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Item 4 (b) of the provisional agenda*

Policy issues: emerging policy issues

Background paper for the ministerial consultations

Discussion paper presented by the Executive Director

Globalization and the environment – global crises: national chaos?

Summary

The present document has been prepared to provide a succinct background briefing for ministers on the topic of theme I of the ministerial consultations to take place at the twenty-fifth session of the Governing Council/Global Ministerial Environment Forum: “Globalization and the Environment – Global crises: national chaos?”. It is intended to stimulate discussion during the ministerial consultations.

* UNEP/GCS.25/1.

1. “Globalization and the Environment – Global crises: national chaos?” is the first theme to be discussed during the ministerial consultations that are to take place during the twenty-fifth session of the Governing Council/Global Ministerial Environment Forum of the United Nations Environment Programme (UNEP). The consultations on this theme will address the scale and nature of current global crises and the opportunities to respond to them that are emerging. They will also set the stage for consultations on the international environmental governance system and how well it is equipped to provide coherent and timely responses to multiple environment and development challenges and to capitalize on emerging opportunities.

2. The consultations will provide the world’s environment ministers with the opportunity to address in a comprehensive manner how to meet multiple environmental and development challenges at the country level and to capitalize on opportunities that might arise and how national and international environmental governance, including trade and financing mechanisms, might better support such endeavours.

Background

3. Over the past 12 months the world has witnessed the emergence of multiple global crises related to food, fuel, freshwater and finance. Rapidly rising energy and food prices, global food shortages and water scarcity have, most recently, been overshadowed by a financial crisis of yet unknown scale.

4. Adding to the complexity of the situation is climate change, which is exacerbating the impact of each global crisis. The effects are felt across the globe and have specific implications for the achievement of the Millennium Development Goals. Much of the attention of Governments and the international community recently has been directed toward addressing the financial crisis. The responses to that crisis will have a direct bearing on the resolution or mitigation of other challenges.

5. While it is thus clear that Governments and the international community face multiple and serious challenges, the situation also presents real opportunities to make profound changes in our economies: moving toward a green and low carbon economy will deliver multiple benefits for the international community and Governments in addressing food, energy and water security and will ultimately result in achieving sustainable development and the Millennium Development Goals. The crises the world faces also provide an opportunity to examine the capacity of its governance structures at the national and global levels and to assess whether they are adequate to meet multiple environmental and development challenges and to capitalize on emerging opportunities such as those described in the paragraphs below on the green economy.

I. Challenges

A. Food challenge

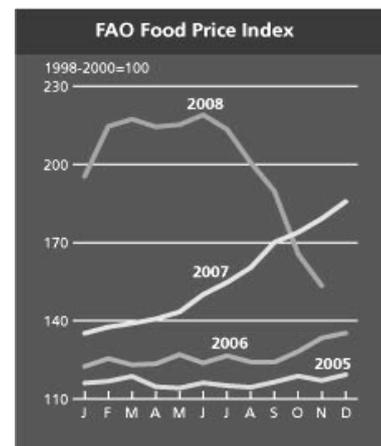
6. In mid-2007 we witnessed a sudden and steep rise in food prices (24 per cent) followed by a surge of 51 per cent between January and August 2008.¹

7. The Comprehensive Framework for Action of the High-Level Task Force on the Global Food Security Crisis states as follows:

The dramatic rise in global food prices is not the result of any specific climatic shock or other emergency, but rather the cumulative effects of long-term trends and more recent factors, including supply and demand dynamics and responses which have caused further price increases and higher price volatility.

¹ Comprehensive Framework for Action of the High-Level Task Force on the Global Food Security Crisis, July 2008.

During the past two decades, demand for food has been increasing steadily with the growth in the world's population, improvements in incomes and the diversification of diets. Until 2000, food prices were declining, with record harvests and the draw-down of food stocks. Simultaneously, public and private investment in agriculture (especially in staple food production) had been declining and led to stagnant or declining crop yield growth in most developing countries. Rapid urbanization has led to the conversion of much farmland to non-agricultural uses. In addition, low prices encouraged farmers to shift to alternative food and non-food crops, or to transfer land to non-agricultural uses. Long-term unstable land and resource use has also caused land degradation, soil erosion, nutrient depletion, water scarcity, desertification, and the disruption of biological cycles.



8. Since July 2008 food prices have fallen again by 50 per cent from their record high owing to many factors, including the financial crisis and the drop in world crude oil prices. The Comprehensive Framework for Action suggests, however, that there is still ample cause for concern:

While food commodity prices now appear to be stabilizing, prices are expected to remain high over the medium to long term. ... [O]ver the medium to long term supply and demand dynamics, high fuel prices, global threats such as climate change, water stress and scarcity and natural resource degradation are expected to keep food prices well above their 2004 levels, posing a continuing challenge for the global community.

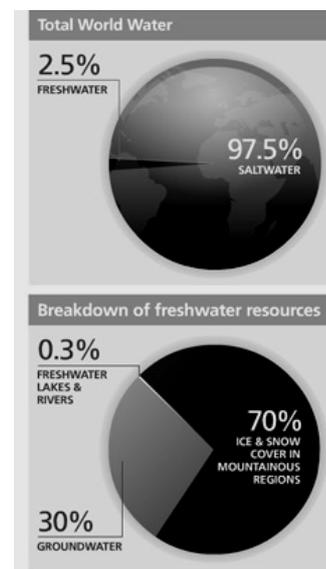
B. Water challenge

9. The supply of freshwater for humans and ecosystems, and access thereto, is gaining increasing prominence in the light of the possibility that freshwater resources will be strongly affected by climate change.² Only a fraction of the world's water is freshwater, and 70 per cent of it is stored in the form of ice and permanent snow cover in mountain and polar regions. The remaining 30 per cent is stored in the form of groundwater in deep and shallow basins, soil moisture, swamp water and permafrost. Freshwater lakes and rivers contain a mere 0.3 per cent of the world's freshwater. The total usable freshwater supply for ecosystems and humans is therefore less than 1 per cent of all freshwater resources.

10. Approximately 70 per cent of the world's freshwater is used for irrigation, while about 22 per cent is used by industry and 8 per cent for domestic use. The increase in water use has been twice that of population growth in the last century. The world's six billion people are using 54 per cent of all the accessible freshwater contained in rivers, lakes and underground aquifers. Water withdrawals are predicted to increase by 50 per cent by 2025 in developing countries and by 18 per cent in developed countries.

11. It is expected that by 2025 1.8 billion people will be living in countries or regions with absolute water scarcity and that two-thirds of the world's population could be living under stress conditions.

12. While the daily drinking water requirement per person is 2–4 litres, it takes 2,000 to 5,000 litres of water to produce one person's daily food. Over the period to 2050 the world's water will have to support the agricultural systems that will feed and create livelihoods for an additional 2.7 billion people. Globally, the extent of land under irrigation is about 20 per cent of all cropland, while rain-fed agriculture is practised on the remaining 80 per cent.



² All references are from statistics supplied by the United Nations mechanism for inter-agency coordination on water resources, <http://www.unwater.org/statistics.html>.

13. The Intergovernmental Panel on Climate Change predicts that yields from rain-dependent agriculture will decline by 50 per cent by 2020. Owing to climate change, Himalayan snow and ice, which provide vast amounts of water for agriculture in Asia, are expected to decline by 20 per cent by 2030.

14. Pollution from both point and diffuse sources exacerbates the freshwater challenge. Every day two million tons of human waste is disposed of in watercourses. In developing countries, 70 per cent of industrial wastes are dumped untreated into waters, polluting the usable water supply. The contribution of the food sector to the production of organic water pollutants in high-income countries amounts to 40 per cent and in low-income countries to 54 per cent. Projected increases in fertilizer use for food production and in wastewater effluents over the next three decades suggest there will be a 10–20 per cent global increase in the amount of nitrogen carried by rivers to coastal ecosystems.



C. Energy challenge

15. Challenges that have arisen in the energy sector are equally unresolved despite the fall in crude oil prices from close to \$150 to about \$40 per barrel over the past six months.³ Two main factors are cited by the International Energy Agency in its *World Energy Outlook 2008* and will require changes in energy policies a means of promoting energy security: climate change and the insecurity of fossil fuel reserves in the face of growing demand intensified by geopolitical considerations. The Agency attributes 61 per cent of global greenhouse gas emissions to the energy sector and is of the view that any measure to combat climate change must address the energy sector⁴ notwithstanding estimates of oil and coal endowments being large enough “to supply the world with oil for over 40 years at current rates of consumption”⁵ and with coal for hundreds of years.

16. According to the International Energy Agency replacing fossil fuels with nuclear power remains controversial. The Agency predicts a decrease in the share of nuclear power in meeting primary energy demand, from 6 per cent today to 5 per cent in 2030.⁶ The question thus arises: “how can the world improve energy efficiency and make use of modern renewable energy sources and technologies such as biofuels and hydro, wind, solar and geothermal power to meet the world’s growing energy demand?” The International Energy Agency predicts that modern renewable energies will constitute the fastest growing part of the energy sector, overtaking gas soon after 2010 to become second only to coal as the largest source of electricity. This transition appears to have begun. In its annual report on investment trends in the renewable energy and energy efficiency sectors⁷ UNEP reports \$148 billion invested in these sectors in 2007, with a small drop to \$144 billion expected in 2008 owing to the downturn in the financial markets. The wind power sector on its own already attracts more investment than any other low carbon technology, including nuclear and large hydropower.

D. Financial challenge

17. According to the United Nations Conference on Trade and Development, the world economy is now mired in the most severe financial crisis since the Great Depression.⁸ In little over a year, the mid-2007 subprime mortgage crisis in the United States of America developed into a global financial crisis and started to move the global economy into recession. Several major financial institutions in the United States and Europe failed; stock market prices collapsed and have become highly volatile. Retail businesses and industrial firms, both large and small, are finding it increasingly difficult to obtain credit as banks have become reluctant to lend, even to long-time customers.

3 “Official Energy Statistics”, a publication of the Government of the United States of America available online at www.eia.doc.gov/dnav/pet/hist/wtotworld.htm.

4 Ibid at 12.

5 *World Energy Outlook 2008*, at 7.

6 Ibid.

7 UNEP, *Global Trends in Sustainable Energy Investment 2008*.

8 United Nations Conference on Trade and Development, *World Economic Situation and Prospects 2009*.

18. After what some commentators saw as an ineffective start, since early October policymakers in the developed countries have come up with a number of internationally coordinated emergency plans. The measures have reshaped the previously deregulated financial landscape; massive public funding has been made available to recapitalize banks, with Governments taking partial or full ownership of failed financial institutions and providing blanket guarantees on bank deposits and other financial assets in order to restore confidence in financial markets and stave off complete systemic failure. Governments in both developed and developing countries have begun to put together fiscal and monetary stimulus packages to prevent the global financial crisis from turning into a depression.

19. According to the International Monetary Fund⁹ the situation remains exceptionally uncertain and the immediate policy challenge for finance ministries is to stabilize financial conditions while nursing economies through a period of slow activity.

F. Climate change context

20. Both the impacts of, and the responses to, climate change will have significant implications for each of the challenges described above. Much evidence exists, according to the Intergovernmental Panel on Climate Change, that continued greenhouse gas emissions at or above current rates will cause further warming and induce many changes in the global climate system during the twenty-first century that will very likely be larger than those observed during the twentieth century.¹⁰ In the agricultural sector, the impacts of climate change are felt through changing rain patterns and increasing numbers of extreme weather events, generally resulting in further droughts for already dry regions and floods for already rainy regions. The availability of freshwater will be further compromised as desertification spreads and as a result of rapid glacier melt-down – one of the major consequences of climate change – results in unregulated water flows from mountains into lowlands. The agricultural sector is, at the same time, with a share of 13.5 per cent, one of the largest producers of greenhouse gases owing to inputs used and livestock farming.

21. Climate change is also affecting biodiversity, causing a decline in the delivery of ecosystem services. Climate change has been found to accelerate the loss of biodiversity directly and indirectly by reducing and extinguishing habitats, a process initially caused by population growth, changes in land use and economic expansion.¹¹

22. Lastly, climate change poses unprecedented challenges to individuals, local communities and nation States through increased risks to human health as a consequence of rising temperatures and the spread of vector-borne diseases or heat-related illnesses; extreme weather events and the destruction of private property, livelihoods and jobs in agriculture, tourism and trade; and the risk of disasters and social unrest that will result from the effects on entire populations of rising sea levels and persistent droughts.

The Millennium Ecosystem Assessment

The Millennium Ecosystem Assessment estimates that 60 per cent of the ecosystem services examined are being degraded or used unsustainably, including freshwater, capture fisheries, air and water purification and the regulation of regional and local climate, natural hazards, and pests.

Providing food, freshwater, timber, fiber and fuel for people over the past 50 years has changed ecosystems more rapidly and extensively than in any comparable period in human history, resulting in a substantial and largely irreversible loss in the diversity of life on earth.

Failing to introduce sustainable management practices is likely to invoke further degradation of ecosystems and the services they provide, as global GDP is expected to increase three to sixfold by 2050, while the global population is expected to reach 9–10 billion.

9 World Economic Outlook 2008.

10 IPCC fourth assessment report, synthesis report, 2007:7.

11 UNEP, The Economics of Ecosystems & Biodiversity (TEEB), 2008.

II. Responses

A. International responses to multiple crises

23. A number of high-level events have taken place over the course of the past year in response to the multiple crises that have emerged. The inputs to and outcomes of some of them are discussed below.

24. Heads of State and Government, ministers and representatives of 180 countries and the European Community attending the High-level Conference on World Food Security: the Challenges of Climate Change and Bioenergy reached the following conclusion:

It is essential to address the fundamental question of how to increase the resilience of present food production systems to challenges posed by climate change. In this context, maintaining biodiversity is key to sustaining future production performance. We urge governments to assign appropriate priority to the agriculture, forestry and fisheries sectors, in order to create opportunities to enable the world's smallholder farmers and fishers, including indigenous people, in particular in vulnerable areas, to participate in, and benefit from financial mechanisms and investment flows to support climate change adaptation, mitigation and technology development, transfer and dissemination. We support the establishment of agriculture systems and the sustainable forest management practices that positively contribute to the mitigation of climate change and ecological balance.

25. In its statement for the Conference, the Group of Twenty leaders said that there was a "need for a wide range of mid to long-term measures to tackle the issue of food security and poverty, *inter alia*, the importance of stimulating world food production and increasing investment in agriculture".

26. In its joint statement to the participants at the Follow-up International Conference on Financing for Development to Review the Implementation of the Monterrey Consensus, held in Doha, the United Nations Development Group emphasized that "we must invest more in sustainable human development and the MDGs through areas including education, nutrition, health, decent work, human capacity, rights and opportunities, social protection, food assistance, agriculture, infrastructure and green solutions".

27. On the same occasion, the Secretary-General, Ban Ki-moon, promoted sustainability as one of the three pillars bridging the Group of Twenty and the rest of the world, stating: "Through low carbon green growth, we can create jobs, conserve energy and combat climate change – in short, address several challenges at once."

28. Addressing the issue of energy security, the outcome document of the Doha conference, the Doha Declaration on Financing for Development, states that the heads of State and Government and high representatives attending the Conference "will strengthen [their] efforts to substantially increase the share of renewable energies and to promote energy efficiency and conservation".

29. On the issue of biofuels, the participants at the High-level Conference on World Food Security concluded that it was "essential to address the challenges and opportunities posed by biofuels, in view of the world's food security, energy and

Events and processes of the past 12 months that have addressed the various crises

- **World Economic Forum, 23–27 January 2008, Davos, Switzerland**
- **Group of Eight Summit, 24–26 May 2008, Hokkaido, Japan**
- **High-level Conference on World Food Security of the Food and Agriculture Organization of the United Nations, 3–5 June 2008, Rome**
- **High-level segment of the United Nations Economic and Social Commission meeting, 30 June–3 July 2008, New York**
- **United Nations high-level event on the Millennium Development Goals, 22–26 September 2008, New York**
- **United Nations Private Sector Forum, 24 September 2008, New York**
- **Third High-level Forum on Aid Effectiveness, 2–4 September 2008, Accra**
- **Meeting of the Group of 20, 8 and 9 November 2008, Sao Paulo, Brazil**
- **Follow-up International Conference on Financing for Development to Review the Implementation of the Monterrey Consensus, 29 November–2 December 2008, Doha**
- **Fourteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change and the fourth session of the Meeting of the Parties to the Kyoto Protocol, 1–12 December 2008**

sustainable development needs”, while the participants in the thematic round table of the high-level segment of the United Nations Economic and Social Commission meeting called for “safeguards to ensure that the production and use of biofuels is sustainable, contributing to climate change mitigation, energy security and poverty reduction and avoiding negative effects on food security, rural communities, and the environment”.

30. The United Nations Development Group, in its joint statement at the Doha conference, emphasized the need to take a coherent approach and address the various development-related sectors and their linkages in an integrated manner, ensuring transparency and continuity of aid flows and building on the outcomes of the Accra follow-up meeting on the Paris Declaration on Aid Effectiveness and the Monterrey Consensus. It called upon Governments and others in the international community to use the financial crisis “as a unique opportunity to accelerate progress towards a green economy built on job creation and support in sectors such as clean technologies, ecosystem infrastructure, rural energy, sustainable cities and sustainable agriculture”.

B. Possible responses to the crises in the environmental field

31. In essence, the inputs to, and outcomes of, recent high-level meetings call upon the international community to rethink traditional economic ideas, business practices and development cooperation to guarantee sustainable development, including its economic, social and environmental aspects. Processes such as the Marrakech Process and elements of the draft ten-year framework of programmes on sustainable consumption and production most relevant to food production, energy and water use and reports such as the International Assessment of Agricultural Knowledge, Science and Technology for Development, among others, all contribute to finding practical solutions to current challenges.

32. The ministerial consultations will focus on addressing multiple crises through the lens of environmental sustainability and, in particular, on the opportunity to meet current environmental and development challenges by moving toward a green economy. The emphasis will be on country-level responses; experiences of developing and developed countries; governance responses and funding implications; and the need for appropriate global solutions.

C. Meeting multiple challenges and moving toward a green economy

33. The term “green economy” as defined by UNEP describes an economic system that recognizes the properties of healthy ecosystems as the backbone of economic and social well-being and a precondition for poverty reduction. A green economy is an economic system in which the costs arising from the degradation of ecosystems are internalized and in which environmental industries such as clean and efficient technologies and sustainable agriculture serve as major engines of economic growth, job creation, and poverty reduction.

34. As identified by UNEP, this means, among other things, investing at least \$60–90 billion per year in sustainable environmental management in the developing world, which is necessary to reduce environment-related poverty alone; a re-alignment of agricultural subsidies, currently amounting to more than \$300 billion a year, toward sustainable agriculture, forestry and fisheries; a shift from subsidies for fossil fuels, currently estimated at \$240–310 billion per year or around 0.7 per cent of global GDP, to research and development on renewable energies.

35. Such investment and realignment can also be expected to reduce greenhouse gas emissions by some 6 per cent by increasing energy efficiency, while channelling revenues to people living in poverty. The green economy also presents substantial employment opportunities, by creating jobs for rural and

Questions for round-table discussions

- ***What does a green economy entail?***
- ***What are the opportunities and limitations of the green economy?***
- ***Who will bear the cost of making the transition to a green economy?***
- ***How could existing international financing mechanisms enable the shift towards a green economy at the global and national levels?***
- ***How can the ten-year framework of programmes on sustainable consumption and production being developed under the Marrakech Process contribute?***

indigenous peoples based on the management of ecosystem goods and services valued at around \$5 trillion.¹²

36. The shift towards a green economy under the UNEP Green Economy Initiative is based on three pillars:

- (a) Appreciation of the full potential for environmental industries to become mainstream, sustainable economic activities;
- (b) Understanding of, and solutions to, financial, policy and institutional barriers to the shift towards a green economy;
- (c) Strong government leadership in providing macroeconomic policy support for the transition.

37. The priority green economic sectors identified by UNEP are:

- (a) Clean and efficient technologies, including renewable energy technologies and a focus on rural energy access;
- (b) Biodiversity-based businesses, including agriculture, forestry, marine and nature-based tourism;
- (c) Ecological infrastructure, including nature reserves, protected areas and watersheds;
- (d) Chemicals and waste management, including waste reduction, recycling and reuse;
- (e) Low carbon cities, buildings and transport.

38. The shift towards a green economy in a broad sense requires the adoption and implementation of coherent policies integrating economic, social and environmental aspects. This requires collaboration between various sectoral ministries at the national level and cohesion between the organizations and institutions dealing with various aspects of sustainable development at the international level.

39. Furthermore, while a global policy framework is useful in providing guidance for Governments, it needs to be adapted to the specific requirements of countries. The ministerial consultations will thus be based on countries' experiences in responding to environment-related development challenges and the relationship between country responses and international responses.

40. Emphasis will be laid on examining the effectiveness of national and international policies and legislation in meeting challenges and capitalizing on opportunities and associated financing opportunities. There is also a need to consider closer collaboration between UNEP and international and regional financial institutions to ensure a coherent approach in policy assistance and financing.

41. Effective implementation of policies and laws generally requires resources. In the long term much of the required resources should come from the private sector but to mobilize this investment public sector resources will also be needed to address technology spill-over effects and share non-commercial risks and other market failures. Participants are thus invited to share their experiences in collaborating with the private sector in meeting funding requirements.

Questions for round-table discussions

- *How can the move towards a green economy be facilitated and accelerated at the country level?*
- *What are the opportunities for international institutions to coordinate their support for developing countries in making a locally relevant transition toward a green economy?*
- *Should moves towards a green economy be facilitated and accelerated through the implementation of the Bali Strategic Plan?*
- *Does the realization of the idea have implications for the North-South and South-South dialogues?*
- *What role can UNEP play in the move toward a green economy? Is technical support needed from UNEP?*

¹² UNEP, "The Economics of Ecosystems & Biodiversity" (TEEB), 2008 & UNEP, "Reforming Energy Subsidies Opportunities to Contribute to the Climate Change Agenda", 2008.

D. Selection of government responses to the financial crisis and the green economy

42. In response to the financial crisis, Governments have agreed on stimulus packages that emphasize improving infrastructure. A number of countries, including China, Germany, Japan, the Republic of Korea, the United Kingdom of Great Britain and Northern Ireland and the United States of America, in addition to the European Union, have taken the opportunity to green their economies, mainly through investing in greener infrastructure and reducing carbon emissions. To that end China has allocated 12 per cent of its \$586 billion stimulus package for direct energy efficiency and environmental improvements, has doubled investment in rail transport (a lower-carbon alternative to road and air transport) and has added \$70 billion for new electricity grid infrastructure.

43. Germany has increased by \$3.78 billion the funds available for renovation work on buildings aimed at cutting carbon emissions; will accelerate investment in transport and subsidize the expansion of rail and waterways; will increase the tax-deductible amount of housing repairs and modernization; and will grant tax breaks on new and low emission cars until the end of December 2010.

44. The Republic of Korea has unveiled what it calls the “Green New Deal” under which the Government will invest \$38 billion over the next four years into “green growth plans”, comprising “36 major projects” which will include: the clean-up of four major rivers, the creation of a network of bicycle tracks, an increase in the number of environmentally-friendly vehicles to 68,000, and the conversion of 20 per cent of public lights to light-emitting diode (LED) lights.¹³

45. The President-elect of the United States of America, Barack Obama,¹⁴ has emphasized the importance of building a green economy as a tool to keep the United States competitive while reducing its impact on the environment. A \$150 billion, 10-year investment would foster renewable technology innovation, energy efficiency, alternative-fuel development and smarter electricity infrastructure. Funds would also be applied to the manufacturing sector for training and transition purposes and for an energy-focused youth jobs programme to invest in disadvantaged youth, together with a Clean Energy Corps to train a new green workforce. Among other initiatives, President-elect Obama has also announced plans to reinvest heavily in transportation and infrastructure initiatives.¹⁵

Global Green New Deal

To capitalize on the opportunities presented by the emerging policy responses to the unfolding financial and economic crisis, UNEP is developing a global Green New Deal report in partnership with a large number of sister United Nations organizations. The report will set out key elements of a global response to the multiple crises outlined earlier in the present document. The immediate focus of the Green New Deal report is on reducing carbon dependency and promoting sustainable primary production, transport and management of chemicals and waste.

III. President’s summary: some possible messages

46. The Governing Council/Global Ministerial Environment Forum is the United Nations high-level environment policy forum and brings the world’s environment ministers together to “review important and emerging policy issues in the field of the environment”. The Council/Forum provides broad policy advice and guidance with the aim, among others, of promoting international cooperation in the field of environment. In doing so it invites officials of United Nations agencies and heads of multilateral environmental agreement secretariats “to participate and interact with ministers at meetings” and seeks to “promote the meaningful participation of representatives of major groups and non-governmental organizations including the private sector”.

47. It has become the practice for the President of the Governing Council/Global Ministerial Environment Forum to prepare a summary of the ministerial consultations that take place at each session of the Council/Forum. The President’s summary of the ministerial consultations that will take place at the twenty-fifth session of the Council/Forum provides an opportunity for environment ministers collectively to send a message to the United Nations system, Governments, civil society and

¹³ AFP, 5 January 2009.

¹⁴ At the time of writing the present note Mr. Obama has not yet assumed the office of President. He announced these initiatives as President-elect. He is scheduled to be sworn in as president on 20 January 2009.

¹⁵ http://www.businessweek.com/innovate/content/nov2008/id20081117_325517.htm?chan=innovation_architecture_top+stories. For more information also visit www.change.gov.

the private sector on their perspective on the topics under discussion. While it is entirely a matter for ministers to decide, following consultations with the Committee of Permanent Representatives a number of questions are posed below to help stimulate discussion on possible messages for the President's summary.

48. The questions are as follows:

(a) General:

- (i) Does responding to multiple environmental and development crises require coherence at both the national and global levels?
- (ii) Does the current financial and economic crisis, in the context of climate change and the energy, water and food crises, provide a unique opportunity for a fundamental restructuring of economies?
- (iii) Are enormous economic, social and environmental benefits likely to arise from combating climate change and investing in green economic sectors? Will such benefits range from new green jobs in clean technology and clean energy businesses to jobs in sustainable agriculture and conservation-based enterprises?
- (iv) Does effectively tackling the challenges of food, energy and water security in a changing climate require a coordinated response at the country level by the United Nations, financing institutions and mechanisms, including the World Bank and the Global Environment Facility, and multilateral environmental agreements, including the United Nations Framework Convention on Climate Change, the United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa and the Convention on Biological Diversity?

(b) The green economy:

- (i) Can greening the economy provide a new engine for economic growth, the creation of decent jobs poverty reduction and investments in green infrastructure and education? Can training be linked to green employment growth?
- (ii) Can making a transition towards a green economy adapted to local conditions, present opportunities to respond to multiple environmental and development challenges in a coherent manner?
- (iii) Are there opportunities for wealth generation and creation of decent green jobs at the national level in:
 - a. Clean and efficient technologies, including renewable energy technologies and a focus on rural energy access?
 - b. Biodiversity-based businesses, including agriculture, forestry, marine and nature-based tourism?
 - c. Ecological infrastructure, including nature reserves, protected areas and watersheds?
 - d. Chemicals and waste management, including waste reduction, recycling and reuse?

A number of events and processes taking place over the coming 12 months provide an additional opportunity to advance the messages emerging from the President's summary. These are, among others:

- ***Sixty-third session of the United Nations General Assembly***
- ***World Economic Forum and World Business Summit on Climate Change***
- ***Fifth World Water Forum***
- ***Seventeenth session of the United Nations Commission on Sustainable Development***
- ***Fifteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change and fifth session of the Meeting of the Parties to the Kyoto Protocol***
- ***The 10-year framework of programmes on sustainable consumption and production being developed under the Marrakech Process***

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- e. Low carbon cities, buildings, and transport?
 - (iv) Do incentives to educate and train the poor to benefit from tomorrow's green economy form an integral part of poverty eradication?
 - (v) Is the active involvement of the public and the private sectors in the discussions and actions on a green economy vitally important?
 - (vi) How can the 10-year framework of programmes on sustainable consumption and production being developed under the Marrakech Process contribute to moving towards a green economy?
 - (c) Governance:
 - (i) Should the global and national environmental architecture provide coherent and timely responses to multiple environment and development challenges and facilitate the achievement of the transition towards a green economy?
 - (ii) Will governance at the national level be best able to respond to multiple challenges and opportunities when it takes an intersectoral approach, recognizes ecosystem services and their importance as a part of essential national infrastructure and provides for meaningful public participation?
 - (iii) Will policy incentives, business innovations, initiatives by sectoral ministries and inter-ministerial coordination establish a fruitful link between efforts to move toward a green economy and poverty eradication?
-