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## Environment and health: better prevention of environment-related health hazards

### Report<sup>1</sup>

Committee on the Environment, Agriculture and Local and Regional Affairs

Rapporteur: Mr Jean HUSS, Luxembourg, Socialist Group

### Summary

There are strong links between environmental pollution and increasing health risks. Environment-related pathologies are not confined to respiratory and cardiovascular diseases and specific types of cancer, but also include other chronic and emerging pathologies which are also deemed to have links with the environment, including immune system impairment, neurological and neurodegenerative illnesses and disruptions of the hormonal and reproductive system.

Despite calls for the precautionary principle, there is still a lack of reaction to known or emerging environmental and health risks and virtually systematic delays in adopting and implementing effective preventive measures. The political authorities must act to prevent disease and health crises by adopting preventive health policies, especially at the level of the production and transformation of consumer products.

The report also calls for the recognition of environmental medicine as a new transverse medical discipline and the development of harmonised initial and further training programmes for students and physicians at the European level.

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1. Reference to committee: [Doc. 10898](#) and Reference No. 3234 of 26 June 2006, extended on 14 April 2008 to 26 December 2008.



**Contents**

**Page**

A. Draft recommendation .....	3
B. Explanatory memorandum, by Mr Jean Huss .....	5
1. Introduction .....	5
2. Omnipresent pollution and all environments contaminated .....	6
3. Polluted environments are a health hazard .....	6
4. Short-term economic interests or the precautionary principle? .....	7
5. Complexity of the environment health link: new data for scientific risk assessment .....	7
6. Established links between pollutants and health problems .....	7
7. Pollution in the home and “sick buildings” .....	8
8. The role of NGOs and civil society .....	9
9. Environmental policy in Europe – What has been achieved .....	10
10. Conflicting expert opinions on environmental health .....	11
11. The need for new concepts in environmental health and environmental medicine .....	12
12. A possible approach: an effective prevention policy .....	12

## A. Draft recommendation

1. The Parliamentary Assembly, like other international organisations such as the European Union, the World Health Organization (WHO), the European Environment Agency, etc., notes that there are increasing links between environmental pollution and ever greater and more obvious health risks. Environment-related pathologies are not confined to respiratory and cardiovascular diseases and specific types of cancer, but also include other chronic and emerging pathologies which are also deemed to have links with the environment, including immune system impairment, neurological and neurodegenerative illnesses and disruptions of the hormonal and reproductive system.
2. Since embryos, fetuses, neonates and children are even more sensitive to environmental factors than adults, the Assembly alerts all governments and all the responsible organisations and stakeholders to the need to protect or restore a healthy environment and thus guarantee the future of our children and future generations.
3. The Assembly has repeatedly stressed the importance of the states' commitment to preserving the environment and environmental health as set out in many conferences, charters, conventions, declarations and protocols since the United Nations Conference on the Environment and the "Stockholm Declaration" (1972). It more particularly welcomes the research efforts and action plans launched since the WHO-Europe Conference on Environment and Health (Budapest, 2004).
4. The Assembly nevertheless regrets that, despite calls for the precautionary principle and despite all the recommendations, declarations and a number of statutory and legislative advances, there is still a lack of reaction to known or emerging environmental and health risks and the virtually systematic delays in adopting and implementing effective preventive measures. There has thus been little improvement in the situation of multiple and chronic exposure to multiform pollution and environmental pathologies are still as worrying as ever.
5. In the light of the known results of scientific expertise in this field, it considers that the political authorities must act upstream in order to prevent disease and health crises.
6. The Assembly stresses the importance of all forms of prevention and early detection where environmental health policy is concerned, and believes that primary prevention of environmental risks must be encouraged above all.
7. Risk assessment must be based solely on scientific criteria, which means that it must be shielded from any kind of pressure exerted by the political authorities or economic lobbies, and must take account of the often insidious effects of chronic exposure to low or threshold exposure doses of a range of pollutants working in combination. Even in small doses, a "cocktail" of pollutants in the air, water, food and in everyday consumer products, and also in building materials, can have a serious effect on human health.
8. Such assessment must above all take account of the fact that it is not only the dose that makes the poison but also the period of exposure, the accumulative mechanisms and individual sensitivities to pollutants or mixtures of pollutants.
9. For over twenty years, scientists, field doctors and environmental physicians as well as experts and environmental specialists have been alerting the public authorities and medical circles to the new health risks and environmental pathologies arising out of the insidious increase in pollution in all environments, in the food chain and in the human organism itself.
10. The Assembly acknowledges the primordial role played by civil society and associations working to protect the environment and environmental health in terms not only of sounding the alarm and denouncing health scandals but also of producing preventive strategies and action plans.
11. Faced with the increasing risks to the environment, wildlife and human health, particularly that of future generations, the Assembly supports the research efforts being made at the European and international levels to assess, with the requisite degree of certainty, the impact of low doses of chemical pollutants and ionising and non-ionising radiation on human health.
12. The Assembly takes note of the fact that in the environmental health field, all the players, including toxicologists, epidemiologists and environmental physicians, agree that environmental pollution has a negative impact on human health and advocate improving the prevention of health disorders linked to such pollution. Environmental medicine is a new transverse medical discipline which has been emerging and developing for a number of years.

13. The Assembly notes that the number of individuals actually suffering from diseases linked to the environment is regularly growing, in an increasingly disturbing manner.

14. Stressing the need for urgent practical action to curb the increase in known or emerging risks, the Assembly asks the Committee of Ministers to invite member states and observers of the Council of Europe to:

14.1. apply the precautionary principle in order to prevent major dramatic health crises in future caused by environmental risk factors;

14.2. ensure that scientific experts can work in an independent, transparent and democratic manner in accordance with the principles of adversarial and pluridisciplinary research;

14.3. guarantee the application of transparent criteria in the choice of the different experts and to improve their status, as well as to enhance the protection of "whistle-blowers";

14.4. support actively the participation of civil society in public adversarial debates on present and future technological choices and challenges and acceptable risk levels (impact assessment);

14.5. intensify urgently and substantially the efforts to devise a global policy for preventing chronic diseases associated with the environment, as well as environmental health policy action plans, as an incentive for the sustainable and ecologically responsible restructuring of all fields of political and human activity;

14.6. adopt prevention policies in all fields, in terms of consumer food production and processing and service development, in order to foster the development of a new health protection-oriented economy;

14.7. contribute actively to the establishment and reinforcement of a more responsible chemical production policy, by withdrawing from the market all carcinogenic, mutagenic, reprotoxic and neurotoxic substances, implementing a firm substitution policy and encouraging industrialists (by means of tax and financial measures) to move on to safer, less polluting products;

14.8. support organic agriculture and regulate less pesticide-intensive agricultural production methods, develop less polluting modes of energy production, reduce the impact on health of road traffic and promote a building policy that takes account of the impact of construction and building materials on health;

14.9. take account of the warnings of the European Environment Agency regarding electromagnetic pollution and specific health risks attributed to mobile phone systems;

14.10. foster measures, in their prevention programmes or action plans, to train and educate people in environmental health risks at all levels of society, and to develop exchanges between experts and citizens and between physicians and patients;

14.11. recognise environmental medicine as a new transverse medical discipline and develop harmonised initial and further training programmes for students and physicians at the European level;

14.12. reinforce and ensure the general implementation, in connection with the problem of pollution inside houses or buildings, of the "green ambulance" system (mobile laboratories analysing homes and buildings at the request of the individuals concerned, in liaison with their family doctors, and the intervention and expertise of indoor environment counsellors), and to provide new types of training courses for medical advisers on interior environment;

14.13. improve provision, by better reimbursement of diagnostic and therapeutic expenses, for persons suffering from illnesses associated with the environment, who often face major protracted suffering involving high personal costs;

14.14. support actively, by means of subsidies, contracts and partnership agreements, patients' associations working in the field of environmental health and diseases associated with the environment.

## B. Explanatory memorandum, by Mr Jean Huss

### 1. Introduction<sup>2</sup>

1. The links between environmental damage and health problems were discussed by Hippocrates in ancient Greece in his treatise on *Air, Water and Places*, in which he writes that physicians worthy of the name should have due regard to the seasons of the year, and the diseases they produce, and to the state of the wind peculiar to each country and the properties of its waters. They should carefully observe towns and their environs, as well as noting the lifestyles of the inhabitants, particularly their dietary habits. In other words, all the factors that might lead to imbalance in the physiological system.

2. Hippocrates was undoubtedly the precursor of what we now term specialists in environmental health and environmental medicine. But the philosopher Seneca also complained of the unbreathable air of certain districts of ancient Rome, which already contained several hundred thousand inhabitants packed into unhygienic buildings several storeys high giving off the stink of smoking chimneys, a situation that can probably be compared to the shanty towns of some of today's poorest countries.

3. Concentrations of people in large towns and cities have always been a cause of pollution and health and hygiene concerns. From the Middle Ages, the combustion of first wood and then coal, and the accumulation of rubbish in narrow streets, led to significant air and water pollution, with damaging health consequences.

4. With the advent of heavy coal-burning and steel-making industries in the 19th century, followed in the 20th by the growth of the chemical industry, new types of pollutants emerged, such as heavy metals, chlorinated products and pesticides. The post-war years have seen a growth in chemical production and its associated risks, as well as an ever-growing quantity of car exhaust emissions, such as nitrogen oxides, fine particles and volatile organic compounds, which are currently polluting our towns and cities, not to mention other health hazards such as noise and ionising and non-ionising radiation. To complete the picture, we should not forget such major environmental and health crises as the London smog of the 1950s, the thousands of sick and dead in Minamata, Japan, caused by the ingestion of mercury-contaminated fish, the Chernobyl accident, with its serious environmental and health effects on certain countries and regions affected by the clouds of radioactivity, the industrial disasters at Bhopal in India or Seveso in Italy or certain villages in China that are still today afflicted with cancer.

5. The different scales of pollution

#### **1.1. Local pollution**

6. This is pollution resulting from local industrial emissions – coal, steelworks, chemicals, incinerators, waste disposal – or urban activities such as the combustion of coal and other fuels and vehicle emissions.

7. This pollution varies between the different Council of Europe regions and member countries according to the level of economic and industrial development. In older industrial centres it is often very serious and is typified by sulphur dioxide, various forms of dust, heavy metals and dioxins, while in urban centres of more recent economic development the pollution derives above all from the constant rise in the number of vehicles and road traffic. Here, nitrogen dioxides, fine particles and ozone in the lower atmosphere are causing increasingly serious health and environmental problems.

8. Noise pollution is often another problem at local level. Noise is an increasing feature of our environment and can become a nuisance and even a threat to human health, with a decline in quality of life accompanied by cardiovascular disorders and depression.

9. Another problem at local level is the disquiet or even fear of those living close to relay stations for mobile telephone networks, who worry about the risk of non-ionising radiation.

#### **1.2. The regional and international level**

10. To add to this local industrial and urban pollution, since the 1960s there has been an increasing "internationalisation" of air and water pollution and food contamination.

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2. The committee organised three hearings on the subject, in 2007 and 2008, and a Conference on Environment and Health: Indoor Pollution and Multi-System Illnesses (Strasbourg, 5 December 2008).

11. This ranges from acid rain and acidification of the soil and of ecosystems (lakes and seas) and the effect of pesticides and other synthetic chemical pollutants on rainfall and ecosystems, to the gradual destruction by CFCs (chlorofluorocarbons) of the ozone layer, which filters out ultraviolet solar rays that are harmful to living organisms, and the greenhouse effect that has already long been a cause of concern. It must now be acknowledged that most of the forms of pollution that threaten ecosystems and human health have become global problems and have to be combated at the global, as well as regional and local, levels.

12. An increasing number of scientific studies as well as medical experience on the ground show that there is a growing link between environmental pollution and various forms of deteriorating health in the general population, and particularly among children. These links between a polluted environment and health have been recognised not only by leading scientists but also by WHO, the European Commission and the conferences of environment and health ministers.

13. This includes not only a growing incidence of various types of cancer, including cancers in children, but also allergies, respiratory disorders, asthma, reproductive disorders and certain degenerative diseases of the central nervous system, not to mention a number of "new syndromes" with a chemical or environmental component that are increasingly recognised as public health problems.

## **2. Omnipresent pollution and all environments contaminated**

14. Our society is apparently failing to recognise that it is currently contaminating all the natural environments that are essential to our planet's survival, including air, soil, plant life, rivers, seas and foodstuffs. There are now no longer any places that are free of pollutants. Traces of heavy metals, radioactive elements, pesticides, polychlorinated biphenyls (PCBs) and phthalates are increasingly present in industrial regions, but also in high mountain lakes and the Antarctic snows.

15. The continuing contamination of the atmosphere, wind and rain by vehicle traffic and pesticides contributes further to dispersing all these pollutants across the planet, creating a form of underlying pollution that is a growing cause of concern.

16. Many of these chemical substances are extremely persistent in natural environments and gradually accumulate in the food chain before finally forming strong concentrations in the organs of major predators such as swordfish, tuna, seals and polar bears.

17. Even human beings, at the end of the food chain, are increasingly contaminated by all these chemicals, which accumulate in the cells and lipophilic tissue of the human organism. During pregnancy, at an extremely vulnerable stage of development, the embryo and the foetus may suffer placental transfer of potentially toxic and harmful substances such as mercury, pesticides and phthalates in the blood of the future mother through the umbilical cord.

18. A World Wild Fund for Nature (WWF) study in December 2004 of chemicals in the blood of 14 European health and environment ministers revealed the presence of between 33 and 43 different chemicals. Blood tests on numerous members of the European Parliament produced equally worrying results.

19. In the case of pregnant women and their future babies, nor is it just the blood in the umbilical cord and the meconium that can be contaminated, but also the mother's milk (phthalates, pesticides, heavy metals and so on), even though it is still very important to breast feed.

20. All these examples of studies and campaigns concerned with specific topics, as well as the results of more general biomonitoring campaigns, serve the useful educational purpose of showing that the origins of pollution are not limited in time and space – for example to factory chimneys or vehicle exhaust systems – and that it can also derive from other unknown sources of exposure, such as household and cleaning materials and products, textiles, furnishings, wrapping material and toys, and that today no one can escape it.

## **3. Polluted environments are a health hazard**

21. No other generation in history has been so exposed to thousands of chemical substances that are totally alien to everyday life.

22. On the basis of ever more reliable scientific studies, independent academic researchers and international organisations are issuing an increasing number of warnings about the dangers of chronic chemical pollution at low or very low doses on our organism, particularly in the case of children and embryos during pregnancy.

23. Successive WHO ministerial conferences on environment and health, which are milestones of a continuous process, have drawn attention to the links between this chronic low-dose but ubiquitous pollution and chronic disorders and illnesses, especially among children. The same concerns are echoed in official United Nations Environment Programme (UNEP) and Intergovernmental Forum on Chemical Safety (IFCS) documents and in the European Commission's environment and health action programmes.

24. Unfortunately, all these measures and action and prevention plans remain one-off, transitory and insufficiently comprehensive to deal with the global hazards that now face us, even if the serious efforts of a number of member states have to be acknowledged.

#### **4. Short-term economic interests or the precautionary principle?**

25. The industries concerned – chemicals, motor manufacture, nuclear, foodstuffs and mobile phones – all tend to react the same way in defence of their direct economic interests, by putting pressure on the authorities, threatening unemployment, direct or indirect bribery of university and laboratory researchers and doctors, non-publication or falsification of scientific data, carefully vetted expert reports, lobbying and infiltrating expert committees. Sir Richard Doll, who died in 2005, a cancer epidemiologist of worldwide repute who minimised the risk of cancer from vinyl chloride, Agent Orange, dioxins and other organochlorine products and received significant financial contributions from Monsanto, for whom he acted as consultant, was certainly not the exception but rather the tip of the iceberg, even though fortunately most scientists, physicians and other experts remain committed to the cause of public health and environmental health and protection.

#### **5. Complexity of the environment health link: new data for scientific risk assessment**

26. In recent decades, tens of thousands of toxic substances, pollutants and chemical products or combinations have been introduced into industry and the manufacture of consumer goods. Polluting emissions are dispersed daily into every natural environment. As a result, the traditional toxicological adage that it is the dose that makes the poison, which underlies the process of setting guidance or threshold values, no longer offers adequate safeguards for protecting the environment and human health. First, the chronic toxicity or immunologic sensitisation common to most of our day-to-day exposure to pollutants bears little relation to the acute toxicity of these substances. For example, certain substances have a weak acute toxicity, but are still toxic for reproduction and the foetus at low doses. Certain so-called endocrine disrupting chemicals even appear to have a more pronounced action at low than at high doses.

27. The classical risk-assessment model also suffers from other deficiencies. Risk is a function not just of the dose, but also of the period, the "window" and the duration of exposure, age and sex, the half-life of the accumulated substances, combined exposure – additive or synergetic effects – to several substances that are toxic at low doses, other co-factors such as individuals' state of health, pre-existing allergic conditions and genetic polymorphisms causing metabolism and affecting individuals' detoxication capacity.

28. For example, the polluting chemical "cocktail" of cigarette smoke may cause sickness and lead to lung cancer, but not all smokers will die of lung cancer, even though all independent and serious epidemiological studies reveal very close links between smoking and extremely high health risks.

29. In the absence of unethical and unacceptable experiments on human beings, the requirement occasionally expressed for totally infallible evidence of a cause-effect relationship can never be met. The known nature and characteristics of chemical substances or a mix of substances and fairly strong epidemiological associations should therefore be sufficient to invoke the precautionary principle and justify preventive measures to protect the environment and human health.

#### **6. Established links between pollutants and health problems**

30. An ever-increasing number of scientific studies and reports have drawn the attention of policy makers, civil society and the medical world to the links between chronic exposure at low doses and the onset or reinforcement of numerous medical conditions, which are sometimes deemed to have no known cause.

31. In industrialised countries and large cities there is a continued growth in cases of severe respiratory disorders such as chronic obstructive pulmonary bronchitis or asthma, but these conditions are increasingly affecting young persons and children. There appear to be substantial variations between countries studied in the percentages of persons affected by asthma, suggesting that environmental factors such as passive smoking, urban pollution, domestic pollution and occupational exposure may have a critical influence.

32. According to the major International Study of Asthma and Allergies in Childhood (ISAAC), the number of children and young persons affected by asthma may have doubled in twenty years, among teenagers the number of cases of asthma has risen from 7% to about 10% and of hay fever from 7% to 14%, and of eczema from 18% in children to 25% in juveniles.

33. The Council of the European Union is “concerned about the health problems associated with environmental determinants, such as respiratory diseases, asthma and allergies, neurodevelopment disorders, cancer, and endocrine disrupter effects, and particularly those affecting vulnerable population groups such as children in their different developmental stages, pregnant women, the elderly, and the socio-economically disadvantaged.”

34. One example is also infertility, which affects an increasing number of couples (1 in 7) in Europe. The main cause is the lower quality of the sperm, but there are significant regional variations. The same applies to the growing incidence of cancers, which vary according to type, region and social groups concerned.

35. Further examples include the worrying rise in the incidence of malignant tumours, such as leukaemia and brain cancer, in children. These increases may well be explained by environmental factors such as radioactivity, benzene, insecticides in habitats and low and high frequency pulsed electromagnetic fields.

36. More than many other conditions, allergies, cardiovascular diseases, hormonal disorders and psychological problems seem to be associated, at least in part, with damage to our environment and the quality of our foodstuffs.

37. To add to these worrying developments in environmental health, in recent years a number of new illnesses or syndromes have made their appearance, such as:

- MCS (multiple chemical sensitivity);
- CFS (chronic fatigue syndrome);
- dental amalgam mercury syndrome;
- hypersensitivity to electromagnetic rays;
- sick building syndrome;
- fibromyalgia.

While in children, disturbing rises in cases of autism and attention deficit and hyperactivity syndrome seem to be linked, at least in part, to chronic exposure to low doses of essentially chemical pollutants in the environment and foodstuffs.

38. Since there is no room in this report to discuss in detail the possible, probable or established environmental causes of all these syndromes, it will confine itself to the best known example, that of pollution in the home or sick buildings syndrome.

## **7. Pollution in the home and “sick buildings”**

39. For more than fifteen years, scientists, environmental biologists, patients’ and consumers’ associations have been drawing attention to a new form of environmental pollution and threat to public health, namely pollution in the home or sick building syndrome. Since the early 1990s, certain Nordic countries, Luxembourg, Belgium and some German *Länder* have set up “green ambulance” or environmental medical services to deal, among other things, with health problems that might arise from pollution in the home. Other countries and international organisations have followed suit, such as France, which has established a monitoring centre for indoor air quality and WHO Europe, who initiated the process to create indoor air quality norms (IAQ guidelines) in 2006 focusing on dampness and mould, selected chemicals, allergens and products of indoor combustion. Most recently, on 20 December 2007, the Council of European Union environment ministers expressed concern about the growing links between domestic pollution and health problems and invited the European Commission to establish or consolidate guidelines on healthy and safe indoor environments, giving special attention to construction products, energy performance of buildings, chemical substances, equipment and furniture, and so on.

40. While everyone is aware of the links between external pollution and health, many doctors, politicians and ordinary members of the public are unaware that the air in our homes and administrative and public buildings, including schools and nurseries, may be much more noxious than the air we breathe outside. Modern building techniques often favour the use of chemically based synthetic materials that are harmful for health.

41. The air in our homes and offices may also carry biological contaminants, particularly moulds that are responsible for infections, allergic reactions and chronic illnesses, as well as electromagnetic forms of contamination that alone or in combination can have undesirable health effects. Types and sources of inside pollution may therefore take very diverse forms depending on building materials, furnishings and washing and cleaning products used. Moreover, tobacco smoking at home remains very frequent, causing indoor exposure to a chemical cocktail of the environmental tobacco smoke of a substantial part of population, with more than 80% of children exposed in many countries.

42. It is impossible to analyse all the sources of indoor pollution and the mixture of all its largely chemical constituents – PCB, pesticides, volatile organic compounds, formaldehyde, CO, phthalates, flame retardants, solvents, radon, perfumes, heavy metals and so on. Nevertheless, such indoor pollution poses a significant threat to public health which must be taken into account, and efforts are needed to prevent these health risks, which may be associated with a wide range of disorders.

43. According to data from official agencies and other bodies and the research findings of building biologists and environmental health specialists, indoor pollution of homes can lead to allergic rhinitis, respiratory and skin disorders, irritation of the eyes, sinus and throat, respiratory infections, asthma, headaches, cardiovascular disorders, depression and even certain forms of cancer. The list is not exhaustive. Sick building syndrome or problems with the quality of the air in schools and colleges may be associated with buildings' situation, inappropriate maintenance of ventilation systems, the building materials used, the presence of chemically treated carpets, the use of products to control insects, the installation of new offices, an accumulation of electromagnetic sources and so on.

44. The health problems of individuals or groups concerned may be very serious, and can even lead to MCS (multiple chemical sensitivity), but there may also be very substantial financial costs, in terms of medical costs, the cost of remedial action in the contaminated home or offices and sometimes even the invalidity costs of persons who are unfit to work.

45. As with other disorders associated with a polluted environment, the toxicological explanatory model is the same, including chronic exposure to a low dose of a cocktail of various pollutants, individual genetic activities of detoxication enzymes, individual characteristics of immune systems, autoimmunity, allergies, nutrient deficiencies and so on, which generally explains why certain persons living in the same house or occupying the same classroom can tolerate such pollution for a fairly extended period while other, more "sensitive", occupants will rapidly develop sometimes very serious health disorders and problems.

46. As with other sources and types of pollution, the best way of dealing with these problems is to take preventive action at source by developing less harmful, biodegradable materials and products, according to the principles and precepts of green chemistry.

## **8. The role of NGOs and civil society**

47. NGOs are involved in environmental issues, consumer protection and health work at both national and international levels, but the financial, structural and administrative resources of these organisations, particularly patients' associations, are generally extremely limited and do not allow them to become genuinely involved in developing or monitoring European environment and health policies.

48. Similarly, European NGOs such as HEAL (Health and Environment Alliance) and WFCF (Women for a Common Future) have a limited number of persons who can keep track of the relevant issues, but they cannot compete with the overwhelming resources of the industrial and financial lobbies. If the relevant official European and national bodies really want active involvement of environmental health NGOs they will need more resources so that they can fulfil more than just their current role of democratic alibi.

49. The Council of Europe, as a proponent of participative democracy and a defender of human rights, particularly those of the weakest members of the community, is committed to strengthening the resources of NGOs engaged in an unequal struggle to protect the environment and individuals suffering the increasingly complex health effects of that environment. They should be given more real opportunity – for example, via

travelling and subsistence expenses – to participate in the debate on environmental and health hazards. This might include the right to nominate their own members to expert committees and to organise public hearings with professional assistance on issues where scientific impartiality is open to question.

## **9. Environmental policy in Europe – What has been achieved**

50. It was not until the early 1970s and in response to a growing number of ecological problems and environmental crises with an international dimension, concerning air, river and sea pollution, industrial accidents and waste disposal policy, that the first European action programmes were approved, at the same time as the Stockholm environment summit and the establishment of the United Nations Development Programme (UNDP).

51. The 1986 Single European Act empowered the Community to act in the environment field (Articles 130 R, S and T) and required the integration of environment issues into other Union policies. The Maastricht (1992), and Amsterdam (1997) treaties went further by giving full weight to the notion of sustainable development and allowing member states to introduce stricter protective measures if they were scientifically justified.

52. But despite certain progress, for example a reduction in air pollution, the ban on leaded petrol, catalytic converters, measures to reduce industrial pollution in power stations, incinerators and factories, and the quality of drinking water, the results of this European environmental policy in general have been fragmentary, inadequate and fairly limited. This is the worrying conclusion of the European Environment Agency, which criticises the failure to apply the precautionary principle in many areas and calls for more serious consideration to be given to comprehensive and preventive environmental policies (“late lessons from early warnings”).

53. Moreover, in 2004, the European Council itself, as well as the European Commission, noted the failure of many member states to implement environmental measures, either by transposing them into domestic law or by properly applying and monitoring them.

54. Certain European countries, particularly the Nordic ones, have made a much better job of incorporating these environmental policies and have even adopted more ambitious and binding measures but others unfortunately remain well behind in many areas and have had numerous infringement proceedings brought against them by the European Commission. In the absence, therefore, of a real commitment to more advanced environmental regulations and action, or of effective sanctions against non-compliant member countries, the programmes introduced by the European Commission remain generally inadequate. They rarely go beyond the minimum regulations, in other words the lowest common denominator, and are therefore quite inadequate to deal with the real ecological challenges and the major crisis of environmental health.

55. The Children’s Environment and Health Action Plan for Europe was officially adopted by WHO Europe at the 4th Ministerial Conference on Environment and Health in Budapest in June 2004 by all the 53 member states represented by their ministers for health and ministers for the environment.

56. Despite the efforts of WHO, the EEA, the European Commission and the Council of the European Union environment ministers to develop new health and environment action programmes, it was only recently, on 20 December 2007, that the council of environment ministers returned to the fray and called for urgent consideration to be given to all these programmes.

57. Discussions on the REACH (Registration, Evaluation, Accreditation of Chemicals) regulation have led to some progress on the monitoring of chemical products. However, the extremely powerful lobbying of the European and American chemical industries has succeeded in minimising the scope of the regulation, which was initially more radical, with the result that there will only be a relative and gradual improvement in the safety and ecological impact of chemical products over several years. The REACH regulation is a typical example of how, in the European Union, economic interests continue to carry more weight than prevention and the protection of environmental interests, consumers and public health, even though it has proved possible to put a brake on and moderate the economic interests at least to a limited extent.

58. Different views as to what constitutes adequate protection against the health hazards of exposure to < 10 µm and < 2.5 µm particles or to pesticides are an illustration of the way that the European industrial sectors concerned are trying to oppose the more preventive measures advocated by the European Commission and European NGOs active in the environment and health fields.

59. All these organisations – Greenpeace, WWF, Health and Environment Alliance (HEAL), Women in Europe for a Common Future (WECF), the European Academy for Environmental Medicine, the “Paris Appeal” and other NGOs and initiatives in the environmental health field – are exerting pressure to try to secure the practical implementation of health and environment action plans that have been solemnly announced for some fifteen years.

60. Based on increasingly alarming analyses and research concerning health problems and disorders associated with omnipresent pollutants of all sorts, associations of NGOs, doctors and scientists are continuing to stress the need to apply the precautionary principle. They point to the key role of primary prevention and to the urgent need to incorporate preventive policies into all areas of activity – economic and industrial policy, town planning and architecture, transport, agriculture and energy policy.

61. Against this background, it is necessary to stress the fundamental importance of primary prevention compared with the secondary and tertiary varieties, namely screening and measures to prevent relapse or the advent of chronic conditions. Only primary prevention corresponds to the precautionary principle, which requires us to take action and even anticipate in cases of scientific uncertainty, in other words where there is no absolute certainty but on the basis of sufficiently well-founded evidence. This also raises the question of expertise in environmental health, since the risks must be assessed solely on the basis of scientific criteria founded in chronic toxicology, exposure to health hazards, immunology, genetics, biology and physics.

## **10. Conflicting expert opinions on environmental health**

62. At present, there are two apparently conflicting approaches, those of economic development in a context in which innovation has become all important, and of precaution and the prevention of possible risks, to avoid creating irreparable health hazards and threatening the health and life of individuals.

63. In such circumstances, expert opinions may differ. Those employed by industries whose production methods or products are being challenged have an obvious interest in denying or minimising the potential risks. The main purpose of some of their research is to sow doubt as a means of avoiding the imposition of compulsory measures or more simply to gain time, while independent experts or those representing civil society are clearly likely to exert pressure on behalf of the precautionary principle and maximum possible protection of the environment, the consumer and human health.

64. With regard to public disquiet about and mistrust of official agencies and expert committees, there are particular problems concerning experts' financial independence, their training and their willingness to accept new scientific developments and the uncertainties inherent in the subject. There appears to be growing recognition of the need for a multidisciplinary approach involving a range of experts and the principle that all views should be represented. However, much remains to be done to fill the democratic deficit and the lack of public transparency in such cases.

65. The provision of expert advice on environmental health must therefore be in the public domain with all parties being heard. NGOs must be entitled to respond to the findings of national and European research bodies, on an equal footing and in public, before any policy decisions are taken, for example on whether authorisation should be given or withdrawn for the sale of doubtful chemical products or substances.

66. Citizen involvement in the process is currently limited by the fact that NGOs active at national or European level in the public health field have very inadequate financial resources to meet the costs of providing counter-opinions. Moreover, this structural weakness resembles in some respects the relative weakness of official expert bodies in many European countries. Admittedly, the new European Chemicals Agency established under the REACH process and located in Helsinki may in the coming years help to resolve some of the problems. By itself, though, it will not be able to make up for all the delays and shortcomings in terms of transparency, democracy and civil society participation.

67. The Council of Europe Parliamentary Assembly believes that a democratic and transparent process involving civil society, similar to the Australian “Hot Tube” system, in which different ideas and expert theories can be openly compared, might be a valuable way of resolving such conflicts, thus enabling policy makers to take properly balanced decisions.

## **11. The need for new concepts in environmental health and environmental medicine**

68. There is now general agreement that polluted environments can cause or reinforce health problems. The Parliamentary Assembly of the Council of Europe notes the increasing evidence of the health hazards linked to the environment. It therefore considers that there needs to be appropriate care and treatment for persons so affected.

69. In environmental health and environmental medicine, a reasonable application of the precautionary principle and the introduction of genuine primary prevention measures is essential.

70. In connection with primary prevention in the field of environmental health, which is a key aspect of public health as part of an overall health and environment policy, the Parliamentary Assembly considers that more ecologically sustainable products and production methods should be encouraged to avoid in advance contamination of natural environments and the human food chain.

71. This preventive aspect of public health should be strengthened to avoid not only the often painful and dramatic individual health problems that may ensue but also the growing crisis of health insurance systems, part of which is the consequence of the chronic illnesses and conditions caused by the environment and unhealthy life styles.

## **12. A possible approach: an effective prevention policy**

72. The concept of prevention in the field of environmental health is a very broad one since it extends well beyond the role of doctors and scientific researchers. It requires a multidisciplinary approach encompassing a wide section of society, including the companies that manufacture and sell products, the engineers and chemists who design them, the architects and planners who are responsible for the quality of housing and the sustainability of energy and transport policies, the farmers who are responsible for food hygiene standards and who could be the best protectors of nature and the quality of our soils, and the teachers who instil in children the importance of loving nature and wild flora and fauna, without which human life would be devoid of meaning, and of doing everything possible to safeguard this natural heritage, this wonder of our "mother earth".

73. Meanwhile environmental medicine, while actively supporting this precautionary and primary prevention approach, will be increasingly concerned with persons whose illnesses are attributable to a polluted environment, whether this be chemical products in the work place, materials and furnishings that pollute the home, foodstuffs that have been polluted or changed in character by pesticides, heavy metals used in dentistry, and drinking and other local water supplies affected by industrial sites that fail to comply with even elementary standards. Not to mention emerging new hazards such as electromagnetic rays, noise pollution and so on.

74. The Assembly considers that an increasing number of illnesses and diseases, including cancers, neuropathies, reproductive disorders, allergies and hypersensitivity disorders, cardiovascular and endocrine diseases, and immune and neuropsychiatric disorders, may have environmental causes. All those concerned require aid, support and treatment to enable them to re-establish a satisfactory quality of life.

75. Environmental medicine is a new transversal medical specialisation that started in Germany and the United States in the early 1990s, and is based on university training that is still too fragmented and varies from country to country, and in-service training for doctors who are interested in the subject. It should now be granted proper recognition and promoted both at European level and in the Council of Europe's member countries.

76. As a new medical discipline, it is primarily concerned with identifying the causes of pathologies to ensure that adequate preventive measures can be developed, before diagnosing and treating illnesses and their symptoms. The Assembly considers that environmental medicine should be actively supported and taught in all the member states of the Council of Europe.

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*Reporting committee:* Committee on the Environment, Agriculture and Local and Regional Affairs.

*Reference to committee:* [Doc. 10898](#) and Reference No. 3234 of 26 June 2006, extended on 14 April 2008 to 26 December 2008.

*Draft recommendation* unanimously adopted by the committee on 18 December 2008.

*Members of the committee:* Mr Alan **Meale** (Chairperson), Mrs Maria Manuela de Melo (1st Vice-Chairperson), Mr Juha **Korkeaoja** (2nd Vice-Chairperson), Mr Cezar Florin Preda (3rd Vice-Chairperson), Mr Ruhi **Açikgöz**, Mr Miloš Aligrudić, Mr Alejandro Alonso Núñez, Mr Gerolf Annemans, Mr Miguel Arias Cañete, Mr Alexander Babakov, Mr Rony Bargetze, Mr Fabio Berardi, Mrs Guðfinna S. Bjarnadóttir, Mr Ioannis Bougas, Mr Ivan Brajović, Mrs Elvira Cortajarena Iturrioz, Mr Valeriu Cosarciuc, Mr Taulant Dedja, Mr Hubert **Deittert**, Mr Miljenko Dorić, Mr Gianpaolo Dozzo, Mr Tomasz **Dudziński**, Mr József Ékes, Mr Savo Erić, Mr Bill **Etherington**, Mr Nigel **Evans**, Mr Joseph Falzon (alternate: Mr Joseph **Debono Grech**), Mr Gianni **Farina**, Mr Iván Farkas, Mr György Frunda, Ms Eva Garcia Pastor, Mr Zahari Georgiev, Mr Peter Götz, Mr Rafael Huseynov, Mr Jean Huss, Mr Fazail İbrahimli, Mr Ilie Ilaşcu, Mr Ivan **Ivanov**, Mr Igor Ivanovski, Mr Bjørn Jacobsen, Mr Gediminas Jakavonis, Mrs Danuta Jazłowiecka, Mr Stanisław Kalemba, Mr Ishkhan Khachatryan, Mr Haluk Koç, Mr Gerhard Kurzmann, Mr Dominique Le Mèner, Mr François Loncle, Mr Aleksei Lotman, Mrs Kerstin Lundgren (alternate: Mr Kent **Olsson**), Mr Theo Maissen, Mr Yevhen Marmazov, Mr Bernard Marquet, Mr Mikheil Matchavariani, Mr José Mendes Bota, Mr Pasquale Nessa (alternate: Mr Marco **Zacchera**), Mr Tomislav Nikolić, Mrs Carina **Ohlsson**, Mr Joe O'Reilly, Mr Germinal Peiro (alternate: Mr Jean-François **Le Grand**), Mr Ivan Popescu, Mr Jakob **Presečnik**, Mr René Rouquet, Mrs Anta Rugāte, Mr Giacinto Russo, Mr Fidas Sarikas, Mr Herman Scheer, Mr Andreas Schieder, Mr Hans Kristian Skibby (alternate: Mr Morten **Messerschmidt**), Mr Ladislav Skopal, Mr Rainer Steenblock, Mr Valeriy Sudarenkov, Mr Vilmos Szabo, Mr Vyacheslav Timchenko, Mr Bruno Tobback, Mr Nikolay Tulaev, Mr Tomáš Úlehla, Mr Mustafa **Ünal**, Mr Henk van Gerven, Mr Rudolf **Vis**, Mr Harm Evert Waalkens, Mr Hansjörg Walter, Mrs Rodoula Zissi.

NB: The names of those members present at the meeting are printed in **bold**.

*Secretariat to the committee:* Mrs Nollinger, Mr Torcătoriu and Mrs Karanjac.