Basic information

2003/0164(COD) COD - Ordinary legislative procedure (ex-codecision procedure) Directive	Procedure completed
Air quality: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air See also 2020/2091(INI) **Subject** 3.70.02 Atmospheric pollution, motor vehicle pollution	

Key players

European Parliament	**Committee responsible**	**Rapporteur**	**Appointed**
	ENVI Environment, Public Health, Consumer Policy	KRONBERGER Hans (NI)	09/09/2003
Council of the European Union	**Council configuration**	**Meetings**	**Date**
	Education, Youth, Culture and Sport	2616	2004-11-15
European Commission	**Commission DG**	**Commissioner**	
	Environment		

Key events

Date	Event	Reference	Summary
16/07/2003	Legislative proposal published	COM(2003)0423	Summary
01/09/2003	Committee referral announced in Parliament, 1st reading		
21/01/2004	Vote in committee, 1st reading		Summary
21/01/2004	Committee report tabled for plenary, 1st reading	A5-0047/2004	
09/03/2004	Debate in Parliament		
20/04/2004	Decision by Parliament, 1st reading	T5-0295/2004	Summary
15/11/2004	Act adopted by Council after Parliament's 1st reading		
15/12/2004	Final act signed		
15/12/2004	End of procedure in Parliament		
26/01/2005	Final act published in Official Journal		

Technical information

Procedure reference	2003/0164(COD)
Procedure type	COD - Ordinary legislative procedure (ex-codecision procedure)
Procedure subtype	Legislation
Legislative instrument	Directive
Amendments and repeals	See also 2020/2091(INI)
Legal basis	EC Treaty (after Amsterdam) EC 175-p1
Stage reached in procedure	Procedure completed
Committee dossier	ENVI/5/19940

Documentation gateway

European Parliament

Document type	Committee	Reference	Date	Summary
Committee report tabled for plenary, 1st reading/single reading		A5-0047/2004	21/01/2004	
Text adopted by Parliament, 1st reading/single reading		T5-0295/2004 OJ C 104 30.04.2004, p. 0034-0204 E	20/04/2004	Summary

European Commission

Document type	Reference	Date	Summary
Legislative proposal	COM(2003)0423	16/07/2003	Summary
Non-legislative basic document	COM(2005)0020	28/01/2005	Summary
Document attached to the procedure	SEC(2005)0101	28/01/2005	Summary
Follow-up document	SWD(2019)0427	28/11/2019	
Follow-up document	SWD(2019)0428	28/11/2019	

Other institutions and bodies

Institution/body	Document type	Reference	Date	Summary
EESC	Economic and Social Committee: opinion, report	CES0307/2004 OJ C 110 30.04.2004, p. 0016-0017	25/02/2004	

Additional information		
Source	**Document**	**Date**
European Commission	EUR-Lex	

Final act	
Directive 2004/0107 OJ L 023 26.01.2005, p. 0003-0016	Summary

Air quality: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air

2003/0164(COD) - 28/01/2005

PURPOSE: To present a strategy to reduce mercury levels in the environment.
CONTENT: In December 2002, the Commission presented a report to the Council concerning mercury from the chlor-alkali industry. This considered the fate of 12-15 thousand tonnes of surplus mercury resulting from the sector's conversion away from the mercury cell process. The Council then invited the Commission to present "a coherent strategy with measures to protect human health and the environment from the release of mercury based on a life-cycle approach, taking into account production, use, waste treatment and emissions". The strategy also provided a basis for the EU's input to international debate on mercury at the UNEP Governing Council in February 2005.

This Communication is accompanied by an Extended Impact Assessment(ExIA) looking at the mercury problem and policy options in detail (the subject of a separate summary).

Mercury and its compounds are highly toxic to humans, ecosystems and wildlife. Initially seen as an acute and local problem, mercury pollution is now also understood to be global, diffuse and chronic. High doses can be fatal to humans, but even relatively low doses can have serious adverse neuro-developmental impacts, and have recently been linked with possible harmful effects on the cardiovascular, immune and reproductive systems. Mercury also retards microbiological activity in soil, and is a priority hazardous substance under the Water Framework Directive.

The largest source of mercury exposure for most people in developed countries is inhalation of mercury vapour from dental amalgam. Exposure to methylmercury mostly occurs via diet. Methyl-mercury collects and concentrates especially in the aquatic food chain, making populations with a high intake of fish and seafood particularly vulnerable.

A key aim of the strategy is to reduce mercury levels in the environment and human exposure, especially from methylmercury in fish. But eliminating the problem of methylmercury in fish will probably take decades, as present levels are due to past emissions, and would take time to fall even without further releases. The Community has already taken much action to reduce mercury emissions and uses. This does not mean that no more can be done, but highlights the importance of full implementation of existing measures by Member States, and of making progress at the global level.

The strategy therefore has the following objectives:

• Reducing mercury emissions: the Commission will assess the effects of applying IPPC (Integrated Pollution Prevention and Control) criteria on mercury emissions and consider if further action like Community emission limit values is needed. It will also encourage Member States and industry to provide more information on mercury releases and prevention and control techniques. A study will be undertaken of options to abate mercury emissions from small-scale coal combustion and the Commission will review Member States' implementation of Community requirements on the treatment of dental amalgam waste.

• Reducing the entry into circulation of mercury in society by cutting supply and demand: as a pro-active contribution to a proposed globally organised effort to phase out primary production of mercury and to stop surpluses re-entering the market, the Commission intends to propose an amendment to Regulation 304/2003/EC to phase out the export of mercury from the Community by 2011. In the short term, the Commission will ask the Medical Devices Expert Group to consider the use of mercury in dental amalgam, and will seek an opinion from the Scientific Committee on Health and Environmental Risks, with a view to considering whether additional regulatory measures are appropriate. In 2005, the Commission expects to propose an amendment to Directive 76/769/EECto restrict the marketing for consumer use and healthcare of non-electrical or electronic measuring and control equipment containing mercury. It will also further study in the short term the few remaining products and applications in the EU that use small amounts

of mercury. In the medium to longer term, any remaining uses may be subject to authorisation and consideration of substitution under the proposed REACH Regulation, once adopted.

• Resolving the long-term fate of mercury surpluses and societal reservoirs (in products still in use or in storage): the Commission will take action to pursue the storage of mercury from the chlor-alkali industry, according to a timetable consistent with the intended phase out of mercury exports by 2011. In the first instance, the Commission will explore the scope for an agreement with the industry. Further study in the short to medium term of the fate of mercury in products already circulating in society will also take place.

• Protecting against mercury exposure: in the short term, the European Food Safety Authority (EFSA) will investigate further specific dietary intakes of different types of fish and seafood among vulnerable subpopulations (e.g. pregnant women, children). The Commission will provide additional information concerning mercury in food as new data become available. National authorities will be encouraged to give advice in the light of local specificities.

• Improving understanding of the mercury problem and its solutions: priorities for mercury research will be addressed in the 7thRTD Framework Programme and other appropriate funding mechanisms.

• Supporting and promoting international action on mercury e.g. input to international fora and activities, and bilateral engagement and projects with third countries, including technology transfer, to address the mercury problem; possible establishment of a specific funding scheme for research and pilot projects to reduce mercury emissions from coal combustion in countries with a high dependency on solid fuels; the promotion of an initiative to make mercury subject to the PIC (Prior Informed Consent) procedure of the Rotterdam Convention; support of work under the Heavy Metals Protocol to the UNECE Convention on Long Range Transboundary Air Pollution; support for the UNEP Global Mercury Programme, e.g. through review of materials and provision of technical knowledge and human and financial resources; support for global efforts contributing to reduced use of mercury in the gold mining sector, e.g. the UNDP/GEF/UNIDO Global Mercury Project; advocate a global phase-out of primary production and encourage other countries to stop surpluses re-entering the market, under an initiative similar to that of the Montreal Protocol on substances that deplete the ozone layer.

The Commission intends to review the mercury strategy as a whole by the end of 2010. This review will also meet the requirement to report under the 4thair quality daughter Directive by this time on the merit of further action on mercury, taking account of measures adopted pursuant to this strategy. The Commission will conduct the review using data from various sources and covering all media, rather than just from an air quality perspective.

Air quality: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air

2003/0164(COD) - 28/01/2005

COMMISSION'S IMPACT ASSESSMENT

1. PROBLEM IDENTIFICATION :

Mercury and its compounds are highly toxic to humans, ecosystems and wildlife. Mercury is persistent and can change in the environment into methylmercury, the most toxic form. Methylmercury readily passes both the placental barrier and the blood-brain barrier, inhibiting potential mental development even before birth.

For more information regarding the context of this problem, please refer to the complementary summary of the Communication (COM(2005)0020) on a Community Strategy concerning mercury.

1.1-*Risks:* the largest source of mercury exposure for most people in developed countries is inhalation of mercury vapour from dental amalgam. Exposure to methylmercury mostly occurs via diet.

1.2-*Who is affected by this strategy?*Demand for mercury stands at around 3,600 tonnes per year globally (i.e. absorbing supply) and around 300 tonnes in the EU. The main global uses, accounting for over 75%, are artisanal gold mining, batteries and the chlor-alkali industry.

Of these, only the chlor-alkali industry remains a significant user in the EU, and here the mercury cell process is being phased out. The next most significant use in the EU is in dental amalgam, in respect of which Community legislation on waste management applies. Of other major product groups, Community law already covers lighting and other electrical equipment. The main product group not covered by Community law is measuring and control equipment.

The main source of emissions of mercury is the burning of coal, both globally and in the EU. Coal burning in large combustion plants (but not smaller plants or households) is covered by Community legislation, as are some of the other major industrial sources such as the metals, cement and chemical industries. Crematoria are another relatively significant source of emissions. They are not covered by any Community legislation although there is a Recommendation on cremation that applies to parties to the OSPAR Convention.

2. OBJECTIVE:

The ultimate aim of EU action in this field is to reduce mercury levels in the environment and human exposure, especially from methylmercury in fish.

3. POLICY OPTIONS AND IMPACTS:

The Community has already taken much action to address the mercury problem, and in particular to reduce emissions, use and exposure. By looking at the various stages of the mercury cycle, the ExIA considers what aspects of the problem will be addressed by the implementation of the present and already planned Community legislation and policies, and what aspects will remain. On this basis, the ExIA examines specific options for further action in relation to the following issues:

- **Raw mercury supply and trade** – the EU is the largest net exporter of raw mercury, and a continued oversupply and low price are significant drivers for ongoing and potentially new uses.

- **The fate of surplus mercury from the chlor-alkali industry** – this could, if not handled in a safe and sustainable way, be associated with considerable environmental damage in the EU, future Member States and third countries.

- **Measuring equipment** (e.g. thermometers, barometers, blood pressure gauges) – the largest mercury-using product group in the EU not covered by current Community legislation.

- **Coal combustion** – the largest source of mercury emissions in the EU and globally.

- **Cremation** – although this is not an especially large source of emissions in relative terms, it is significant in some countries, and unlike the main industrial emissions it is not subject to any Community legislation.

3.1-*Chlor-alkali industry*

The Commission favours **stopping the export of mercury** from the EU. Other options that would allow continued export indefinitely do not appear acceptable, as they would extend the EU's contribution to the global mercury problem rather than helping to address it. This conclusion also reflects the ExIA's assessment of the scope to reduce global mercury demand. It is evident that the EU could not credibly argue for and support active efforts worldwide to reduce mercury demand on the one hand while intending to remain the main global supplier on the other.

Even without action on export of mercury in general, the **negative environmental impacts** of primary mercury mining and production, as well as their **doubtful economic viability**, support the permanent ending of these particular activities in the EU. Spain has stated that mining and production in Almadén (the main global supplier) have already been stopped temporarily, and does not anticipate that they will restart.

Stopping export would also remove the main market for surplus mercury from the chlor-alkali industry, such that storage or disposal would be necessary. On the basis of the analysis, the Commission favours storage of metallic mercury. This could be pursued via legislation. However, as the industry is a large and well established one, with a relatively small number of players, the possibility of proceeding via an agreement can be explored in the first instance. The industry has already stated a preference for storage over permanent disposal, and has begun to investigate the possibilities in this area. Permanent disposal of stabilised mercury is a long-term option, but, for the moment, the Commission considers that it is too expensive, and has too many technical uncertainties, to be pursued at Community level.

The analysis indicates that the inclusion of metallic mercury under the PIC (Prior Informed Consent) procedure of the Rotterdam Convention would be positive, though not sufficiently effective alone to obviate the need for EU action. However, a PIC listing could still be an advantageous complementary measure, as it would act at the international level.

More broadly, to reduce mercury supply internationally, the Community should **advocate a global phase-out of primary production and encourage other countries to stop surpluses re-entering the market**. This could be pursued under an initiative similar to that of the Montreal Protocol on substances that deplete the ozone layer.

3.2- *Measuring and control equipment*

The Commission considers it would be appropriate to introduce a **marketing restriction** on measuring and control equipment for **consumer use and, with some exemptions, the healthcare sector.** This is because of the relatively high level of mercury use in this sector, which will also lead to significant emissions. Establishing a restriction on measuring and control devices containing mercury at Community level would have a higher effectiveness than leaving such measures to the Member States alone, without entailing higher costs. Therefore this option seems preferable. However, extending the restriction to specialist industrial and scientific applications would need further investigation. The analysis has found that adequate substitutes for such specialist applications are not always available, and the standard of waste management should also be higher, at least as compared to that for consumer products.

3.3- *Coal combustion*

The Commission considers it is not appropriate, at this stage, to propose new Community action in order to target mercury emissions from the combustion of coal. Primarily, coal combustion in large combustion plants is already covered by two major pieces of Community law – the IPPC and LCP Directives.

3.4-*Cremation*

The Commission considers it is not appropriate, at this stage, to pursue Community-level action on cremation. This is because most of the problem with mercury emitted from crematoria assessed in this ExIA is already covered by an OSPAR Recommendation, and by legislation in some of the remaining Member States who are not parties to the OSPAR Convention.

CONCLUSION :On the basis of the results of this extended impact assessment, the Commission considers that in the context of the **chlor-alkali industry** , action should be taken **to stop the export of mercury** and that **efforts should be made to reach an agreement with the industry on the storage of metallic mercury**. It also supports the inclusion of metallic mercury under the PIC (Prior Informed Consent) procedure of the Rotterdam Convention **and that there should be a global phase-out of primary production** and encourage other countries to stop surpluses re-entering the market.

The results of the assessment support the introduction of a marketing restriction on measuring and control equipment **for consumer use and, with some exemptions, the healthcare sector**.

For the present, the Commission does not consider it appropriate to take any further action with regard to the coal combustion or cremation sectors.

4. FOLLOW- UP:

Elements of the mercury strategy's implementation will include contributions of the Community, Member States and other EU stakeholders/actors to international discussions and actions concerning mercury; the development or revision of Community legislation, subsequently to be transposed and implemented by the Member States; actions at the level of the Member States or below, where Community action is not considered appropriate; undertaking further studies, assessments and research to fill gaps in knowledge about the mercury problem and its possible solutions.

The Commission is due to prepare a report on mercury (and certain other pollutants) under Article 8 of the 4th Air Quality Daughter Directive by 31 December 2010. This will cover, inter alia, experience of applying the Directive, the results of the most recent scientific research on the effects of mercury exposure on human health and the environment, and technological developments including progress in methods of assessing concentrations in ambient air as well as deposition. The report is also to consider whether there would be merit in taking further action in relation to mercury, taking account of technical feasibility and cost-effectiveness and any significant additional health and environmental protection that this would provide. The review will use data from various sources and cover all media, rather than simply reporting from an air quality perspective.

Air quality: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air

2003/0164(COD) - 15/12/2004 - Final act

PURPOSE: to adopt measures to reduce air pollution by heavy metals – arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons.

ACT: Directive 2004/107/EC of the European Parliament and of the Council.

CONTENT: Article 4(1) of Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management requires the Commission to submit proposals for regulating the pollutants listed in Annex I to that Directive taking into account the provisions laid down in paragraphs 3 and 4 of that Article.

Scientific evidence shows that arsenic, cadmium, nickel and some polycyclic aromatic hydrocarbons are human genotoxic carcinogens and that there is no identifiable threshold below which these substances do not pose a risk to human health. Impact on human health and the environment occurs via concentrations in ambient air and via deposition. With a view to cost-effectiveness, ambient air concentrations of arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons, which would not pose a significant risk to human health, cannot be achieved in specific areas.

With the aim of minimising harmful effects on human health, paying particular attention to sensitive populations, and the environment as a whole, of airborne arsenic, cadmium and nickel and polycyclic aromatic hydrocarbons, target values should be set, to be attained as far as possible. Benzo(a) pyrene should be used as a marker for the carcinogenic risk of polycyclic aromatic hydrocarbons in ambient air.

The objectives of this Directive are therefore to:

- establish a target value for the concentration of arsenic, cadmium, nickel and benzo(a)pyrene in ambient air so as to avoid, prevent or reduce harmful effects of arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons on human health and the environment as a whole;

- ensure, with respect to arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons, that ambient air quality is maintained where it is good and that it is improved in other cases;

- determine common methods and criteria for the assessment of concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air as well as of the deposition of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons;

- ensure that adequate information on concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air as well as on the deposition of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons is obtained and ensure that it is made available to the public.

With regard to the zones and agglomerations where any of the target values laid down in Annex I of the Directive is exceeded, Member States shall forward the following information to the Commission:

- the lists of the zones and agglomerations concerned,

- the areas of exceedance,

- the concentration values assessed,

- the reasons for exceedance, and in particular any sources contributing to it,

- the population exposed to such exceedance.

Member States shall also report all data assessed in accordance with Article 4, unless already reported under Council Decision 97/101/EC of 27 January 1997 establishing a reciprocal exchange of information and data from networks and individual stations measuring ambient air pollution within the Member States. The information shall be transmitted for each calendar year, by no later than 30 September of the following year, and for the first time for the calendar year following 15 February 2007.

Member States shall ensure that clear and comprehensible information is accessible and is routinely made available to the public as well as to appropriate organisations, such as environmental organisations, consumer organisations, organisations representing the interests of sensitive populations and other relevant healthcare bodies, on ambient air concentrations of arsenic, cadmium, mercury, nickel and benzo(a)pyrene and the other polycyclic aromatic hydrocarbons referred to in Article 4(8) of the Directive as well as on deposition rates of arsenic, cadmium, mercury, nickel and benzo(a)pyrene and the other polycyclic aromatic hydrocarbons referred to in the same Article.

The Commission shall, by 31 December 2010 at the latest, submit to the European Parliament and the Council a report based on:

a) the experience acquired in the application of this Directive,

b) in particular, the results of the most recent scientific research concerning the effects on human health, paying particular attention to sensitive populations, and on the environment as a whole, of exposure to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons, and

c) technological developments including the progress achieved in methods of measuring and otherwise assessing concentrations of these pollutants in ambient air as well as their deposition.

Member States shall determine the penalties applicable to infringements of the national provisions adopted pursuant to this Directive and shall take all the measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive.

ENTRY INTO FORCE: 15/02/2005.

DATE OF IMPLEMENTATION: 15/02/2007.

Air quality: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air

2003/0164(COD) - 20/04/2004 - Text adopted by Parliament, 1st reading/single reading

The European Parliament adopted a compromise deal with the Council on this proposed directive. The rapporteur was Hans KRONBERGER (IND, A). In the Committee vote (please see the preceding summary) Members wanted to set limit values, rather than just monitoring requirements as proposed by the Commission, for air pollutants, including arsenic, cadmium and nickel and polycyclic aromatic hydrocarbons. The compromise adopted sets target values for these pollutants - neither just monitoring requirements nor binding limit values. "Target value" is defined as a concentration in the ambient air fixed with the aim of avoiding, preventing or reducing harmful effects on human health and the environment as a whole, to be attained where possible over a given period. The target values will have to be met, where possible, by 2012. The agreed date is a compromise between 2010 as proposed by the Environment Committee and 2014 proposed earlier by the Council Presidency. Furthermore, Parliament also obtained a clause which requires the Commission to consider the possible merit in introducing limit values in a report that is due in 2010.In addition, the Commission report must deal with the following: - the secondary economic benefits for the environment and health in reducing the emissions of arsenic, cadmium, nickel, mercury and polycyclic aromatic hydrocarbons to the extent that these can be assessed; - the adequacy of the particle size fraction used for sampling in view of general particulate matter measurement requirements; - the suitability of benzo(a)pyrene as a marker for the total carcinogenic activity of polycyclic aromatic hydrocarbons, having regard to predominantly gaseous forms of polycyclic aromatic hydrocarbons such as fluoranthene. - in the light of the latest scientific and technological developments the Commission shall also examine the effect of arsenic, cadmium and nickel on human health with a view to quantifying their genotoxic carcinogenicity. Taking account of measures adopted pursuant to the mercury strategy the Commission must also consider whether there would be merit in taking further action in relation to mercury, taking account of technical feasibility and cost-effectiveness and any significant additional health and environmental protection that this would provide. Finally, Parliament made amendments concerning the measurement of ambient air quality, and the geographical frequency of sampling sites.

Air quality: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air

2003/0164(COD) - 16/07/2003 - Legislative proposal

PURPOSE : to adopt measures to reduce air pollution by heavy metals. CONTENT : Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management (the Air Quality Framework Directive) provides the framework for future EC legislation on air quality. The present proposal introduces Community legislation on arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons (PAHs) in fulfilment of obligations under Directive 96/62/EC. Prolonged inhalation of these pollutants can cause lung cancer and other adverse effects on human health. The proposed legislation will require air quality monitoring by Member States, which will provide the necessary information to take appropriate abatement measures and monitor their implementation. The objectives are fourfold: 1) establish a target value for the concentration of benzo-a-pyrene in ambient air so as to avoid, prevent or reduce harmful effects of polycyclic aromatic hydrocarbons on human health; 2) ensure that ambient air quality is maintained where it is good and that it is improved in other cases with respect to polycyclic aromatic hydrocarbons; 3) determine common methods and criteria for the assessment of concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air as well as of the deposition of arsenic, cadmium, mercury and polycyclic aromatic hydrocarbons; 4) ensure that adequate information on concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons is obtained and ensures that it is made available to the public. The proposed Directive relates to Annex I of the Air Quality Framework Directive, which lists atmospheric pollutants to be taken into consideration in the assessment and management of ambient air quality. Directive 1999/30/EC relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead, Directive 2000/69/EC relating to limit values for benzene and carbon monoxide and Directive 2002/3/EC relating to ozone in ambient air are already in force. In addition to this legislation, there is provision in Annex I of the Air Quality Framework for regulating ambient air quality of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons (PAH) by setting out criteria and techniques for assessing ambient air quality, and laying down provisions for forwarding information to the Commission and the public. Thereby the proposal incorporates the objectives of the Sixth Community Environment Action Programme. This proposal is the final step in implementing the Framework Directive by regulating pollutants in ambient air that pose risks to human health. In particular with a view to the risk to human health posed by PAH emissions from domestic heating and road traffic a target value of 1 ng BaP/m3 in ambient air is proposed, which must be attained as far as possible and without entailing excessive costs. This target value refers to an annual average of the PM10 particle fraction in ambient air. Attainment of these concentrations would ensure a reasonable protection of the population from carcinogenic effects. To ensure the best protection of human health all proportionate abatement measures should be taken where the target value is exceeded. In this context the proposal complements the IPPC directive by raising awareness of any exceedance of the target value given above and by ensuring that achievements with regard to improvement of air quality are adequately monitored. The proposal foresees mandatory monitoring where concentration exceed the following assessment thresholds: - 6 ng arsenic/m3; - 5 ng cadmium/m3; - 20 ng nickel/m3; - 1 ng BaP/m3. As concentrations below these levels would minimise harmful effects on human health only indicative monitoring of concentrations of arsenic, cadmium, mercury, nickel and specific PAH at a limited number of sites is required where the assessment thresholds are not exceeded. The objective of this background monitoring would be to assess the impact on human health and the environment For the same purpose the monitoring of total deposition of arsenic, cadmium, mercury and PAH is required. Within a few years of implementation, the proposed Directive will produce a much more complete picture of air quality regarding heavy metals and polycyclic aromatic hydrocarbons. This information will be complemented by investigating soil contamination and by the latest scientific evidence on the effects of the named pollutants on human health. Based on this, the Commission will in 2008 review the effectiveness of the new directive and adapt it if and where necessary.