

## ECUADOR

### PART III. NATIONAL REPORTING GUIDELINES FOR CSD-14/15 THEMATIC AREAS

#### A. ATMOSPHERE/AIR POLLUTION

Government focal point(s): \_\_\_\_\_

Responding ministry/office(s): Ministry of the Environment

#### **Decision-Making: Strategies, policies, programs and plans, legislation, policy instruments and the regulatory framework; involvement of Major Groups**

- **Assessing ambient air quality and the levels of air pollution.**

In Ecuador, the environmental management with the approval of the Law of Prevention and Control of the Environmental Contamination began (Supreme Decree 374, 21 of May of 1976). From then, the first network of atmospheric monitoring (Network Ecuaire) with the technical attendance of the OPS/OMS for the Region of Latin America and the Caribbean is implemented.

The network stayed operative during the period of 1976 until 1999, allowing to compile real historical information like only reference of the state of the quality of the air for the evaluation of the atmospheric contamination and monitoring of the fulfilment of the norms of quality of the air (Regulation that establishes the norms of quality of the air and their methods of measurement, RO. No. 726. 15 of July 1991).

The network was constituted by stations installed in the cities of Quito (3 stations), Guayaquil (3 stations), River basin (1 station), Ambato (1 stations) and Emeraldas (2 station), for the monitoring of the polluting agents: sedimentable particles, total particles in suspension and sulfur dioxide.

Later, by the changes and evolution of the institutions executors, and by the competitions assumed by the local governments, the monitoring of the quality of the air lost its continuity, in addition by the lost to the installed equipment. In the national scope, one excepts the case of the Metropolitan District of Quito, that carries out a sustainable management for the prevention and control of the contamination of the air, by means of the application of some regulatory measures for the control of emissions of fixed sources, movable sources, ordering of the transit, between main and the automatic atmospheric monitoring by means of the Metropolitan Network of Atmospheric Monitoring of Quito that works regularly from June 2003 (1)(2)(3).

Through the Technical Assistance of the OPS/OMS Representation in Ecuador, works of diagnosis of the systems of monitoring of the quality of the air for the cities of Guayaquil and Cuenca have been made and proposals for the improvement of the same ones have been considered ([www.cepis.ops-oms.org](http://www.cepis.ops-oms.org) - Profiles of the countries). The documents contribute with information bases for the management of the corresponding institutions and for the decision of the authorities.

(1) Preliminary Diagnosis Management of the Quality of the Air - Ecuador (OPS/OMS-Ministerio of the Atmosphere of Ecuador). [www.cepis.ops-oms.org/bvsci/fulltext/ecuador](http://www.cepis.ops-oms.org/bvsci/fulltext/ecuador)

(2) [www.corpaire.org](http://www.corpaire.org)

(3) [dimeambiental@hotmail.com](mailto:dimeambiental@hotmail.com)

- **Control of air pollution (e.g. for stationary, mobile, area and other pollution sources).**
  - **Analysis of costs and benefits**
  - **Institutional changes made.**

By means of Executive Decree no. 3399 the Unified Text of Secondary Legislation of the Ministry of the Atmosphere, published in the Official Registry, Special Edition No.2 of the one of the 31 of March of 2003 was sent. In this one is the Regulation to the Law of Environmental Management for the Prevention and Control of the Environmental Contamination (4) that establishes the national general norms applicable to the prevention and control of the environmental contamination and the negative environmental impacts of the activities defined by the Extended Classification of the Economic Activities effective version of CIU; the national practical standares that fix the permissible limits of emission of unloadings and spills to the atmosphere, in whose annexed they are the Norm of Emissions to the Air from Fixed Sources of Combustion, the Norm of Quality of the Ambient Air and the Permissible Limits of Levels of Atmospheric noise for Fixed Sources and Movable Sources and Vibrations.

In Art. 51 of the Regulation it arrives indicated, establishes that the environmental organizations in the municipal and provincial jurisdictions will carry out the pursuit of the activities matter of this one, without damage of the attributions of control, authorizations and sanctions that the own laws authorize to the sectorial environmental regulating organizations and by natural resource, that not yet have decentralized their competitions towards the environmental organizations of control (4).

The subject of the atmospheric contamination, until the moment, has been dealt with by initiatives the local governments like beings executors. In cities as Exempt and River basin they are effective and with certain trajectory, the control of emissions of fixed sources through the application of Municipal ordinances. In other cities the control of emissions fixed sources has different advances in agreement has assumed competitions and has technical, administrative, financial and operative resources. (1)

For the control of emissions of movable sources, the country counts on the Ecuadorian Practical standares sent by the Ecuadorian Institute of Normalizacio'n (INEN), organization pertaining to the Ministry of Foreign trade, Industrialization, Fishing and Competitiveness:

- NTE INEN 2 202. Environmental Management. Air. Automotive vehicles. Determination of the opacity of emissions of escape of motors of diesel engine by means of the static test. Method of free acceleration.
- NTE INEN 2 203. Environmental Management. Air. Automotive vehicles. Determination of the concentration of emissions of escape in conditions of minimum march or "Slow motion". Static test.
- NTE INEN 2 204. Environmental Management. Air. Automotive vehicles. Allowed limits of emissions produced by terrestrial movable gasoline sources.
- NTE INEN 2 207. Environmental Management. Air. Automotive vehicles. Allowed limits of emissions produced by terrestrial movable sources of diesel engine.
- NTE INEN 2 349. Technical Revision Vehicular. Procedures.

The INEN is elaborating the Ecuadorian Technical project standard for the Control of the Polluting Emissions of Terrestrial Movable Sources, which is next to conclude to incorporate the norm indicated with the obligatory character. The Metropolitan District of Quito is the only locality of the country that is applying to a system of obligatory control of emissions vehiculars whose Municipality by means of the delegation to third carries out the application of its decree for the effect and under the legislation that grants attributions to him for it (2) (3).

The cities of River basin and Loja are advancing in the implementation of a system similar to the one of Quito, with the contribution and within the framework of the Program Quality of the Air in Ecuador - Phase II, with auspice of the Swiss Agency for the Development and the Cooperation (5).

On the other hand, in the Law of Terrestrial Transit and Transport (Law no. 000. R.O. 1002 of 2 of August of 1996) in their Chapter IX Of the Prevention and Control of the Environmental Contamination and Noise, grants power of control to the National Direction of Terrestrial Transit and Transport through revision centers and control to vehicular, nevertheless this instance of the National Police does not execute it and the Law lacks standard that makes it operative in this aspect (6).

(4) [www.ambiente.gov.ec](http://www.ambiente.gov.ec)

(5) [www.fnatura.org.ec](http://www.fnatura.org.ec)

(6) Institutional legal Study of the competitions in prevention and control of the atmospheric contamination [www.fnatura.org.ec](http://www.fnatura.org.ec)

- o **Analysis of the costs and benefits** : It is not had sufficient information or made institutional Changes.
- o **Institutional changes made:** With the Law of Environmental Management, sent the 20 of 1999 July, whose codification is published in the Supplement of Official Registry no. 418 of 10 of September of 2004, the Decentralized National System of Environmental Management is created that is made up of all institutions with environmental competition in Ecuador. (6)(1)

- **Plan(s) to deal with severe air pollution incidents.**

Plan(s) to face serious cases of contamination. The country not yet undertakes the management of quality of the air of integral way under a reference frame it interinstitutional coordination to face these events. The Civil defense is the national organization that leads and coordinates the plans and mechanisms for the attention of natural or antrópicas emergencies by desasters. In the Metropolitan District of Quito, during the events of volcanic ash fall product of the eruption of volcano Guagua Pichincha (1999) ([www.cepis.ops-oms.org](http://www.cepis.ops-oms.org) Profiles of the countries), the Municipality started up several activities to safeguard the population of that impact. Also, during the ash fall of Reventador volcano (2002)

- **Programs designed to reduce indoor air pollution.**

The country has not dealt with the subject about contamination the air in interiors. In the scope of the labor atmosphere, the Ministry of the Work is the executor of the Code of the Work and the Agreement on the protection of the workers against the professional risks due to the contamination of the air, the noise and the vibrations in the work place.

- **Policy measures taken to improve the quality of fuels.**

At the moment, they are not counted on the matter on explicit policies with environmental criterion. In the Metropolitan District of Quito, by means of Decree 119 the regulation of the sulfur content is demanded in the diesel engine for the use in automotive (transport of passengers and load). The Ministry of the Atmosphere, in the execution of the Program Quality of the Air in Ecuador - phase II (5), will approach the subject to elevate to a state policy.

- **Specific policy measures designed to reduce the level of lead in gasoline.**

Ecuador at the moment no longer is supplied of gasoline with lead. The process occurred by means of the expedition of legal dispositions: thus the special law, Law of Regulation of Production and Fuel Commercialization (Law 000, Official Registry 793 of the 2 of October of 1995), arrange that to start off of the 1 of July of 1997 the use of tetraethylene of lead in the gasoline preparation is prohibited in the country, being due to gradually reduce the use of this chemistry until that date. It is prohibited in addition, the fuel import that contains tetraethylene of lead. The Ecuadorian Institute of Normalization will update the norms of quality of unleaded gases and diesel engine. By means of Ministerial Agreement 112, Official Registry 308 of the 30 of April of 1998, the Ministry of Energy and Mines, authorizes the production and commercialization of two types of gasoline: EXTRA of 80 SUPER octanes and of 89 octanes, without lead for the supplying of the country. For that date the elimination of the lead in gasolines was finished.

- **Policies promoting cleaner transportation measures and technology (e.g. vehicular technology, mass transit systems, reduced demand in vehicle-miles-traveled, modal shifts).**

The Law of Transit and Terrestrial Transport, establishes in its article 14, that the State will take measures to dynamite and to modernize the massive service of transport, nevertheless, in the national scope not yet undertake indeed actions with that objective. On the other hand, to approach the problem of the sector transport represents a series of conflicts between the local authorities of the sector, carriers, authorities and the citizenship. Nevertheless, local initiatives in the main cities in answer of the growth and the demands of services exist. The Metropolitan District of Quito, has the Masterful Plan of Transport and Road that the reference frame constitutes that orients the municipal management and the participation of the sector deprived in the development and modernization of the System of Transport of the Metropolitan District in the medium and long term. It contains the guidelenes of institutional policy, the strategies and the set of programs and projects for all the components of the system: public transport, road, traffic, regulatory and institutional frame (7). In Cuenca also initiatives in that sense are carried out. Respect to other cities is not counted on information. Within the framework of the execution of the Program Quality of the Air in Ecuador (5), Project MAE, the Ministry of the Atmosphere will approach the subject for the integral management of the quality of the air.

(7) [www.quito.gov.ec](http://www.quito.gov.ec)

- **Emission limits on vehicular exhaust.**

- NTE INEN 2 204. Environmental Management. Air. Automotive vehicles. Allowed limits of emissions produced by terrestrial movable gasoline sources. This norm has the fulfilment the emission limits to the concerned or assembled vehicles previous to its commercialization and for which they are circulating. The maximum limits of emissions allowed for the vehicles in circulation by means of static test settle down (%v CO, ppm HC), according to year model; maximum limits of emissions for new vehicles by means of dynamic test as of the year model 2000 in American cycles, cycle FTP-75 (g/km CO, g/km HC, g/km NOx) and for European cycles, cycle ECE-15+EUDC (g/km CO, g/km HC + NOx), according to the characteristics of the vehicles which must be certified by the manufacturing house with the endorsement of the competent authority of the origin country.

- NTE INEN 2 207. Environmental Management. Air. Automotive vehicles. Allowed limits of emissions produced by terrestrial movable sources of diesel engine. This norm has the fulfilment the emission limits to the imported or assembled vehicles previous to its commercialization and for which they are circulating. The maximum limits in percentage settle down opacity of emissions for the vehicles in circulation by means of test of free acceleration, according to year model; maximum limits of emissions for new vehicles by means of dynamic test as of the year model 2000 in American cycles, cycle FTP-75 and heavy transiente ((g/km CO, g/km HC, g/km NOx, g/km Particles) and for European cycles, cycle ECE-15+ECE-49 (g/km CO, g/km HC, g/km NOx, g/km Particles), according to the characteristics of the vehicles which must be certified by the manufacturing house with the endorsement of the competent authority of the origin country.

- **Role played by air pollution in urban planning, especially related to transportation.**

Quito, is practically the only city of Ecuador that in the last decade has undertaken a management maintained in relation to the discouragement of the atmospheric contamination originated by the transport (80% approx) generating a reorientation in the urban planning through the different instances from the local government (2)(7). The municipal management of other cities is not known on the matter.

- **Economic and market-based incentives to meet national air quality goals.**

The country not yet tells on economic instruments that they promote the prevention of contamination of the air towards national objectives. At the moment, the National Environmental Authority (Ministry of the Atmosphere) is initiating and causing the management of the quality of the air by means of the formulation of the policies, strategies and of a National Plan of Quality of the Air, through participative processes of the sectors public, deprived and of the organized civil society (5).

- **Nature and impacts of transboundary air pollution (including pollutants emitted within your country as well as those received from nearby countries).**

The climatic change by the gas generation effect conservatory already is evident in the country. (information Unit Climatic Change) Of another type of contamination studies have not been made that show affectation evidence that extends border.

- **Programs designed to reduce ozone-depleting substances and promote alternatives under the Montreal Protocol.**

.(Information to be completed by the Ministry of Foreign trade, Industrialization, Fishing and Competitiveness, Focal Point of the Protocol).

### **Capacity-Building, Information, Research and Development**

- **Availability of data concerning: a) the impacts of air pollution on human health and ecosystems; and b) the levels of pollution in different industries.**

a) *The impacts of air pollution on human health and ecosystems*

In the local scope, the Natura Foundation, within the framework of the execution of the Project Quality of the Air Phase I with the Municipality of the Metropolitan District of Quito and auspice of COSUDE made a study in scholastic children.

[www.fnatura.org.ec](http://www.fnatura.org.ec)

b) *The levels of contamination in diverse industries.*

In the local scope, the Metropolitan District of Quito (2)(7)(8) counts on data bases on the control of the industrial activity in application of its Decrees 12 and 31. It is not known of other municipalities, how they are taking the control of the industrial contamination.

- **Capacity to carry out air dispersion modeling.**

The country has few professionals with formation for the development of atmospheric mathematical models. The CORPAIRE, organization ordered by the Municipality del Metropolitan District of Quito for the operation and administration of the Metropolitan Network of Atmospheric Monitory of Quito, at the moment is developing the mathematical model of dispersion for as the preliminary inventory of emissions has been elaborated that will be improved for its utility. It is possible to indicate itself that this one is the only network of automatic monitory of quality of the meteorological air and in Ecuador ([www.corpaire.org](http://www.corpaire.org)).

- **Programmes designed to increase citizens' awareness about the impacts of indoor air pollution.**

They are executed by corporative particular initiatives, but in the majority they do not exist programs in that sense.

- **Internet websites related specifically to the issues contained in these Atmosphere/Air Pollution Guidelines, providing homepage addresses (URL).**

Web sites in the Internet related concretely to the questions that appear in these directives on the atmosférica/atmósfera contamination, with the direction of the presentation page (URL).

[www.ambiente.gov.ec](http://www.ambiente.gov.ec)

[www.quito.gov.ec](http://www.quito.gov.ec)

[www.fnatura.org.ec](http://www.fnatura.org.ec)

[www.cepis.ops-oms.org](http://www.cepis.ops-oms.org)

[www.corpaire.org](http://www.corpaire.org)

[www.inamhi.gov.ec](http://www.inamhi.gov.ec)

- **R & D programmes in the areas of: atmospheric conditions; air quality management; air pollution control technology; clean fuels technology; environmental economics; environmental impact assessment; and remote sensing.**

The Program Quality of the Air in Ecuador - Phase II (5), with auspice of the Swiss Agency for the Development and the Cooperation, under the Binominal Agreement subscribed by the Government of Ecuador, the Government of Switzerland, the Ministry of the Atmosphere, the Municipality of the Metropolitan District of Quito and the Natural Foundation, for the financing and accomplishment of the same one, has three specific objectives that will help to that the management of the quality of the air in the country is fitted to a frame of reference, that orients the isolated efforts that until the present time have occurred and it consolidates coresponsibly in the estates for the public sector, private and of the civil society (Objective specific 2):

- 1) To contribute to the consolidation of the process of prevention and control of emissions vehicles in Quito (Exempt Project);
- 2) Follow-up to the preparation and implementation of policies, strategies and National Plan of Quality of the Air (Project MAE); and
- 3) Give support to initiatives in the prevention and control of emissions vehicles in other cities (Project Cuenca and Loja). It is not known if in other institutions programs related to some of the indicated subjects are taking. Financing for connected programs of bilateral or multilateral sources. Cooperation Initiatives to establish regional, multilateral or bilateral agreements, or to participate in them, in order to face preoccupations of transfronteriza atmospheric contamination.

### **Financing**

- Financing for related programmes from bilateral or multilateral sources.

### **Cooperation**

- Efforts to establish or participate in regional, multilateral or bilateral agreements to address transboundary air pollution concerns.

[www.ambiente.gov.ec](http://www.ambiente.gov.ec)  
[www.quito.gov.ec](http://www.quito.gov.ec)  
[www.fnatura.org.ec](http://www.fnatura.org.ec)  
[www.cepis.ops-oms.org](http://www.cepis.ops-oms.org)  
[www.corpaire.org](http://www.corpaire.org)  
[www.inamhi.gov.ec](http://www.inamhi.gov.ec)