

## **Strengthening Cooperation with Regional Air Pollution Networks and Initiatives outside the Convention**

**Submitted by the secretariat of the Global Atmospheric Pollution Forum**

### **Explanatory note to the document**

The Global Atmospheric Pollution Forum brings together regional intergovernmental networks and other governmental and non-governmental bodies concerned with cooperation on air pollution at the regional, hemispheric and global scales. Its aim is to promote cooperative action among them, and more generally to enhance capacity to address air pollution issues at regional, hemispheric and global scales.

The Forum is currently undertaking a wide-ranging review of inter-regional cooperation on air pollution which it expects to publish in the earlier part of 2012.

This paper, which summarizes assessments prepared so far as part of that review, and some of their implications and conclusions, provides background information for the Executive Body and other bodies of the Convention. It aims to help consideration of how to give further effect to the commitment to “outreach” and to closer cooperation with intergovernmental air pollution networks in other regions.

## **Strengthening Cooperation with Regional Air Pollution Networks and Initiatives outside the Convention**

**Submitted by the secretariat of the Global Atmospheric Pollution Forum**

### **Summary**

This document aims to aid consideration of future broader cooperation with regional efforts outside the Convention as required by the Convention's long-term strategy. It summarizes background information on existing regional networks and agreements, including information on membership, legal status, structures, current activities and existing links with the Convention. Additionally, information is provided on international organizations and non-governmental organizations which have relevance to broader efforts on air pollution management. The document considers more specifically issues for information exchange, decision mechanisms for cooperation, as well as efforts and resources that might be needed for future successful cooperation. Conclusions and suggestions for possible further action by the Executive Body and its subsidiary bodies include:

(a) The challenges facing the Convention and the priorities in its long-term strategy will increasingly require collaboration outside UNECE's boundaries, e.g. ozone, particulates (and black carbon), nitrogen, climate change (short-lived climate forcers). These will progressively enhance the importance of mutual collaboration with networks and agreements in other regions;

(ii) There are important existing links between the Convention and other regional networks, agreements and international institutions, but more substantial opportunities for cooperation are likely to emerge in the next few years. In responding to these it will be important to note the different characters and stages of development of the various networks and agreements and take these into account when deciding on the objectives and processes of collaboration;

(iii) In addition to formal cooperation with other regional networks, essential contributions to the Convention's overall outreach strategy can come from developing cooperation for specific purposes with individual states outside the UNECE region as well as from open-ended collaboration at the scientific level with relevant institutions and individuals around the world;

(iv) Cooperation between networks should not be limited to the bilateral level. There have recently been important proposals, from the Task Force on Hemispheric Transport of Air Pollution and from UNEP among others, for the development of a global "confederation" or "alliance" of regional networks, to foster mutual support and cooperation and help address hemispheric and global air pollution issues. Progress will depend on joint action between the Convention and UNEP, and the Convention should open discussions with UNEP on how this could be promoted.

Continued/....

### Summary (continued)

(v) International organizations, such as UNEP and WMO, and non-governmental organizations, such as the Global Atmospheric Pollution Forum, can play a helpful role in promoting future cooperation between regions;

(vi) The issues for useful future cooperation are both scientific/technical and policy related and some joint activities at the scientific/technical level are normally an essential foundation for wider progress at the policy level. Some Convention bodies have already collaborated with other regions on common scientific issues and further encouragement to all scientific bodies should be given. For outreach activities to be extended, as required by the Convention's long-term strategy, lead countries and other donors should be encouraged to provide the necessary funds for participation in meetings and planning joint activities;

(vii) Two specific scientific actions could be encouraged: (a) Extend EMEP monitoring sites to North Africa (as previously planned) to provide better information on the Mediterranean region and transport between North Africa and Europe; (b) transfer assessment methodologies to developing networks and agreements;

(viii) Policy-related collaboration is less easily achieved, but can draw upon the knowledge gained from scientific collaboration, secretariat experience, from delegations of countries outside the region and from representatives of organizations with experience of issues outside the region; enhanced cooperation at a strategic/policy level will probably require an initiative by the Executive Body and/or its Bureau;

(ix) Some individual countries, which either have specific interests in air pollution and are outside the UNECE region, or are Parties to the Convention and members of other networks or agreements outside the region (e.g. The Russian Federation, Kazakhstan) may have a particularly important role to play; the former could be targeted to encourage participation in appropriate high-level meetings, and both groups could play an important role in promoting inter-regional collaboration;

(x) New proposals for cooperation or other related policy initiatives should take advantage of planned global or regional high-level meetings;

(xi) It is hoped that this document will provide a helpful reference for developing broader cooperation with regional efforts outside the Convention; to this end, consideration should be given to wide circulation of the document so that errors and omissions can be corrected and so it can be kept up-to-date; regarding its future use, the Executive Body may wish to charge its Bureau with considering further action.

## Contents

	Paragraphs
I. Introduction	1-5
II. Other regional intergovernmental cooperative efforts to address air pollution	6-55
A. Asia	
(i) The Acid Deposition Monitoring Network for East Asia (EANET)	8-11
(ii) The Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia	12-15
(iii) The Framework Convention for Central Asia	16-19
(iv) ASEAN Regional Haze Agreement	20-23
(v) South Pacific Regional Environment Programme	24-27
(vi) Joint Forum on Atmospheric Environment in Asia and the Pacific	28-31
B. Africa	
(i) North African Framework Agreement on Air Pollution	32-35
(ii) Eastern Africa Regional Framework Agreement on Air Pollution (Nairobi Agreement)	36-39
(iii) Central and Western African Regional Framework Agreement on Air Pollution (Abidjan Agreement)	40-43
(iv) Southern Africa Regional Framework Agreement on Air Pollution (Lusaka Agreement)	44-47
C. Latin America and the Caribbean	
(i) Intergovernmental Network on Air Pollution in Latin America and the Caribbean	48-51
D. The Arctic	
(i) The Arctic Council	52-55
III. The status of air quality management activities in other regional cooperative Efforts	56
IV. Potential for cooperation between the Convention and other regions	57-65
V. Cooperation processes	66-73
VI. Efforts or resources needed for successful cooperation	74-76
VII. Conclusions and proposals for action	77-80
Annex I	A provisional set of questions for evaluating organizations outside the UNECE region.
Annex II	Global international organizations with interests in air pollution management
Annex III	Non-governmental institutions with interests in air pollution management.

## **I. Introduction**

1. The Executive Body at its twenty-eighth session adopted its long-term strategy (ECE/EB.AIR/106/Add.1, Decision 2010/18). The strategy notes that “since the signing of the Gothenburg Protocol, it has become clear that cooperation on air pollution can extend beyond the UNECE region.” It further notes that the Convention has “extended its outreach activities across the world” building on the work of other international bodies. The Executive Body agreed that such activities “should gain momentum in moving into the policy area in the future” and it decided the “Convention will identify appropriate ways and means to best build on this work and to develop it, and to continue to build on the reputation of the Convention as a global leader in regional air pollution management.” In identifying priorities for the future, the long-term strategy notes that “scientific and political outreach ..... will become increasingly important, particularly to foster cooperation between regional agreements around the world” and as “a bridge between regional and global action.” It indicates that “enlarged cooperation at strategic/policy level with other regions and the global community on international air pollution issues will be actively pursued.”

2. Also, at its twenty-eighth session, the Executive Body noted the conclusions of the Task Force on Hemispheric Transport of Air Pollution (ECE/EB.AIR/2010/10) which outlined the need for a “global confederation of regional cooperative programmes on air pollution that could help develop a better and globally shared understanding of air pollution problems and their solutions at the local, regional and global scale while maintaining autonomy and flexibility for regions to develop policies and programmes appropriate for their circumstances”. The Executive Body also adopted a revised mandate for the Task Force (ECE/EB.AIR/106/Add.1, Decision 2010/1). The mandate indicates that one of the functions of the Task Force is to “identify areas for coordination, as well as key issues for fostering complementary work and collaboration on the issue of particulate matter and its components, including black carbon, and tropospheric ozone and its precursors by Parties under the Convention and by external bodies (including the Arctic Council/Arctic Monitoring and Evaluation Programme (AMAP), the United Nations Environment Programme (UNEP) and the Intergovernmental Panel on Climate Change (IPCC))”.

3. The Bureau of the Executive Body, at its meetings in April and September 2011 (ECE/EB.AIR/2011/3), discussed the request of the Executive Body at its twenty-eighth session “to develop a set of questions designed to evaluate the level of interest and capacity of relevant organizations outside ECE for further cooperation, and to explore the most effective ways for furthering that cooperation”.

4. The Global Atmospheric Pollution Forum (GAP Forum) has long considered options for inter-regional cooperation and possibilities for global approaches to air pollution management. The discussion document prepared by the Forum in 2010, and submitted to the Executive Body

at its twenty-eighth session, was a discussion paper for GAP Forum partners on the prospects for enhancing international co-operation on air pollution<sup>1</sup>. We have been able to draw upon the contents of the discussion paper and our knowledge of other regional networks and agreements, to target possible requirements of the Convention.

5. To draw up an evaluation of relevant organizations outside the UNECE region we have used a provisional set of questions (see annex I). To help identify possibilities for cooperation outside the Convention to implement the Convention's long-term strategy and the mandate of the Task Force on Hemispheric Transport of Air Pollution, the paper provides up-to-date information on the various existing regional efforts to combat air pollution (section II), it examines their status with regard to air quality management activities that are established under the Convention (section III), it considers issues and mechanisms for cooperation (sections IV and V), and the efforts and resources that might be required (section VI). It concludes with some possible options for future action. Annexes provide background information on international organizations (annex II) and non-governmental organizations (annex III) that have particular interests in air pollution management at the regional or global scales.

## **II. Other regional intergovernmental cooperative efforts to address air pollution**

6. There are a wide variety of different regional intergovernmental cooperative efforts around the world, with different legal statuses, different levels of development and often with different aims. The sections below deal with the four global regions outside of Europe and North America, namely, Africa, the Arctic, Asia, and Latin America and the Caribbean; they consider the individual intergovernmental efforts separately within each. An indication of the main regions and sub-regional networks and agreements are summarized in figure 1 below.

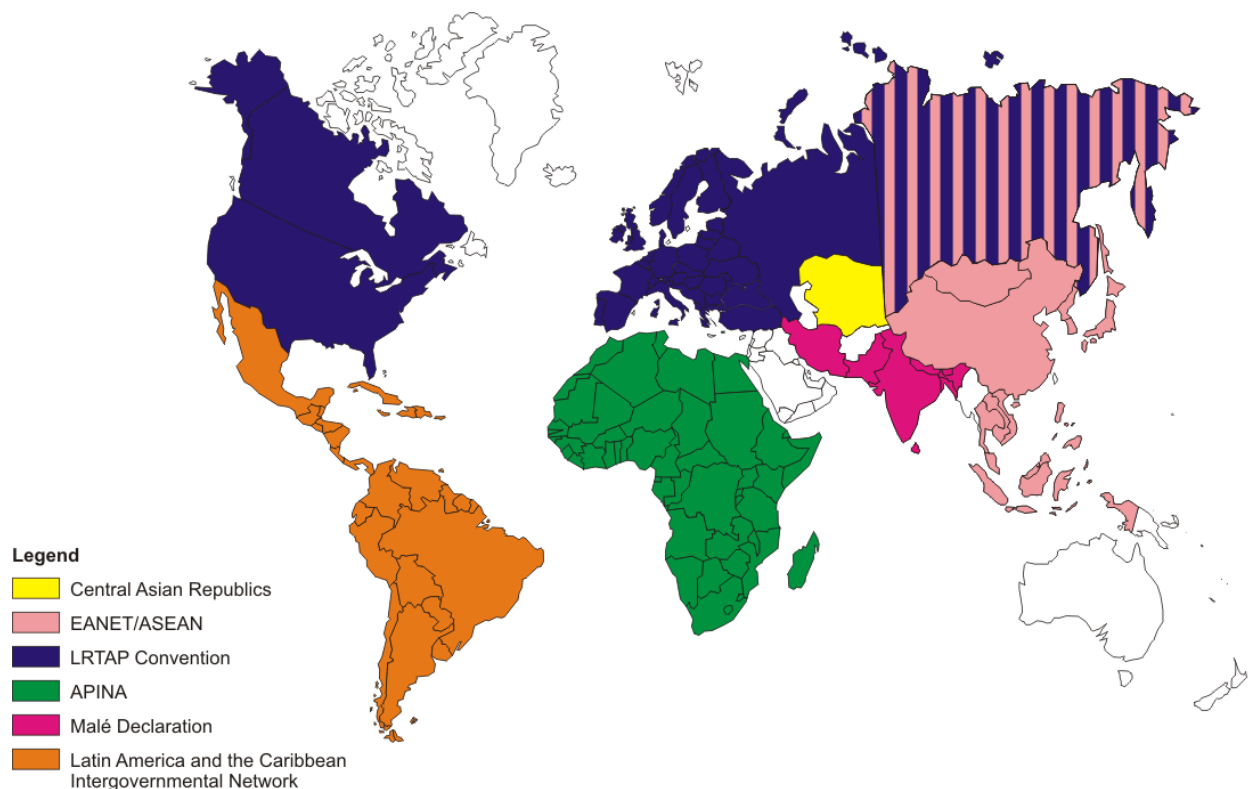
7. For each of the established regional networks, and for some of the smaller newly evolved networks, the text below provides:

- (a) A review of the legal status, participating states, objectives and scope;
- (b) Operational structure and assessment of current technical work;
- (c) An assessment of the feasibility of scientific and policy cooperation;
- (d) Information source(s) together with a brief assessment.

---

<sup>1</sup> "Atmospheric Pollution: Developing a Global Approach", Global Atmospheric Pollution Discussion Paper No.2, 2010; <http://www.sei-international.org/rapidc/gapforum/html/reports/discussionpaper1.pdf>

Figure 1. Geographical coverage of the main existing regional air pollution networks



Notes: (a) There are overlaps between some regions and sub-regions, e.g. Central Asia and the LRTAP Convention (UNECE) region, and the UNECE and EANET areas. (b) The status of the networks, and their connectedness to regional policy developments, varies from region to region (see text). (c) The Arctic region is not included in the map.

## A. Asia

### (i) The Acid Deposition Monitoring Network in East Asia (EANET)

8. *Legal status, membership, and objectives and scope.* EANET was established, after a preparatory phase (1998-2000), in January 2001 following adoption of the “Joint Announcement on the Implementation of the Acid Deposition Monitoring Network in East Asia (EANET)”. Currently, 13 countries are members of EANET: Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russian Federation, Thailand and Viet Nam. The Convention secretariat has attended most IG session, providing information on the Convention and advice when needed. While EANET has the legal status of a non-binding agreement, it has government recognition with a governing body - the Intergovernmental meeting (IG) - which meets annually. In 2010, the IG adopted the “Instrument for Strengthening the Acid Deposition Monitoring Network in East Asia (EANET)”. This is in the process of being signed by representatives of the Governments of the members of EANET (Cambodia, Japan, Mongolia, Myanmar, Philippines, Republic of Korea, and Thailand signed in November 2010).

The instrument strengthens the legal status of EANET, but there are few obligations and no binding measures for air pollution management. While it may be seen as a treaty in the broad context, it is not registered with the United Nations, and its adoption and amendment mechanisms do not follow the UN's official legal procedures (e.g. with respect to signature, ratification and entry into force). EANET therefore falls short of being a UN Treaty Organization. Regarding objectives and scope, EANET is firmly focused upon the monitoring of acid deposition, though the interests of several of its member States extend to other air pollution issues.

9. *Operational structure and technical work.* Under the IG there have been two main working groups, the Scientific Advisory Committee (SAC) and the Working Group on Further Development (WGFD). The SAC meets annually and considers reports from National Focal Centres, the NC and a number of task forces – the Task Force on Monitoring for Dry Deposition, the Task Force on Soil and Vegetation Monitoring, the Task Force on Monitoring Instrumentation and the Task Force on Research Coordination. Some of these task forces have links with Convention scientific bodies, participating in one another's meetings, sharing information and even organizing joint workshops.

10. *Cooperation feasibility.* Despite the wish by some participating countries to monitor pollutants other than those causing acidification, and proposals (and pilot studies) to develop emission inventories and pollution modelling, there remain some participating countries who wish to keep EANET simply as an acid monitoring network. Unless decisions are taken to move beyond the current scope of EANET, cooperation with the Convention will be confined to issues linked to acidification monitoring (deposition and effects) with few possibilities currently to move to policy discussions.

11. *Information source assessment.* Up-to date information on EANET can be found at [www.eanet.cc](http://www.eanet.cc). The web site is regularly updated and provides information on meetings, activities, publications, background information and an e-learning course "Acid Deposition and the Environment". The secretariat of EANET is at UNEP's Regional Resource Centre for Asia and the Pacific (RRC.AP) in Thailand, as well as supporting EANET it provides a more general information and resource service, together with staff of the EANET Network Centre (NC) at the Asia Center for Air Pollution Research (ACAP) in Japan.

(ii) The Malé Declaration

12. *Legal status, membership, and objectives and scope.* The Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia is an intergovernmental agreement to tackle regional air pollution problems, established in 1998 by eight South Asian countries at a meeting of the South Asia Cooperative Environment Programme (SACEP) Governing Council. It is currently the only ministerial level environmental agreement between south Asian countries and has a membership of Bangladesh, Bhutan, India, Iran,



Maldives, Nepal, Pakistan and Sri Lanka (a group of countries with a quarter of the world's population). The basic objective of the Malé Declaration is to foster regional cooperation to address the rapidly increasing problem of regional air pollution with a focus on South Asia. The agreement has been developed under four phases, the fourth, starting in 2010, is due for completion in 2012. Funding has been provided by UNEP and the Swedish Government (Swedish International Development Cooperation Agency (Sida)) as part of the Regional Air Pollution in Developing Countries (RAPIDC) programme. While Phases I to III tackled “agreement and awareness”, “capacity building”, and “tackling air pollution problems”, Phase IV is focused on a sustainable financing mechanism and the selection of regional centres on air quality and impact assessment studies. It also continues the impact assessment activities on crop, health and corrosion and regular monitoring.

13. *Operational structure and technical work.* From the beginning the Malé Declaration established National Focal Points (NFPs) in the ministries of environment in each country and National Implementing Agencies (NIAs) were then nominated by the NFPs which carry out the technical work. The secretariat of the Malé Declaration is at UNEP's Regional Resource Centre for Asia and the Pacific (RRC.AP) in Thailand. Technical work to date has included emission inventory compilation, monitoring and modeling (including some integrated assessment modeling work), assessment of crop damage due to tropospheric ozone and human health impacts of particulate matter on school children. A handbook on control and prevention of air pollution was developed in Phase III and has been disseminated to practitioners and policy makers. Each year there is an Intergovernmental Meeting (IG) attended by representatives of the NFPs and NIAs which reports progress to the SACEP council of ministers. In Phase IV of the Declaration, the IG established a Task Force on Future Development to consider aspects of the expanding network, e.g. development of regional technical centres, development of a regional framework agreement on atmospheric emissions of air pollutants, establishment of a sustainable financing mechanism. The first meeting of the Task Force, in 2010, agreed to (i) develop a mechanism for sustainable financing; (ii) conduct a feasibility study on establishing regional centres; and (iii) prepare a feasibility report on strengthening the regional framework on air pollution reduction in South Asia. Reports on these three aspects are under consideration. The twelfth session of the IG in Delhi, India, June 2011, decided that the development of a legally binding instrument will not be applicable to the region at this time. .

14. *Cooperation feasibility.* There has already been cooperation with the Malé Declaration at the technical level. Indeed, the IG of the Malé Declaration wrote to the Executive Body in 2007 inviting collaboration and joint activities with subsidiary bodies of the LRTAP Convention, especially with regard to impacts of ozone on crops (see the report to the twenty-fifth session of the Executive Body (ECE/EB.AIR/91)). The Executive Body responded positively and requested its Bureau and secretariat to reply to the request and inform the necessary subsidiary bodies. The Executive Body also “encouraged Convention bodies, in particular programmes, task

forces and expert groups, to collaborate with relevant experts and organizations from outside the region to share the Convention's experiences and useful scientific and technical information. The International Cooperative Programme on Effects of Air Pollution on Natural Vegetation and Crops (ICP Vegetation) has subsequently collaborated with scientists involved with the work of the Malé Declaration (see the most recent report of ICP Vegetation, ECE/EB.AIR/WG.1/2011/8). Given past willingness to cooperate, the Malé Declaration should be seen as a potential collaborator in any global initiative.

15. *Information source assessment.* Up-to date information on the Malé Declaration can be found at [www.rrcap.unep.org/issues/air/maledec](http://www.rrcap.unep.org/issues/air/maledec). The web site is regularly updated and provides information on meetings, activities, publications and background information.

(iii) The Framework Convention for the Protection of the environment for sustainable development of Central Asia

16. *Legal status, membership, and objectives and scope.* According to the Convention text, all five Central Asian States, Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan and the Republic of Uzbekistan, were to sign the Convention in November 2006. However, the Eclex web site: [http://www.ecolx.org/ecolx/ledge/view/RecordDetails;document\\_Framework%20Convention%20on%20Environmental%20Protection%20for%20Sustainable%20Development%20in%20Central%20Asia.html?DIDPFDSIjsessionid=83F7846725095E2F20D034F8CB7574E8?id=TRE-143806&index=treaties](http://www.ecolx.org/ecolx/ledge/view/RecordDetails;document_Framework%20Convention%20on%20Environmental%20Protection%20for%20Sustainable%20Development%20in%20Central%20Asia.html?DIDPFDSIjsessionid=83F7846725095E2F20D034F8CB7574E8?id=TRE-143806&index=treaties) indicates that only Kyrgyzstan, Tajikistan and Turkmenistan have signed. No country has ratified and the Convention is not in force. This Convention has a much broader scope than air pollution and includes biodiversity, conservation, environmental planning, waste disposal, etc. For air pollution, article 8 of the Central Asia Convention uses similar text to that found in the fundamental principles (article 2) of the Convention on Long-range Transboundary Air Pollution (LRTAP).

17. *Operational structure and technical work.* No operational structure exists although the Convention text indicates that a Conference of the Parties will take place within twelve months of entry into force.

18. *Cooperation feasibility.* As yet, this Convention offers no scope for cooperation. However, since Kazakhstan and Kyrgyzstan are both Parties to the LRTAP Convention, and the other three States are eligible to become Parties, and also UNECE places much emphasis on the development of the Central Asian States, there is much scope for cooperation at both scientific and policy levels in the future.

19. *Information source assessment.* The English text of the Convention is to be found at [http://iea.uoregon.edu/pages/view\\_treaty.php?t=2006-EnvironmentalProtectionSustainableDevelopmentCentralAsia.EN.txt&par=view\\_treaty\\_html](http://iea.uoregon.edu/pages/view_treaty.php?t=2006-EnvironmentalProtectionSustainableDevelopmentCentralAsia.EN.txt&par=view_treaty_html) ,

the web site of the International Environmental Agreements (IEA) Database Project. Further information on the agreement is traced with some difficulty as there appears to be no web site associated specifically with the Convention, and, according to IEA, no secretariat has yet been appointed.

(iv) Association of Southeast Asian Nations (ASEAN) Agreement on Transboundary Haze Pollution (AATHP)

20. *Legal status, membership, and objectives and scope.* The Governments of the ten ASEAN Member Countries signed the ASEAN Agreement on Transboundary Haze Pollution (accessible through <http://haze.asean.org/hazeagreement>) in 2002 in Kuala Lumpur, Malaysia. The Hazeonline web site notes “the Agreement is the first regional arrangement in the world that binds a group of contiguous states to tackle transboundary haze pollution resulting from land and forest fires. It has also been considered as a global role model for the tackling of transboundary issues.” The Agreement entered into force in 2003 and, to date, nine Member Countries, namely Brunei Darussalam, Cambodia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam, have ratified the Agreement. It is not clear if the Agreement is registered with the United Nations, however, its adoption and amendment mechanisms seem to follow the UN’s official legal procedures (e.g. with respect to signature, ratification and entry into force) so AATHP is effectively a Treaty Organization. The first Conference of the Parties (COP) took place in 2004 and in recent years the COP has met annually. The main objectives of the Agreement are for Parties to “prevent and monitor transboundary haze pollution as a result of land and/or forest fires which should be mitigated, through concerted national efforts and intensified regional and international cooperation”, i.e. the Agreement is specifically limited to haze pollution from land or forest fires.

21. *Operational structure and technical work.* The Agreement is to establish an ASEAN Coordinating Centre for Transboundary Haze Pollution Control to facilitate cooperation and coordination in managing the impact of land and forest fires in particular haze pollution arising from such fires. However, pending the establishment of the Centre, the ASEAN Secretariat and the ASEAN Specialized Meteorological Centre (ASMC) are currently co-performing the functions of the Centre as an interim measure.

22. *Cooperation feasibility.* While the Agreement is well established and opportunities for formal cooperation might be seen to exist through the COP and the Executive Body, the Agreement is focused specifically on transboundary haze pollution so there is limited overlap with the interests of the LRTAP Convention.

23. *Information source assessment.* Some information is available on the ASEAN web site ([www.asean.org](http://www.asean.org)) and its pages on its Agreement on Transboundary Haze Pollution ([www.asean.org/19603.htm](http://www.asean.org/19603.htm)). However, much more specific information on AATHP is available on the Hazeonline site (<http://haze.asean.org>) though there seems to be no links between the

ASEAN and Hazeonline sites. The two web sites appear to be up to date and both maintained by the ASEAN secretariat in Jakarta, Indonesia.

(v) Pacific Regional Environment Programme (SPREP)

24. *Legal status, membership, and objectives and scope.* UNEP describes SPREP as an intergovernmental organization, comprising 25 States and Territories, with the responsibility to build capacity within member States to manage their own environment. SPREP is the secretariat for regional environmental conventions and their protocols. These multilateral environmental agreements (MEAs) strengthen the regional legal frameworks for implementing global conventions in the region. While the scope of SPREP is broad and encompasses a number of MEAs and activities grouped in four main categories - sustainable development, ecosystem management, climate change and waste management - there are none which deal specifically with air pollution.

25. *Operational structure and technical work.* SPREP is governed by an annual SPREP Meeting of Officials (formerly called the Intergovernmental Meeting). Technical work relates to the various areas of interest of the Agreement.

26. *Cooperation feasibility.* While the formal structure for cooperation exists, unless SPREP gains more interest in air pollution issues there will be little scope for cooperation in the future.

27. *Information source assessment.* The relatively recent establishment of this Forum no doubt reflects the lack of information generally available. The GAP Forum web site ([www.gapforum.org](http://www.gapforum.org)) provides summary information. There is also reference to the two meetings of the Joint Forum in the reports of several of the Asian agreements described in (i) to (v) above.

(vi) Joint Forum on Atmospheric Environment in Asia and the Pacific

28. *Legal status, membership, and objectives and scope.* The Joint Forum on Atmospheric Environmental issues in Asia and the Pacific was established at the Second Joint Meeting of the Intergovernmental Networks on Regional Air Pollution in Asia and the Pacific Region (the networks and agreements described in (i) to (v) above). Its objective was for cooperation and coordination among the various networks. All of the networks and agreements in the region were represented at both the first and second meetings, though it is recognized that each network has its own separate decision-making process.

29. *Operational structure and technical work.* The Joint Forum has now developed a joint workplan and this has been followed by capacity building on negotiating agreements on air pollution, a training manual and a workshop for policy makers. The secretariat of the Joint Forum is currently at UNEP's Regional Resource Centre for Asia and the Pacific (RRC.AP) in Thailand.

30. *Cooperation feasibility.* As yet the Joint Forum has not developed to stage where formal cooperation might be possible with the Executive Body. Its status with regard to its “component” networks and agreements is yet to be defined and it cannot yet be considered a policy-making body. However, there may be potential for collaboration in the future.

31. *Information source assessment.* The GAP Forum and UNEP web sites provide summary information on the establishment and activities of the Joint Forum.. There is also reference to the two meetings of the Joint Forum in the reports of several of the Asian agreements described in (i) to (v) above.

## B. Africa

### (i) North African Framework Agreement on Air Pollution

32. *Legal status, membership, and objectives and scope.* Activities in this region are at an early stage of development and so far have resulted in a multi-stakeholder policy dialogue that was instigated by the GAP Forum and partners. A workshop entitled ‘Sub-regional Workshop on Better Air Quality for North African States’ was held in November 2009 in Tunis, Tunisia. It was organized by the Sahara and Sahel Observatory (OSS) in collaboration with the Ministry of Environmental and Sustainable Development, Tunisia and the GAP Forum secretariat (SEI and IUAPPA) and partners (including APINA, CLRTAP and UNEP PCFV). Six countries—Tunisia, Morocco, Algeria, Libya, Egypt, and Mauritania—and three observer countries from the Middle East (Jordan, Lebanon and Yemen) attended the workshop. Top policy government experts, academia and civil society experts from across the region came together for the first time to discuss air pollution issues in the sub-region and developed concrete recommendations.

33. *Operational structure and technical work.* The recommendations from the North Africa Sub-regional Workshop on Better Air Quality are available at: [http://www.sei-international.org/rapid/gapforum/html/regions/North\\_Africa/BAQ\\_NA\\_En\\_Final.pdf](http://www.sei-international.org/rapid/gapforum/html/regions/North_Africa/BAQ_NA_En_Final.pdf)). They will be presented to ministers for adoption into a North African Air Pollution Framework agreement, including establishment of a permanent regional inter-governmental network on air pollution at the earliest opportunity. The regional process has not moved forward since 2009 due to a change of leadership at OSS and political instability in the region. It is hoped that further progress can be made in 2012. However, progress has been made on low sulphur fuels through the work of the PCFV on a bilateral basis with country governments.

34. *Cooperation feasibility.* At certain times of the year Saharan Dust is a significant component of the air pollution load in Europe. Equally, industrial and transport emissions from Europe and North America can affect North Africa. Tackling these problems requires closer collaboration between the LRTAP Convention and North Africa, and, in particular, the improvement of monitoring and assessment capacity in North Africa. The GAP Forum therefore arranged for a representative of the Convention (and the European Monitoring and Evaluation

Programme (EMEP)) to discuss options for co-operation at the meeting of experts to establish the North African Inter-Governmental Network. Various possibilities were developed and explored at the meeting, including North African States acceding to the Convention, and general collaboration between the Convention and the new North African Network. These discussions will require further development when the regional policy process is reinvigorated.

35. *Information source assessment.* Information is available on the GAP Forum website (<http://www.sei-international.org/rapidc/gapforum/html/regions.php>) or the UNEP Partnership for Clean Fuels and Vehicles (PCFV) website (<http://www.unep.org/transport/pcfvr/regions/Africaregional.asp>).

ii) Eastern Africa Regional Framework Agreement on Air Pollution (Nairobi Agreement)

36. *Legal status, membership, and objectives and scope.* A workshop entitled ‘Eastern Africa sub-regional workshop—Better Air Quality in Cities’ was held in October 2008 at UNEP Headquarters in Nairobi, Kenya. It was organized by UNEP and the GAP Forum and its partners, including APINA and the World Bank. The meeting drew over 100 participants, including eight Ministers, from Eleven Eastern Africa countries. Countries represented in the meeting were: Burundi, Djibouti, DR-Congo, Eritrea, Ethiopia, Kenya, Sudan, Rwanda, Uganda, Somalia and Tanzania. The meeting, organized by UNEP through the PCFV in partnership with the GAP Forum, APINA, SEI and USEPA included a Policy Session and a Ministerial Session. The World Bank and the African Refiners Association also participated at the meeting. The Policy Session identified the main urban air pollution issues in the sub-region and developed concrete policy recommendations to address these challenges. The Ministerial Session deliberated on these policy recommendations and adopted the Eastern Africa Regional Framework Agreement on Air Pollution (Nairobi Agreement-2008; see: [http://www.sei-international.org/rapidc/gapforum/html/regions/East\\_Africa/Eastern\\_Africa\\_Air\\_Pollution\\_Agreement.pdf](http://www.sei-international.org/rapidc/gapforum/html/regions/East_Africa/Eastern_Africa_Air_Pollution_Agreement.pdf)).

37. *Operational structure and technical work.* The ministerial declaration (also known as ‘agreement’) lays out common policy, sets regional priorities and offers a framework for future cooperation in the region. To date progress since the workshop has been made on low sulphur fuels through the work of the PCFV on a bilateral basis with country governments.

38. *Cooperation feasibility.* There is considerable potential for CLRTAP experience to help move the regional cooperation process forward in this region but to date this has not been realized.

39. *Information source assessment.* Information is available on the GAP Forum website (<http://www.sei-international.org/rapidc/gapforum/html/regions.php>) or the UNEP Partnership for Clean Fuels and Vehicles (PCFV) website (<http://www.unep.org/transport/pcfvr/regions/Africaregional.asp>)

(iii) Central and Western African Regional Framework Agreement on Air Pollution (Abidjan Agreement)

40. *Legal status, membership, and objectives and scope.* A workshop entitled ‘Sub-regional Workshop on Better Air Quality for West and Central African Countries’ was held in July 2009 in Abidjan, Cote d’Ivoire. It was jointly organized by the Ministry of Environment, Water and Forests of Cote d’Ivoire, African Refiners Association (ARA), UNEP through the PCFV, GAP Forum and other partners involved in the BAQ Africa process including SEI, APINA and the World Bank. Twenty one countries from the West and Central Africa regions, and the Economic Community of West African States (ECOWAS) participated in the workshop. A separate ministerial session, attended by 9 ministers and 4 ministerial appointees, adopted the West and Central Africa Regional Framework Agreement on Air Pollution (Abidjan Agreement-2009; see: [http://www.sei-international.org/rapidc/gapforum/html/regions/West\\_Africa/West\\_and\\_Central\\_Africa\\_Air\\_Pollution\\_Agreement\\_English\\_final.pdf](http://www.sei-international.org/rapidc/gapforum/html/regions/West_Africa/West_and_Central_Africa_Air_Pollution_Agreement_English_final.pdf)).

41. *Operational structure and technical work.* The ministerial declaration (also known as ‘agreement’) lays out common policy, sets regional priorities and offers a framework for future cooperation in the region. To date progress since the workshop has been made on low sulphur fuels through the work of the PCFV on a bilateral basis with country governments.

42. *Cooperation feasibility.* There is considerable potential for CLRTAP experience to help move the regional cooperation process forward in this region but to date this has not been realised.

43. *Information source assessment.* Information is available from the GAP Forum website (<http://www.sei-international.org/rapidc/gapforum/html/regions.php>) or the UNEP Partnership for Clean Fuels and Vehicles (PCFV) website (<http://www.unep.org/transport/pcfvr/regions/Africaregional.asp>).

(iv) Southern Africa Regional Framework Agreement on Air Pollution (Lusaka Agreement)

44. *Information source assessment. Legal status, membership, and objectives and scope.* A sub-regional policy dialogue for the Southern Africa Development Community (SADC) countries aimed at developing concrete steps to address air pollution in key sectors in the region was held in March 2008 in Lusaka, Zambia. The dialogue was coordinated by APINA as part of the Sida funded RAPIDC Programme in partnership with the GAP Forum, UNEP’s PCFV, USEPA and SEI. Participants were drawn from all the 14 SADC countries: Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe. The main outcome of the workshop at a ministerial policy session was the adoption of the Lusaka Agreement (2008) –



Southern African Development Community (SADC) Regional Policy Framework on Air Pollution.

45. *Operational structure and technical work.* The ministerial declaration (also known as ‘agreement’) lays out common policy, sets regional priorities and offers a framework for future cooperation in the region. To date progress since the workshop has been made on low sulphur fuels through the work of the PCFV on a bilateral basis with country governments.

46. *Cooperation feasibility.* There is considerable potential for CLRTAP experience to help move the regional cooperation process forward in this region. To date CLRTAP has advised APINA on protocols and methodologies for the assessment of crop impacts (ICP Vegetation) and damage to man-made materials and cultural heritage (ICP Materials). These activities have also been conducted in coordination with activities for the Malé Declaration in South Asia.

47. Information is available from the GAP Forum website (<http://www.sei-international.org/rapidc/gapforum/html/regions.php>).

#### C. Latin America and the Caribbean

##### (i) Intergovernmental Network on Air Pollution in Latin America and the Caribbean

48. *Legal status, membership, and objectives and scope.* In 2008, Decision 7 of the XVI Forum of Ministers of the Environment of LAC secured support from Ministers for the GAP Forum’s proposal for the establishment of an Inter-Governmental Network on Air pollution in LAC (see: <http://www.sei-international.org/rapidc/gapforum/html/regions.php>). It should be noted that the Inter-Governmental Network on Air Pollution has no formal legal status beyond the mandate given to it by the Regional Forum of Environment Ministers, itself a non-legal and non-Treaty body. In principle, meetings of the Network and participation in its work is open to all countries in the Latin American and Caribbean region, but participation in meetings has so far been limited. This reflects the relatively low level of interest on the part of some of the island states of the Caribbean and smaller states of Central America. As might be expected, Mexico, Brazil and Chile have played particularly prominent roles. There is no full and definitive statement of the scope and objectives of the Network, but on the basis of discussions and decisions in both the Ministerial Forum and the Network itself, they can be taken to be as follows: (i) Promote the exchange of research and information on air quality management; (ii) Harmonize among states, as far as is practical and helpful, national air quality management legislation, standards, monitoring procedures, and data management procedures; (iii) Facilitate cooperation in the development of common priorities and strategies; and preparation of flexible and differentiated agreements for the control and ultimate reduction of agreed air pollutants; (iv) Explore the synergies and co-benefits of taking joint measures against the emission of air pollutants and greenhouse gases. Representatives also concluded that it was important that the initiative build on the wide variety of work in these areas already in progress around the region;



and, in particular, that it should build on and support the sub-regional co-operation arrangements and programmes that were already in place in a number of areas

49. *Operational structure and technical work.* At present meetings are chaired by UNEP, which is also providing the permanent Secretariat. As requested by the Forum of Environment Ministers, the Network is now developing a Work Programme/Action plan. This is expected to include a regional assessment of needs and resources, a ministerial declaration on air pollution issues and priorities in the region, and a strong focus on climate-pollution interactions and co-benefits. Since 2008 there have been two meetings of the inter-governmental network attended by government representatives, scientists and civil society representatives to design the network and its programme. The second meeting of the Network in Mexico City in December 2009 resulted in a full appraisal of possible policy issues and action areas, and this can be found at: [http://www.pnuma.org/forodeministros/17-panama/FORO\\_DE\\_MINISTROS\\_2010\\_VERSIONES\\_FINALES/EXPERTOS/DE\\_TRABAJO\\_INGLES/UNEP-LAC-IGWG-XVII- 6 Draft Elements Framework Agreement Atmospheric Pollution.pdf](http://www.pnuma.org/forodeministros/17-panama/FORO_DE_MINISTROS_2010_VERSIONES_FINALES/EXPERTOS/DE_TRABAJO_INGLES/UNEP-LAC-IGWG-XVII-6_Draft_Elements_Framework_Agreement_Atmospheric_Pollution.pdf). The main areas for technical work are likely to be defined over the next few months.

50. *Cooperation feasibility.* There is considerable potential for CLRTAP experience to help move the regional cooperation process forward in this region but to date this has not been realized.

51. *Information source assessment.* Information is available from the GAP Forum website (<http://www.sei-international.org/rapidc/gapforum/html/regions.php>).

#### D. The Arctic

##### (i) The Arctic Council

52. *Legal status, membership, and objectives and scope.* Established under the 1996 Ottawa Declaration, the Arctic Council is a high-level intergovernmental forum providing a means for promoting cooperation, coordination and interaction among the Arctic States. It does this, with the involvement of the Arctic Indigenous communities and other Arctic inhabitants, on common Arctic issues, in particular, those of sustainable development and environmental protection in the Arctic. Member States are Canada, Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, Russia, Sweden and the United States. The interests of the Arctic Council are broad, but for many years there has been an interest in air pollution.

53. *Operational structure and technical work.* There are five working groups of the Arctic Council: the Arctic Monitoring and Assessment Programme (AMAP), Conservation of Arctic Flora and Fauna (CAFF), Emergency, Prevention, Preparedness and Response (EPPR), Protection of the Arctic Marine Environment (PAME) and Sustainable Development Working Group (SDWG). AMAP has a particular interest in air pollution and collaborates closely with the

LRTAP Convention subsidiary bodies in preparing its reports. EMEP has worked closely with AMAP and several ICPs provide input to AMAP.

54. *Cooperation feasibility.* There is already strong cooperation between the Convention and the Arctic Council. The Council has provided reports to the Executive Body (usually through a delegation of a Party to the Convention that is also a member of the Arctic Council); AMAP has often attended Executive Body sessions in past years. Since all member States of the Arctic Council are Parties to the LRTAP Convention, full cooperation with the Council is straightforward.

55. *Information source assessment.* The Arctic Council web site ([www.arctic-council.org](http://www.arctic-council.org)) and that of one of its Working Groups AMAP - the Arctic Monitoring and Assessment Programme – (<http://amap.no>) provide plenty of up-to-date information on the activities of the Council.

### III. The status of air quality management activities in other regional cooperative efforts

56. Table 1 below summarizes briefly the various air quality management activities for the networks and agreements described previously. The Joint Forum on Atmospheric Environment in Asia and the Pacific, SPREP, and the African sub-regional agreements described above do not appear in table 1 as they are not yet serviced by networks with an established secretariat. However, the African agreements were made possible by information on emissions and impacts generated by the activities of the Air Pollution Information Network for Africa (APINA) that was funded by Sweden under the RAPIDC programme until 2008. The PCVF, the Clean Air Initiative for Africa (CAI- Africa), the USEPA, the International Council for Clean Transportation (ICCT) and the World Bank collaborated with APINA also contributed to the development of the sub-regional agreements. Therefore, if financing became available for active air pollution networks across Africa, there is a body of work, expertise and capacity that could be identified and built on, including people who have already worked on projects linked to the LRTAP Convention. Opportunities exist in Africa for further regionally coordinated activities on air pollution issues in connection with the development of an Atmospheric Brown Cloud project for Africa by UNEP and initiatives tackling Short-lived Climate Forcers by UNEP and others. A similar situation exists in the LAC region.

Table 1 Technical activities being undertaken in different regional air pollution initiatives

Initiative	Ambient Monitoring	Emission Inventory Development	Air Quality Modelling	Mitigation Feasibility Analysis	Impacts Assessment	Legislation and Regulation	Public Information	Policy Commitments
EANET	Acidifying	Only as	Only as	Guidance	On forests,	None	Proactive in	Only with

	pollutants at specific sites in participating countries	example by individual countries	example by individual countries	document and training course	waters and vegetation		providing public information and release of data	respect to monitoring
Malé Declaration	Malé monitoring network set up with at least one regionally representative monitoring station in each country	Manual developed. Most have developed national emission inventories for 2000 and are now working on 2005.	No official model, SMHI MATCH Model used in some assessments and in Male Declaration integrated assessment model development.	Reports on available options undertaken and reported to IG.	Assessments made: school children PM study; ozone and crop loss studies; corrosion studies and rapid urban assessment tool developed.	None planned to date	Outreach campaigns especially to youth	Only with respect to developing the network and assessment procedures
Central Asian Framework Convention	Improved national monitoring planned.	Not specified	EMEP could expand activities to Central Asia	No activity specified	Indicator development planned	Only implied through general obligations	Access according to international treaties	General aim to limit, reduce and prevent air pollution
ASEAN Agreement	National Monitoring Centres set up in each country in relation to haze from fires	Emissions reporting planned (?)	ASFAN Specialised Meteorological Centre conducts haze dispersion modelling	None specified	ASEAN Centre is charged with assessing risks and informing Parties	Provision for Protocols on measures, procedures and standards.	Provision for awareness raising and education under technical cooperation	Strengthening land and forest fire-fighting capability. Meet obligations through national measures.
The Arctic Council	Mostly using networks such as LRTAP Convention	Only through EMEP	Only through EMEP	Only through LRTAP Convention	Only through LRTAP Convention	Nothing beyond LRTAP Convention	AMAP provides an excellent public information window on the Arctic	Agreements are focused on requirements of the Arctic

#### **IV. Potential for cooperation between the Convention and other regions**

57. From the above sections it is clear that the existing regional networks are at various stages of development. We know that several have already interacted meaningfully with the LRTAP Convention and it is apparent that there is considerable potential for collaborative efforts with others. The Convention, with its wealth of experience over several decades, has an opportunity to help facilitate greater cooperation on air pollution issues worldwide, whilst benefitting from a broader knowledge of hemispheric and global pollution. The potential exists for a global coverage of operational air pollution networks covering all aspects of the policy cycle from

emissions to policy. Below we consider all possible areas for collaboration and seek to identify priorities for the immediate future.

58. The complete range of possible topics for collaboration could be considered as a matrix. On the one hand there are the pollutants studied under the Convention:

- (a) Acidifying pollutants (sulphur and nitrogen);
- (b) Nutrient nitrogen and effects on biodiversity;
- (c) Tropospheric ozone (and its precursors) and effects on vegetation and human health;
- (d) Persistent organic pollutants;
- (e) Heavy metals;
- (f) Particulate matter;
- (g) Climate change interaction pollutants (e.g. short lived climate forcers).

59. On the other hand there are the areas of work under the Convention that provide the complete policy cycle for air pollution management:

- (a) Monitoring of air quality and environmental and human health impacts;
- (b) Impacts assessment;
- (c) Emission inventories;
- (d) Modelling air pollution transport;
- (e) Abatement measures and costs, including best available techniques and product standards;
- (f) Integrated assessment;
- (g) Capacity building;
- (h) Policy development (including legal instruments).

60. Different regional networks around the world prioritize these impacts and issues differently but there are common elements where considerable progress could be made and relevant information, capacity and expertise could be shared. These common elements will vary from network to network. For example, EANET has agreed that it should focus on “acidification” and “monitoring”. This is almost solely science based in specific areas of work, and already there is good collaboration between EANET and several of the Convention’s international cooperative programmes. Currently, there may be limited possibilities for collaboration on more policy-focused aspects of work or on other pollutants. The ASEAN Haze network, by its very definition, is very limited to an interest in haze and its associated pollutants; it is more policy focused, but there is little collaboration with the Convention at present.

61. Specific areas of collaboration for the Convention can be identified by looking across the matrix and identifying the common elements in each of the regional networks and agreements. However, there are general areas of concern across many networks and agreements and, for these, there is potential for multi-regional or global collaboration. Around the world there is great

concern about the health impacts of PM and the health and crop impacts of tropospheric ozone, as well as the acidifying effects of N and S compounds and the eutrophying effect of N compounds. And, increasingly there is a realization that air pollution and climate change should be tackled in an integrated way, as demonstrated by the recent progress made on the short-lived climate forcers (SLCFs), black carbon (a constituent of PM) and tropospheric ozone (e.g. UNEP, 2011<sup>2</sup>).

62. Generally, too, there is the need for emission inventories of key substances, monitoring and modelling studies, impact assessments, integrated assessment modelling and policy analysis, all areas where the LRTAP Convention has a wealth of experience spanning three decades. Certain elements of the integrated air quality management process will only be relevant for cooperation with a few “more advanced” countries/cities in Asia and some mega-cities around the world. Elsewhere, what is needed is essentially guidance on good practice for the basics of air quality management such as the setting up of air pollution monitoring networks with sufficient quality assurance and quality control procedures to ensure that the information collected is robust enough for the policy process. The compilation of emission inventories and the development of impact studies are other core areas of air quality management where much can be done to harmonize and enhance procedures around the world. Capacity building initiatives in these areas would be welcomed by many countries in Africa, Asia and Latin America and the Caribbean. Exchange of information on best available techniques and mitigation options and product standards may also be very relevant in developing countries.

63. However, the Convention should perhaps prioritize those areas of collaboration where there are mutual benefits, in particular pollution problems that are multi-regional or global in nature and cannot be understood or solved simply through regional action.

- (a) Transport and impacts of ozone and its precursors on crops and human health;
- (b) Transport, impacts and control of particulate matter (including black carbon);
- (c) Emission, transport and fate of short-lived climate forcers.

These were already identified in the Convention’s long-term strategy, but the emphasis on these priority areas should be reinforced.

64. In addition to the major priority areas, here are also specific inter-regional efforts that could be highlighted for future action:

- (a) Extend EMEP monitoring sites to North Africa to provide better information on the Mediterranean region;
- (b) Transfer of assessment methodologies to developing networks and agreements.

---

<sup>2</sup> UNEP, 2011. Near-term Climate Protection and Clean Air Benefits: Actions for Controlling Short-lived Climate Forcers. A UNEP Synthesis report. UNEP, Nairobi. (Available at: <http://www.unep.org/publications/ebooks/SLCF/>)

65. Finally, the Convention should prioritize initiating inter-regional dialogues to explore common interests and priorities.

## **V. Cooperation processes**

66. Regional air pollution networks across the world take different forms – reflecting different regional experience and political cultures - and are at different stages of development.. All are inter-governmental with an overseeing intergovernmental body, but some are:

- (a) Mature and have binding legislation, e.g. LRTAP Convention, ASEAN Haze Agreement;
- (b) Predominantly scientific networks, e.g. the Malé Declaration, EANET;
- (c) Policy Agreements/Declarations, e.g. Lusaka Agreement.

This means that collaboration between developing country networks and the LRTAP Convention will need to follow different pathways reflecting the character and focus of the particular region.

67. Depending on the nature of the regional network, formal cooperation can be pursued through a number of different routes, with varying degrees of formality:

- (a) Formal agreements (treaties) between intergovernmental agreements or their Parties;
- (b) Formalized collaboration through agreements between governing bodies based on, for example, memorandums of understanding (MoUs), exchanges of letters, or simple decisions of parties;
- (c) Links between secretariats.

Strengthening links between networks should not be seen exclusively as a process between official organs of the networks and agreements. It is important to take a broader approach which fosters contact and cooperation at two other levels – “with individual states” which may or may not be part of such networks, and “collaboration between scientific (or science-policy) institutions” of different regions. At a more global level, the Task Force on Hemispheric Transport of Air Pollution has proposed (as noted in para. 2 above) the development of a “global confederation of regional cooperative programmes”. All these different options are discussed briefly below

68. *Formal agreements (treaties)* is the highest level of collaboration, and is the most difficult to achieve. Few regions or sub-regions have been able to reach this level of agreement for air pollution management, since such treaties are likely to be binding and States are cautious to avoid future implications for action or national resources. Without a champion organization, and the countries to support such a champion, even the initiation of a process leading to a treaty agreement is unlikely. Furthermore, champion organizations will need to be convinced that any initiative they might take will probably be successful. This option is therefore the least likely to

be the relevant in the shorter term. However, proposals for a general global air pollution convention may be forthcoming in future, and the Executive Body should be prepared to take timely action should any future development lead to possible mutual benefits through a global initiative. It should be noted that high-level meetings are particularly important forums for presenting proposals for global or inter-regional action.

69. *Formalized collaboration* between networks and agreements can take place through a number of mechanisms. At the lowest level a task force/expert group might agree to invite participation of non-parties and simply report this to its working group or governing body. A working group itself might take a decision on collaboration, giving directions to task forces/expert groups and informing its governing body. At the highest, more formal, level, governing bodies may take the decisions, perhaps formalizing an agreement through an exchange of letters, MoU or similar instrument.. A significant decision for cooperation between the LRTAP Convention and another network or agreement would need to be taken by the Executive Body and the equivalent governing body of the network or agreement concerned. The exact mechanism used might be determined by the “perceived risk” or the “required strength” of the decision. For example, a decision to share data might require a formal decision through an exchange of letters or MoU. Alternatively, a decision to cooperate on developing common scientific methods might simply need an instruction to the relevant scientific subsidiary body. If the Executive Body is to continue to pursue “scientific and political outreach” “to foster cooperation between regional agreements around the world” and create “a bridge between regional and global action”, as spelled out in its long-term strategy (ECE/EB.AIR/106/Add.1, decision 2010/18, para. 16 (k)) it will need to plan specific action for more formalized collaboration in the future. This should be part of the action plan for implementing the long-term strategy. An important first step has already been made; there was the recent exchange of letters between the Chairman of the Executive Body and the Executive Director of UNEP proposing collaboration and cooperation in the field of Black Carbon research and mitigation. Both bodies have active current programmes on Black Carbon, for which the regional scale is very important. Given UNEP’s role as secretariat to three of the developing regional networks, this collaboration could be an important step in the LRTAP Convention’s outreach to other regional networks.

70. *Links between secretariats* have proved a useful mechanism for maintaining links with some regions with common interests. Both the LRTAP Convention secretariat and the UNEP-based regional secretariats have been proactive in attending other regional meetings and providing information to their networks and agreements. However, while the secretariats can establish and maintain effective communication links, without initiatives by the parties to a network or agreement, secretariat participation is usually seen as supportive and informative rather than proactive in collaboration. As with scientific collaboration it can be seen as a useful first step towards a more formal collaboration process.

71. *Collaboration with individual States within or outside the UNECE region* is not an entirely new approach for the Executive Body. For example, at the request of the Executive Body, the secretariat has sent invitations to Executive Body sessions to non-UNECE countries through their missions in Geneva. However, only a few countries have taken advantage of these invitations. A more effective approach might be for the Executive Body to target invitations to particular countries with special interests in air pollution, e.g. Japan, to aim for better links with other regions. Inviting individual countries to such high-level meetings, and engaging them in discussions on collaboration, might prove a useful mechanism for exploring paths to collaborative links to other regions. There are also clear benefits to be gained from those states that are party to more than one agreement (particularly where agreements are both within and outside the region). Such states are in an excellent position to ensure consistency in the work and decisions of the different agreements, and promote collaboration between them. The Russian Federation is Party to the LRTAP Convention and is also a member of EANET; it could be requested to take action aid closer cooperation between the two agreements.

72. *Scientific collaboration* between individual scientists and between scientific bodies has long been a mechanism for exchange of information and knowledge, which may promote collaboration between regions. International scientific meetings will often bring a wide spectrum of scientists from around the world and they will take the opportunity to seek collaborative ventures and share scientific knowledge. Scientific bodies under networks and agreements will often invite scientists from other networks or from countries outside the region with a view to information or knowledge exchange, or to plan future joint ventures. Such cross-fertilization of science may be encouraged by the governing bodies of networks and agreements, especially where there are clear benefits for extending participation more widely. The Task Force on Hemispheric Transport of Air Pollution has already begun to operate on this basis, by inviting to its meetings, as requested by the Executive Body, scientists from outside the UNECE Region, and by hosting meetings jointly with their institutions. There is a strong case for developing this process more systematically. While it is clearly most relevant for a task force addressing hemispheric issues not limited to the UNECE region, it is a practice that could be followed to advantage by other scientific work groups of the Convention. Some international cooperative programmes take this position, but collaboration should be strengthened. It is important, however, that individuals and partner organizations from outside the UNECE are, where appropriate, seen as full participants, rather than as observers, and therefore can play a full part in developing a group's consensus and conclusions..

73. *Global confederation of regional cooperative programmes.* A final option is to seek to bring all networks together in a single cooperation process, in addition to developing bi-lateral relations. The Task Force on Hemispheric Transport of Air Pollution has made such a proposal in the recommendations of its 2010 report on Hemispheric Transport of Air Pollution (ECE/EB.AIR/2010/10, paras. 67-68). More recently UNEP, in its synthesis report "Near-Term



Climate Protection and Clean Air Benefits: Actions for Controlling Short-Lived Climate Forcers” (December 2011), has highlighted the potential role of regional air pollution networks in developing regional strategies for addressing SLCFs, and the potential benefits of global co-ordination. For some time the GAP Forum has stressed the importance of the Convention (as much the most experienced of the networks and the principle repository of expertise and experience in this field) and UNEP (as secretariat to most of the networks in the developing regions) coming together to develop a “global alliance of regional networks”. Such an alliance would be capable of developing a coordinated approach to regional, hemispheric and global air pollution issues, and stimulating increased sharing of expertise and resources. In view of their complementary roles and strengths, a partnership between the LRTAP Convention and UNEP will be essential for the success of any such initiative. To this end, the Convention should open up early discussions with UNEP.

## **VI. Efforts or resources needed for successful cooperation**

74. In considering the resources required for successful cooperation it is important to distinguish between the resources required to sustain and operate the networks (and thus, inter alia, allow them to be an effective partner of a union) and the resources actually required by the cooperation process. For resources needed to sustain the networks in developing regions, the current position is bleak. For example, the Malé Declaration network was, until recently, funded through Sida’s RAPIDC Programme on regional air pollution in developing countries. Since the completion of that programme, the countries themselves have not come forward to meet the costs of the programme to the extent hoped. UNEP has, however, found resources to maintain the programme. The position is less satisfactory in the case of the African and Latin American networks, which were originally funded through the GAP Forum. Here UNEP has been unable to consider support for the programmes within its budget, and other resources have not been forthcoming. However, there are grounds for believing that the overall funding position may improve in the next few years, as the relevance of these initiatives to the general economic development programmes, and in particular to regional initiatives to mitigate SLCFs, becomes more widely recognized.

75. For the cooperation processes themselves, however, there is little need for additional resources or effort. For example, informal collaboration will often occur quite naturally at the scientific level, and secretariat participation in other regional meetings is relatively easy and seen as “non-threatening”. However, more formalized collaboration requires one or more networks or agreements to take the initiative to explore options with others. Such initiatives from the LRTAP Convention might first draw upon the experiences of its scientific subsidiary bodies and its secretariat. The Executive Body could also draw upon information presented by representatives of international organizations, networks and agreements that participate in Executive Body sessions. Few additional resources would be required, but more effort to engage delegations and representatives, and more effort to devise a way forward would be needed.

76. At its twenty-fourth session, the Executive Body discussed possibilities for opening the Convention. While all delegates agreed that efforts to maintain outreach should continue, some delegates urged caution noting the practical implications and the heavy workload of the Convention bodies (ECE/EB.AIR/89, paras. 60-62). These practical limitations remain for any extensive outreach activities, especially with respect to the scientific and technical bodies, even though, in the Convention's long-term strategy, the Executive Body agreed that "wider geographical scientific cooperation will be strongly encouraged in future" (ECE/EB.AIR/106/Add.1, decision 2010/18, para. 16 (h)). To promote participation of experts from other regions in the work of the Convention, funding for travel and accommodation is usually required; this is usually provided by the lead country of the task force or expert group. To ensure necessary resources are available in the future, the Executive Body should encourage lead countries and other donors to provide funds specifically for outreach activities.

## **VII. Conclusions and proposals for action**

77. There are numerous regional networks and agreements on air pollution that, between them, cover most of the globe. They reflect different regional circumstances and political cultures, are at different stages of development and nearly all are still evolving. Only a few are at a stage where they might be able to consider issues of integrated air quality management as it has evolved in recent years within the UNECE, but all are open to potentially valuable cooperation on scientific issues and on specific policy problems.

78. Regionally, the Convention is the most highly developed agreement with strongly supporting scientific and technical activities. Globally, UNEP and WMO have taken strong leads to support specific global action and to support regional initiatives. At an NGO level, the GAP Forum provides opportunities for less formal approaches to collaboration between regions. There are sound reasons for the Convention to work with such global partners to facilitate increased global action.

79. As this document aims to offer a general overview and framework for collaboration between the LRTAP Convention and networks and agreements outside the UNECE region, it is necessarily a relatively short summary and may not be entirely up to date. It will be important to circulate such a document both within and outside the Convention and invite updates and amendments to achieve a definitive document for future use.

80. The following conclusions are listed for the special attention of the Executive Body. The Executive Body may wish to take note of these and decide upon further action where appropriate:

(i) The challenges facing the Convention and the priorities in its long-term strategy will increasingly require collaboration outside UNECE's boundaries, e.g. ozone, particulates (and

black carbon), nitrogen, climate change (short-lived climate forcers). These will progressively enhance the importance of mutual collaboration with networks and agreements in other regions;

(ii) There are important existing links between the Convention and other regional networks, agreements and international institutions, but more substantial opportunities for cooperation are likely to emerge in the next few years. In responding to these it will be important to note the different characters and stages of development of the various networks and agreements and take these into account when deciding on the objectives and processes of collaboration;

(iii) In addition to formal cooperation with other regional networks, essential contributions to the Convention's overall outreach strategy can come from developing cooperation for specific purposes with individual states outside the UNECE region as well as from open-ended collaboration at the scientific level with relevant institutions and individuals around the world;

(iv) Cooperation between networks should not be limited to the bilateral level. There have recently been important proposals, from the Task Force on Hemispheric Transport of Air Pollution and from UNEP among others, for the development of a global "confederation" or "alliance" of regional networks, to foster mutual support and cooperation and help address hemispheric and global air pollution issues. Progress will depend on joint action between the Convention and UNEP, and the Convention should open discussions with UNEP on how this could be promoted.

(v) International organizations, such as UNEP and WMO, and non-governmental organizations, such as the GAP Forum, can play a helpful role in promoting future cooperation between regions;

(vi) The issues for future cooperation are both scientific/technical and policy related and some joint activities at the scientific/technical level are normally an essential foundation for wider progress at the policy level. Some Convention bodies have already collaborated with other regions on common scientific issues and further encouragement to all scientific bodies should be given. For outreach activities to be extended, as required by the Convention's long-term strategy, lead countries and other donors should be encouraged to provide the necessary funds for participation in meetings and planning joint activities;

(vii) Two specific scientific actions could be encouraged: (a) Extend EMEP monitoring sites to North Africa (as previously planned) to provide better information on the Mediterranean region and transport between North Africa and Europe; (b) transfer assessment methodologies to developing networks and agreements;

(viii) Policy-related collaboration is less easily achieved, but can draw upon the knowledge gained from scientific collaboration, secretariat experience, from delegations of countries outside the region and from representatives of organizations with experience of issues outside the region; enhanced cooperation at a strategic/policy level will probably require an initiative by the Executive Body and/or its Bureau;

(ix) Some individual countries, which either have specific interests in air pollution and are outside the UNECE region, or are Parties to the Convention and members of other networks or agreements outside the region (e.g. The Russian Federation, Kazakhstan) may have a particularly important role to play; the former could be targeted to encourage participation in appropriate high-level meetings, and both groups could play an important role in promoting inter-regional collaboration;

(x) New proposals for cooperation or other related policy initiatives should take advantage of planned global or regional high-level meetings;

(xi) It is hoped that this document will provide a helpful reference for developing broader cooperation with regional efforts outside the Convention; to this end, consideration should be given to wide circulation of the document so that errors and omissions can be corrected and it can be kept up-to-date; regarding its future use, the Executive Body may wish to charge its Bureau with considering further action.

## Annex I

### **Questions on cooperation with regional intergovernmental cooperative efforts drafted by the co-Chairs of the Task Force on Hemispheric Transport of Air Pollution**

1. What are the objectives and scope (pollutants, sources, impacts, obligations) of other regional intergovernmental cooperative efforts to address air pollution? How far is there a common set of objectives and interests?

- a) Joint Forum on Atmospheric Environment in Asia and the Pacific
  - i. East Asia Network on Acid Deposition (EANET);
  - ii. Malé Declaration on Control and Prevention of Air Pollution and Its likely Transboundary Effects for South Asia;
  - iii. Framework Convention on Preservation of Environment for Sustainable Development of Central Asia;
  - iv. ASEAN Regional Haze Agreement;
  - v. South Pacific Regional Environment Programme.
- b) Africa
  - i. North African Framework Agreement on Air Pollution;
  - ii. Eastern Africa Regional Framework Agreement on Air Pollution (Nairobi Agreement);
  - iii. Central and Western Africa Regional Framework Agreement on Air Pollution (Abidjan Agreement);
  - iv. Southern Africa Regional Framework Agreement on Air Pollution (Lusaka Agreement);
- c) Inter-Governmental Network on Air Pollution in Latin America and the Caribbean
- d) Arctic Council

2. What is the status of different types of air quality management activities in other regional cooperative efforts to address air pollution?

- a) Ambient Monitoring
- b) Emission Inventory Development
- c) Air Quality Modeling
- d) Mitigation Feasibility Analysis
- e) Impacts Assessment
- f) Legislative and Regulatory Development
- g) Public Information
- h) Policy Commitments

3. On what issues would an exchange of information or cooperative efforts with the LRTAP Convention be useful to those regional agreements? Is there a difference between "technical" cooperation and "policy" cooperation?
4. In each forum, what is the decision making body and how would a decision to cooperate with LRTAP be taken? What is their meeting schedule?
5. What efforts or resources would be necessary to make such cooperation successful? What are the significant obstacles? Is a political commitment to cooperate a requirement or an obstacle to cooperation on a technical level?
6. What is the potential role of global intergovernmental institutions?
  - a) UNEP
  - b) WMO
  - c) WHO
  - d) IMO
  - e) ICAO
7. What is the potential role of non-governmental institutions?
  - a) Global Air Pollution Forum
  - b) Atmospheric Brown Cloud – Asia, Africa, Latin America
  - c) Clean Air Initiatives – Asia, Latin America, Sub-Saharan Africa
  - d) International Geosphere Biosphere Programme
  - e) Environmental Advocacy Groups
  - f) Industry Groups

## **Annex II**

### **Global international organizations with interests in air pollution management**

1. This annex provides summary information on the United Nations Environment Programme (UNEP), the World Meteorological Organization (WMO), the World Health Organization (WHO), the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO), international organizations with various interests in the management of air pollution. Attention is drawn to the current relationships with the LRTAP Convention and the potential role for these organizations in future collaboration at a broader scale.

#### **I. United Nations Environment Programme (UNEP)**

2. While UNEP has an overall interest in protecting the environment from air pollution, it has only attempted action at a global scale in specific areas, most notably supporting the development of the Conventions on climate change and on persistent organic pollutants. However, it also runs such initiatives as the Partnership for Clean Fuels and Vehicles (PCFV), set up in 2002, which assists developing countries to reduce vehicular air pollution through the promotion of lead-free, low sulphur fuels and cleaner vehicle standards and technologies. UNEP has also organized important global reviews of specific environmental problems such as mercury and, more recently, reviews of black carbon (BC) and of short-lived climate forcers (SLCFs)<sup>3</sup>, (this particular action has been welcomed by the LRTAP Convention, which has a keen interest in the work). However, Executive Directors of UNEP have expressed reluctance to embark upon global action on air pollutants in general, perhaps considering that regional efforts would be more effective.

3. At the regional level UNEP has been very active in stimulating multilateral action on air pollution, mostly through the UNEP regional offices. It has led the development of the Atmospheric Brown Clouds (ABC) projects (see annex III) and has prompted or promoted all of the regional and sub-regional networks and agreements with the exception of Europe and North America where UNECE has taken the lead with respect to air pollution management, mostly through the LRTAP Convention since 1979. In other regions, where development has taken place much later UNEP has been the major driving force in the evolution of networks and agreements and has provided extensive support to the developing programmes.

4. The Governing Council of UNEP meets annually and gives direction to the work of UNEP. Regarding global or hemispheric initiatives, UNEP Governing Council could play an important role if it is possible to attract the attention of member States. UNEP, together with WMO (see below), took the major initiative to develop the UN Framework Convention on Climate Change

---

<sup>3</sup> UNEP, 2011. Near-term Climate Protection and Clean Air Benefits: Actions for Controlling Short-lived Climate Forcers. A UNEP Synthesis report. UNEP, Nairobi.

(UNFCCC) and provided interim secretariat resources. UNEP and WMO still provide the secretariat for the Intergovernmental Panel on Climate Change (IPCC) that provides the scientific input to UNFCCC. UNEP has the potential for similar action on air pollution if it believes that such action is timely. Even without a UNEP initiative it could be important for UNEP to give encouragement to action at the global or hemispheric scales.

5. UNECE and the LRTAP Convention have enjoyed very good relations with UNEP. The Executive Body can, and has, communicated directly to the Governing Council on air pollution issues. UNECE environment activities and the European Office of UNEP have had regular information exchange meetings and have supported one another in their various initiatives. UNECE also participates in the UNEP-chaired Environmental Management Group that brings together all UN secretariats concerned with the environment. The LRTAP Convention itself maintains regular contact with UNEP and UNEP regional offices regularly attend Executive Body sessions especially to provide information on air pollution development outside the UNECE regions.

6. Extensive information on UNEP is available from the wealth of pages on its web site ([www.unep.org](http://www.unep.org)).

## **II. World Meteorological Organization (WMO)**

7. WMO is the UN agency with the authoritative voice on the state and behaviour of the Earth's atmosphere, its interaction with the oceans, the climate it produces and the resulting distribution of water resources. Extensive information on WMO is found on its web site ([www.wmo.int](http://www.wmo.int)).

8. WMO has interests in global atmospheric pollution through its Global Atmosphere Watch (GAW) programme which assesses, inter alia, long-range transport of air pollution and urban and regional air quality. WMO has links at the regional level with its manuals and monitoring expertise feeding into the work of EANET and the Maastricht Declaration. There are also close links between GAW and EMEP; many EMEP monitoring sites have been designated as GAW sites. In addition, the formal link between the LRTAP Convention and WMO is strengthened by WMO co-chairing the Convention Task Force on Measurements and Modelling which reports to the Steering Body of EMEP. WMO also actively participates in the Task Force on Hemispheric Transport of Air Pollution as well as attending Executive Body and subsidiary body sessions in Geneva.

9. WMO, as noted above, has interests in climate change issues. Along with UNEP it took to initiative in promoting the development of UNFCCC, and it provides, with UNEP, the secretariat for IPCC.



10. For any global or hemispheric initiative, the support of WMO would be important. There would be obvious co-benefits and it would continue and strengthen a long history of cooperation with the LRTAP Convention.

### **III. World Health Organization (WHO)**

11. WHO is the directing and coordinating authority for health within the United Nations system. It is responsible for providing leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and monitoring and assessing health trends. Extensive information on the role of WHO is available through its web site ([www.who.int](http://www.who.int)).

12. There has been a long history of association between WHO and the LRTAP Convention. The Convention has always looked to WHO to provide reports and information on human health, and this it has done on a regular basis. In particular the European Office of WHO (WHO/Europe) has interests in air pollution in the UNECE region (see <http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/air-quality>). The regional office has also been responsible for developing the WHO Air Quality Guidelines for Europe, the second edition of which was published in collaboration with experts from the Convention, in 1995 (a global update has been published in 2005). To further strengthen the links between WHO and the Convention, in 1997 WHO and the Executive Body established their Joint Task Force on the Health Aspects of Air Pollution. While formally under the Executive Body, the Task Force generally reports to the Working Group on Effects and has provided valuable information helping the development of policy under the Convention, for example, on tropospheric ozone, heavy metals, persistent organic pollutants and fine particles (see <http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/air-quality/activities/health-aspects-of-long-range-transboundary-air-pollution>). .

13. As a global organization WHO could have a role to play in the development of any global or hemispheric initiative on air pollution management.

### **IV. International Maritime Organization (IMO)**

14. IMO is the United Nations agency with responsibility for the safety and security of shipping and the prevention of marine pollution by ships (see [www.imo.org](http://www.imo.org)). IMO was established in 1949 and its Convention entered into force in 1958.

15. Because of the IMO interest in air pollution there have been formal links with LRTAP Convention. IMO has provided reports to the Executive Body and the Convention, and its Parties, have tried to encourage IMO to take action on air pollutants released at sea. A representative is always invited to attend Executive Body sessions though mostly apologies are

given. The Convention has often seen IMO as being slow to take action on the significant releases of some pollutants that impact upon coastal regions.

16. To deal with global and hemispheric pollution effectively, it will be important to maintain dialogue with IMO and further encourage it to take necessary action for intercontinental air pollution management.

## **V. International Civil Aviation Organization (ICAO)**

17. ICAO is a specialized agency of the United Nations. It was created in 1944 to promote the safe and orderly development of international civil aviation throughout the world. It sets standards and regulations necessary for aviation safety, security, efficiency and regularity, as well as for aviation environmental protection (see [www.icao.int](http://www.icao.int)).

18. The LRTAP Convention has maintained communications with ICAO and it is invited to send a representative to Executive Body sessions. Only occasional reports have been received by the Executive Body and representatives seldom attend. ICAO has three major environmental goals concerning noise, local air quality and greenhouse gas emissions.

19. To deal with global and hemispheric pollution effectively, it will be important to maintain dialogue with ICAO and further encourage it to take necessary action for intercontinental air pollution management.

## **Annex III**

### **Non-governmental institutions with interests in air pollution management**

1. There are a number of non-governmental organizations (NGOs) that have specific interests in air pollution management and that have helped drive international action through networks, agreements and institutions. Some of these are described briefly below.

#### **I. Global Atmospheric Pollution Forum**

2. The Global Atmospheric Pollution Forum (GAP Forum) is currently the only global institution specifically focused upon air pollution related issues. The Forum brings together the regional air pollution networks and agreements as well as international organizations with specific interests in air pollution management. Its Steering Committee has included representatives from the United Nations Environment Programme (UNEP), the United Nations Economic Commission for Europe (UNECE)/Convention on Long-range Transboundary Air Pollution, the Clean Air Initiative (CAI), the International Union of Air Pollution Prevention and Environmental Protections Associations (IUAPPA), the Stockholm Environment Institute (SEI), Air Pollution Information Network for Africa (APINA)The Inter-American Network for Atmospheric/Biospheric Studies (IANABIS) and representatives of networks in Asia. SEI and IUAPPA provide the secretariat for the Forum. Information on the Forum can be found at <http://www.sei-international.org/rapidc/gapforum>.

3. The Forum aims to support the development of solutions to air pollution-related problems by promoting effective cooperation among nations at the regional, hemispheric and global scales. It considers the evolving global context where climate change, energy dependency, economic development and sustainability are all critically interrelated with air pollution. It focuses on protecting public health and the environment from the harmful effects of air pollution, and pursues approaches that can also address climate change and other related concerns.

4. Working closely with SEI, the Forum promotes technical cooperation between regions and has developed manuals for emissions (with an Excel-based workbook), for human health impacts and for monitoring. The Forum's work has received support from the Swedish Government and from a number of participating organizations and government agencies. The Convention has actively contributed to the Forum's work and has seen it as a useful mechanism for establishing and maintaining communications with other regions.

5. In addition to its manuals, the Forum publishes regular newsletters. It has also published a "World Atlas of Atmospheric Pollution" and produced a series of policy briefs on topics such as "What are the sources of air pollution?" and "Air pollution is a local, hemispheric and global problem". Discussion papers include "Atmospheric Pollution: Developing a Global Approach".

## **II. Atmospheric Brown Cloud – Asia, Africa, Latin America**

6. Whilst not an NGO, this UNEP led project was initiated to look at the brown cloud phenomenon that had first been reported in Asia, but which is known to occur in other parts of the world. Begun in 2002, the project brought together a wide range of international and international institutions and, more importantly, a number of eminent scientists that were able to give great credibility to their reports.

7. The aim of Project Atmospheric Brown Cloud (ABC) was to integrate science with impact assessment in order to provide a scientific base for informed decision making. This process was aimed at developing to regional capacity building to study and improve the global environment. A summary report was published by UNEP spelling out the impacts of brown clouds on human health, crop and climate (<http://www.unep.org/pdf/ABCSummaryFinal.pdf>).

8. The project is an excellent example of how intergovernmental organizations can drive a scientific assessment to provide authoritative reports to governments in order to stimulate remedial action.

## **III. Clean Air Initiatives – Asia, Latin America, Sub-Saharan Africa**

9. The Clean Air Initiative (CAI) is a World Bank initiative to advance innovative ways to improve air quality in cities through partnerships in selected regions of the world by sharing knowledge and experiences. Regional initiatives are multi-stakeholder partnerships of government agencies, non-governmental organizations, academic institutions, development agencies, and the private sector, dedicated to addressing environmental and health concerns related to air pollution in each region. CAI-Asia is particularly well developed and has an informative web site (<http://cleanairinitiative.org/portal/index.php>).

10. Since the Initiatives are focused on mega-cities there is a major interest in urban pollution, clean and sustainable transport, and clean energy production. They aim to inform governments and the public at large, and to stimulate action at local, national and international levels. CAI takes an active interest in global initiatives such as the GAP Pollution Forum.

## **IV. International Geosphere-Biosphere Programme**

11. The International Geosphere-Biosphere Programme (IGBP) is a research programme that studies the phenomenon of global change. It was launched (in 1987) by, and continues to be sponsored by, the International Council of Scientific Unions, a coordinating NGO body of national science organizations. It looks at the total Earth system, the changes that are occurring, and the manner in which changes are influenced by human actions.

12. IGBP aims to describe and understand how the physical, chemical and biological processes regulate the Earth system. It also seeks to increase knowledge of how humans are influencing the

global processes, such as the carbon cycle, nitrogen cycle, sulphur cycle, water cycle and phosphorus cycle. It aims to deliver scientific knowledge to help human societies develop in harmony with Earth's environment." It is project based in its approach and currently has 12 major international projects.

13. IGBP works with international partners and funding agencies to develop research priorities and co design projects and initiatives. It aims to promote inter- and trans-disciplinary research work with relevant partners to support solutions to societal transformation. It produces a wide range of publications, including a six-monthly magazine, Global Change, various summaries for policymakers, reports, as well as articles in peer-reviewed journals. Its web site provides information on its extensive activities ([www.igbp.net](http://www.igbp.net)).

## **V. Environmental Advocacy Groups**

14. These groups have played a major role in driving international air pollution measures in the past and may continue to be a driving force for the future. They include such organizations as the Pollution and Climate Secretariat (formerly the Swedish NGO Secretariat on Acid Rain) that publishes a regular magazine, "Acid News", the Clean Air Task Force (a US national environmental organization).

15. There is often a communications network between such organizations so that a broad spectrum of interested NGOs are kept informed by those that are closely involved with particular networks or agreements. Such NGOs play an important role in both raising issues of particular significance, e.g. action or failure of action by individual States with respect to their international obligations, and also providing general information to interested government agencies, national NGOs and the public at large.

## **VI. Industry Groups**

16. Industries with specific interests in air pollution, mainly those that cause air pollution such as the energy, chemical and transport sectors, have long had an interest in international networks and agreements that are involved in the monitoring and management of air pollution. Such industries are usually represented by international NGOs, such as the European Chemical Industry Council (CEFIC), the European Association of Internal Combustion Engine Manufacturers (EUROMOT), the European Petroleum Industry Association (EUROPIA), the Union of the Electricity Industry (EURELECTRIC) and the World Chlorine Council (WCC), which have often attended sessions of the LRTAP Convention Executive Body.

17. The inclusion of such industries in discussions on air pollution management has several advantages:

- (i) Industry is well informed of possible international agreement on air pollution control;

- (ii) Industry can inform intergovernmental bodies on technologies and techniques that can contribute to air pollution management;
  - (iii) Industry can work with international organizations to set effective targets for emission controls.
-