “health-climate change” if they have previously been directly associated together in Summit communiqué history

1997 Denver

(1 mention, 1 sentence, 1 paragraph)

Communiqué:

Climate change (1 mention, 1 sentence, 1 paragraph)

14. Overwhelming scientific evidence links the build-up of **greenhouse gasses in the atmosphere to changes in the global climate system**. If current trends continue into the next century, unacceptable **impacts on human health and the global environment** are likely.

Reversing these trends will require a sustained global effort over several decades, with the involvement of all our citizens, and **changes in our patterns of consumption and production.**

2003 Evian

(1 mention, 1 sentence, 1 paragraph)

Science and Technology for Sustainable Development: A G8 Action Plan (1 mention, 1 sentence, 1 paragraph)

We recognise the need, as acknowledged in the World Summit on Sustainable Development (WSSD) Plan of Implementation, to support the development of cleaner, sustainable and more efficient technologies. Co-operative scientific research on transformational technologies offers potential to improve **public health** by cutting pollution and **reduce greenhouse emissions** to address the challenge of global climate change. Our countries must optimise the use of natural resources including through recycling.

2005 Gleneagles

(3 mentions, 2 sentences, 3 paragraphs)

Climate Change, Clean Energy and Sustainable Development (1 mention, 0 sentences, 1 paragraph)

1. We face serious and linked challenges in tackling **climate change**, promoting clean energy and achieving sustainable development globally. (a) **Climate change** is a serious and long-term challenge that has the potential to affect every part of the globe. We know that increased need and use of energy from fossil fuels, and other human activities, contribute in large part to increases in **greenhouse gases** associated with the warming of our Earth's surface. While uncertainties remain in our understanding of **climate science**, we know enough to act now to put ourselves on a path to slow and, as the science justifies, stop and then reverse the growth of greenhouse gases. (b) Global energy demands are expected to grow by 60 percent over the next 25 years. This has the potential to cause a significant increase in greenhouse gas emissions associated with **climate change**. (c) Secure, reliable and affordable energy sources are fundamental to economic stability and development. Rising energy demand poses a challenge to energy security given increased reliance on global energy markets. (d) Reducing pollution protects **public health** and ecosystems. This is particularly true in the developing world. There is a need to improve air and water quality in order to **alleviate suffering from respiratory disease, reduce public health costs** and prolong lives. (e) Around 2 billion people lack modern energy services. We need to work with our partners to increase access to energy if we are to support the achievement of the goals agreed at the Millennium Summit in 2000.

Gleneagles Plan of Action: Climate Change, Clean Energy and Sustainable Development

Transforming the way we use energy (1 mention, 1 sentence, 1 paragraph)

2. Improvements to energy efficiency have benefits for economic growth and the environment, as well as co-benefits such as reducing **greenhouse gas emissions**, preventing pollution, alleviating poverty, improving security of energy supply, competitiveness and **improving health** and employment.

Managing the impact of climate change (1 mention, 1 sentence, 1 paragraph)

31. All countries need further access to information and to develop the scientific capacity that will allow their governments to integrate **climate**, environmental, **health**, economic and social factors into development planning and resilience strategies. We note that Africa's data deficiencies are greatest and warrant immediate attention.

2007 Heiligendamm

(1 mention, 0 sentences, 1 paragraph)

Growth and Responsibility in Africa: A Continent on the Move (1 mention, 0 sentences, 1 paragraph)

4. We have agreed on a further set of measures to promote sustainable development in Africa. We will focus on promoting growth and investments in order to combat poverty and hunger, to foster peace and security, good governance and **the strengthening of health systems, and to assist the fight against infectious diseases**. We also recognize that the impacts of **climate change** in combination with other stresses present increased risks to sustainable development in Africa. To tackle these challenges, we are firmly determined to support a vibrant Africa through further strengthening our concerted efforts, as well as respective ones that are partly demonstrated by the African Partnership Forum, 24th Conference of African and French Heads of States in February, the EU-Africa Summit to be held this December, and the 4th Tokyo International Conference on African Development (TICAD) of next spring. All these efforts, involving relevant stakeholders as appropriate, will contribute to a seamless process leading to the G8 Summit of 2008 in Japan.

2008 Hokkaido Toyako

(2 mentions, 1 sentence, 2 paragraphs)

Communiqué:

Water and Sanitation (1 mention, 0 sentences, 1 paragraph)

47. Good water cycle management is crucial in order to address the issue of water, which has a cross-sectoral nature. In this regard, acknowledging the need to accelerate the achievement of the internationally agreed goals on water and sanitation, we will reinvigorate our efforts to implement the Evian Water Action Plan and will review it on the basis of a progress report prepared by our water experts by the next Summit. We will discuss with African partners the development of an enhanced implementation strategy. Moreover, we will promote integrated water resource management and the concept of 'Good Water Governance', with particular focus on Sub-Saharan Africa and Asia-Pacific, by taking necessary actions such as strengthening of trans-boundary basin organizations, sharing of water-related expertise and technology with developing countries, support for capacity building for water-related initiatives, promotion of data collection and utilization, and **adaptation to climate change**. We also acknowledge that ensuring adequate water supplies for human, industrial and environmental uses while minimizing the impacts of extreme hydrological variability are critical to **protecting human health**, promoting sustainable economic growth, and ensuring peace and security.

Declaration of Leaders Meeting of Major Economies on Energy Security and Climate Change (1 mention, 1 sentence, 1 paragraph)

1. **Climate change** is one of the great global challenges of our time. Conscious of our leadership role in meeting such challenges, we, the leaders of the world's major economies, both developed and developing, commit to combat **climate change** in accordance with our common but differentiated responsibilities and respective capabilities and confront the interlinked challenges of sustainable development, including energy and food security, **and human health**. We have come together to contribute to efforts under the U.N. Framework Convention on Climate Change, the global forum for climate negotiations. Our contribution and cooperation are rooted in the objective, provisions, and principles of the Convention.

2009 L'Aquila

(1 mention, 1 sentence, 1 paragraph)

Leaders Declaration: Responsible Leadership for a Sustainable Future

Climate Change and Environment (1 mention, 1 sentence, 1 paragraph)

76. Recognising that even implementing ambitious mitigation steps will not avoid further climate impacts, we will define and implement effective adaptation and capacity building policies. **We are deeply concerned about the consequences of climate change on development, ecosystem services, water and food security, agricultural output, forests, health and sanitation, particularly for LDCs and SIDS, but also for the poor and most vulnerable in all countries.** We underline the possible security implications of the adverse impact of climate change and the potential for increased conflicts over scarcer resources. We will address these issues in a spirit of partnership between developed and developing countries and confirm our commitment to effectively address adaptation in the Copenhagen agreement.

Appendix G: Health-Climate References in MEM/MEF Documents, 2007-08

Year/Month	Total Health-Climate Mentions	Total Health-Climate Sentences	Total Health-Climate Paragraphs
2007 September	0	0	0
2008 January	0	0	0
2008 April	1	1	1
2008 July	1	1	1
2009 July	0	0	0
Total	2	2	2

April 2008

These changes increasingly represent a threat to food security. Dwindling water resources and growing pressure on agricultural and fishing resources, aggravated by the increasing frequency of extreme weather events, are major challenges that compromise development, most particularly in Africa. We must without delay take the full measure of the vital problems faced by the countries of the South, where there is increasing demand for food but shrinking food supply and worsening **health** conditions.

July 2008

1. Climate change is one of the great global challenges of our time. Conscious of our leadership role in meeting such challenges, we, the leaders of the world's major economies, both developed and developing, commit to combat climate change in accordance with our common but differentiated responsibilities and respective capabilities and confront the interlinked challenges of sustainable development, including energy and food security, and **human health**. We have come together to contribute to efforts under the U.N. Framework Convention on Climate Change, the global forum for climate negotiations. Our contribution and cooperation are rooted in the objective, provisions, and principles of the Convention.

Appendix H: European Council, Presidency Conclusions, 1996-2008

1997

June

...to examine the [European Investment Bank's] scope of intervention in the areas of education, health, urban environment and environmental protection...

The European Council agrees on the importance of ensuring full coherence between actions in the field of the internal market and other policies of the Union, in particular the social dimension, regional cohesion, competition policies, development of small and medium-sized enterprises, protection of the environment, health and consumers' rights.

December

...the development and reinforcement of the Bank's financing in the areas of education, **health, urban environment and environmental protection**...

1998

December

The European Investment Bank has maintained the momentum of its lending operations in favour of sound investment projects, including those in priority sectors under its Amsterdam Special Action Programme, such as investments in education, **health and urban environment projects**.

1999

June

...continue, and widen, credit allocation for urban renewal, education and **health and also environmental protection**, including renewable energy promotion...

[The EU will cooperate with Russia in] (b) **environment and health**

- by encouraging and supporting the secure storage of nuclear and chemical waste and the safe management of spent fuel, in particular in Northwest Russia;
- by supporting the integration of environmental considerations in economic reform and by assisting in the creation of effective systems for monitoring and ensuring compliance with multilateral **environmental agreements**, and supporting Russian efforts to strengthen the enforcement of national **environmental legislation**;
- by working with Russia, especially in areas adjacent to the enlarging Union, to reduce water and **air pollution** and to improve **environmental protection** and by cooperating on promoting sustainable use of natural resources in particular in the various fora for regional cooperation;
- by cooperating with Russia in order to improve precautions against **infectious diseases**, including by supporting **vaccination** programmes;
- by cooperating also in strengthening **plant-health** controls.

December

Moreover, the EU encourages Ukraine to take resolute measures in the field of **environmental protection**. The protection of **public health** against pollution of drinking water, air and soil, and the sustainable and responsible use of natural resources as well as the limitation of transboundary **pollution of air and water** are priorities in this area.

The EU will seek to support Ukraine in its effort to reduce the negative impact on **public health of the environmental situation** in Ukraine — notably as regards the quality of drinking water, waste water treatment, waste collection and disposal as well as **air pollution**. The EU will support institutional reform in the public utilities responsible for **environmental services**, other technical assistance projects and **environmental investments**.

2000

December

[The Council] Whereas the principles laid down in the EC Treaty provide that Community action must aim at a high level of protection of **human health**, consumers and **the environment** and that these objectives must be integrated into the European Union's policies and action...

[The Council] Whereas the Treaty recognises, in Article 174(2), that the precautionary principle is one of the principles to be taken into account in Community policy on the **environment**; whereas this principle is also applicable to **human health, as well as to the animal health and plant health sectors**...

[The Council] Whereas the preamble to the World Trade Organisation (WTO) Agreement sets out general objectives which include sustainable development and **environmental protection and conservation**; whereas Article XX of the GATT and Article XIV of the GATS contain general exceptions, while Article 5(7) of the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) lays down rules on the procedure to be followed in the event of risk and insufficient scientific evidence; whereas the Agreement on Technical Barriers to Trade (TBT) allows account to be taken of the risks that failure to apply measures might pose for **human health or safety, animal or plant life or the environment**...

[The Council] Realising that public authorities have a responsibility to ensure a high level of protection of **human health and the environment** and have to address increased public concern regarding the risks to which the public are potentially exposed...

[The Council] Notes that the precautionary principle is gradually asserting itself as a principle of international law in the fields of **environmental and health protection**...

[The Council] Considers that use should be made of the precautionary principle where the possibility of harmful effects on **health or the environment** has been identified and preliminary scientific evaluation, based on the available data, proves inconclusive for assessing the level of risk...

2001

March

[To that end], the Commission, together with the Council, will examine measures required to utilise the full potential of biotechnology and strengthen the European biotechnology sector's competitiveness in order to match leading competitors while ensuring that those developments occur in a manner which is **healthy and safe for consumers and the environment**, and consistent with common fundamental values and ethical principles and in full compliance with the existing legislative framework.

December

The next series of questions should aim, within this new framework and while respecting the “*acquis communautaire*”, to determine whether there needs to be any reorganisation of competence. How can citizens’ expectations be taken as a guide here? What missions would this produce for the Union? And, vice versa, what tasks could better be left to the member States? What amendments should be made to the Treaty on the various policies? How, for example, should a more coherent common foreign policy and defence policy be developed? Should the Petersburg tasks be updated? Do we want to adopt a more integrated approach to police and criminal law cooperation? How can economic-policy coordination be stepped up? How can we intensify cooperation in the field of social inclusion, **the environment, health** and food safety? But then, should not the day-to-day administration and implementation of the Union’s policy be left more emphatically to the member States and, where their constitutions so provide, to the regions? Should they not be provided with guarantees that their spheres of competence will not be affected?

June

Building on the Commission communication on sustainable development, the 6th Environmental Action Programme and the sector strategies for environmental integration, the European Council has, as a first step, singled out a number of objectives and measures as general guidance for future policy development in four priority areas: ***climate change, transport, public health and natural resources***, thus complementing decisions on social and economic issues taken by the European Council in Stockholm.

[To this end, the European Council] notes the Commission’s intention to present formal proposals, and invites the Council and the European Parliament to adopt them, so that the chemicals policy is in place by 2004, thereby ensuring that within a generation chemicals are only produced and used in ways which do not lead to a significant **impact on health and the environment...**

[To meet these challenges, the European Council agrees] that the Common Agricultural Policy and its future development should, among its objectives, contribute to achieving sustainable development by increasing its emphasis on encouraging **healthy, high-quality products, environmentally sustainable production methods**, including organic production, renewable raw materials and the protection of biodiversity...

2002

March

[The Council] STRESSES that for the EU the main challenges in relation to the global dimension of sustainable development are the following: 1) Poverty eradication and promoting social development as well as **health**, 2) Making globalisation work for sustainable development, 3) Sustainable patterns of production and consumption, 4) Conservation and sustainable management of natural and **environmental resources**, 5) Strengthening governance for sustainable development at all levels, in particular international environmental governance, including public participation, 6) Means of implementation, including capacity building and technology cooperation...

[Recalling the priorities established by the Council the Council] CALLS ON the Commission, including EUROSTAT, and on the **European Environment Agency** and the member States, to develop the relevant indicators in relation to **public health**, particularly chemicals, and to sustainable management of natural resources, particularly **water, aquatic and land biodiversity** and use of resources, so as to enable the Council to adopt in autumn the appropriate set of

indicators which are to be taken into account for the future synthesis reports starting from 2003, as well as for the monitoring and evaluation of sustainable development...

2003

December

The EU and its transatlantic partners should defend a common agenda based on the promotion of the rule of law, democracy and human rights, poverty reduction, **health and environmental protection**.

2005

March

Any agreement on REACH must reconcile **environmental and health protection** concerns with the need to promote the competitiveness of European industry, while paying particular attention to SMEs and their ability to innovate.

June

Where there is scientific uncertainty, implement evaluation procedures and take appropriate preventive action in order to avoid damage to **human health or to the environment**.

Ensure that prices reflect the real costs to society of production and consumption activities and that **polluters pay** for the damage they cause to **human health and the environment**.

[Sustainable development] seeks to promote a dynamic economy with full employment and a high level of education, **health protection**, social and territorial cohesion and **environmental protection** in a peaceful and secure world, respecting cultural diversity.

2006

March

Reviewing existing directives and legal framework conditions in the light of the need to speed up administrative authorisation procedures substantially while maintaining **environmental and health standards**, in particular by considering time-limits for the procedures.

Over and above its importance in its own right, **environmental policy** can make an important contribution to jobs and growth and can impact positively on important sectors such as **public health and health-care costs**, and social inclusion and cohesion as well as on the development of an Energy Policy for Europe, including the promotion of energy security and energy efficiency.

2008

June

The EU proposes to its partners in development to share this agenda, which identifies, within time frames, specific milestones and actions in the context of pro-poor and pro-growth development in key areas, such as the reduction of poverty and hunger, education, **health, environment**, gender equality and the empowerment of women, water, agriculture, private sector and infrastructure, that will contribute to ensuring the achievement of the MDGs by 2015.

**Appendix I:
Environment-Health References in the North American Leaders
Communiqués, 2005-08**

Year	Total Mentions	Words	% of Words	Paragraphs	% of Paragraphs
2005	1	87	14	1	10
2006	2	63	7	2	20
2007	6	260	8	6	23
2008	1	41	3	1	7
2009	0	0	0	0	0
Total	13	451	-	10	-

Appendix J: Schedule of Key International Meetings

2009

April 1-2:	G20 Summit, London, England
April 17-19:	Summit of the Americas, Trinidad and Tobago
April 28-29:	Arctic Council, Tromsø, Norway
July 8-10:	G8-Plus and Major Economies Forum, L'Aquila, Italy
November 12-14:	Asia-Pacific Economic Cooperation summit, Singapore
November 27-29:	Commonwealth Heads of Government Meeting, Trinidad and Tobago
November 30-December 11:	Conference of the Parties 15/Meeting of the Parties 5, Copenhagen, Denmark

2010

June 25-27:	G8, Huntsville, Canada
June:	G20, Ontario, Canada
November 8-19:	Conference of the Parties 16/Meeting of the Parties 6, Unknown
November:	G20, South Korea
Unknown:	Francophonie, Madagascar
Unknown:	MEF

2011

April 4-8	Arctic Council, Greenland
November 28-December 9	Conference of the Parties 17/Meeting of the Parties 7, Unknown

Appendix K: Environmental and Health Issues Citizens Care About, 2006-08

Date	Percent	Wording	Poll
August 2007	27	Canadians have been affected by an environmental health concern	IR
August 2007	65	Canadians have taken action to protect their health from the environment	IR
August 2007	83	Canadians have changed their lifestyles to lessen their impact on the environment	IR
August 2007	46	Canadians think the provincial government is doing enough to address environment and health concerns	IR
August 2007	36	Canadians think the federal government is doing enough to address environmental and health concerns	IR
August 2007	87	Canadians are concerned about environmental standards in other countries and impact on imported food	IR
August 2007	82	Canadians are concerned about climate change and its impact on health	IR
August 2007	82	Canadians are concerned about the potential for climate change to encourage spread of disease	IR
August 2007	79	Canadians are concerned about air pollution	IR
August 2007	76	Canadians are concerned about heat and sun exposure	IR
August 2007	75	Canadians are concerned with the use of herbicides and pesticides	IR
August 2007	74	Canadians are concerned with the effects of soil contamination on local fruits and vegetables	IR
August 2007	70	Canadians are concerned with water quality	IR
March 2008	66	Californians think climate change will affect the health of people who live where air quality is poor	-

Notes:

IR=Ipsos Reid

Some information came from Monterey Bay Aquarium 2008, which is a compilation taken from any of the following: Gallup United States Environment Poll, March 2008; California Opinion Index, November 2007 (commissioned by Next 10); Roper Yale Survey on Action on Global Warming, September 2007; California Public Policy Institute of California, July 2007; Yale/Gallop/Clear Vision, July 2007; Stanford/New Scientist, June 2007: Americans' Evaluations of Policies to Reduce Greenhouse Gas Emissions; California Field Poll, April 2007; ABC/Washington/Stanford, April 2007.