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**COMMUNICATION FROM THE COMMISSION
TO THE COUNCIL, THE EUROPEAN PARLIAMENT,
THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE
AND THE COMMITTEE OF THE REGIONS**

On the Road to Sustainable Production

**Progress in implementing Council Directive 96/61/EC concerning integrated pollution
prevention and control**

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PURPOSE OF THE COMMUNICATION

This Communication is about Integrated Pollution Prevention and Control. In order to promote effective implementation of Council Directive 96/61/EC on Integrated Pollution Prevention and Control (the “IPPC Directive”), the Commission reports on progress made so far in the Member States and Candidate Countries. The Sixth Community Environment Action Programme, adopted in July 2002, confirms that more effective implementation and enforcement of Community legislation on the environment is a priority.

The Commission has a clear message to send to Member States and Candidate Countries: a high level of protection of the environment, which is the overriding objective of the Directive, can only be achieved if the authorities in charge of implementation make the efforts necessary for correct implementation and engage in constructive interaction with plant operators and other stakeholders. A large number of Member States need to accelerate progress towards this objective and the majority of the Acceding Countries must continue to significantly enhance their efforts, as agreed in the accession negotiations. The final deadline for existing installations to apply the best available techniques and meet all other requirements is October 2007.

Under the Directive, most decisions about binding environmental standards are taken by the Member States and their authorities in line with the principle of subsidiarity. However, if it becomes clear that their efforts to implement the Directive are insufficient, it might be necessary to consider a higher degree of harmonisation to ensure reasonable consistency between permits issued by different authorities, or alternative ways to achieve the Directive's objectives.

The Commission wishes to launch a broad European consultation on the current state of play and possible developments in those areas of environment policy which address impacts of large industrial point sources on the environment. The Commission is interested in the views of all stakeholders and encourages them to play an active role in the debate on implementation issues as well as future developments. To that effect, seven key questions are raised in this Communication and a consultation web site has been launched¹. The EU needs to constantly strive for an optimal mix of environment policy instruments, check that there is full consistency between them and explore the

¹ http://www.europa.eu.int/comm/environment/ippc/ippc_consultation.htm

possibility to use new approaches providing incentives to companies to further improve their environmental performance.

This Directive is a key instrument in the EU for the promotion of sustainable production patterns. For the industries concerned, higher competitiveness can be achieved at the same time as a higher level of environmental protection is achieved. In addition to the *environment policy* instruments, the EU has a number of instruments concentrating on the economic and social pillars of sustainability.

The Directive is therefore part of a range of contributions of the EU to the global process initiated at the World Summit on Sustainable Development in Johannesburg, where the decision was made to create a 10-year framework of programmes on sustainable consumption and production. The EU should play an active role in this process and promote the European information exchange on best available techniques, so that non-European countries can also reap the benefits of that ambitious work.

1. INTRODUCTION

In 1996, the Council adopted the IPPC Directive², the purpose of which is to achieve integrated prevention and control of pollution arising from a wide range of industrial and agricultural activities³ and a high level of protection of the environment as a whole.

Integrated pollution prevention and control takes place within the context of a permit system for installations. In accordance with the principle of subsidiarity, Member States have exclusive responsibility for the implementation of the Directive. The role of the Commission is to facilitate exchange of information at EU level. Most Member States have decided to further delegate their obligations under the Directive to regional or local authorities. The underlying principle of the Directive is that both operators and regulators shall take an integrated, overall look at each installation, and its environmental impacts, before making decisions on any cost-effective measures that are necessary to achieve a high level of environmental protection.

Since October 1999 the Directive has applied to new installations as well as existing installations where the operator intends to carry out changes that may have significant negative effects on human health or the environment. Member States have a transition period until October 2007 to ensure that other existing installations fully comply with the Directive.

The permit system aims to ensure that operators of installations take preventive measures against pollution, in particular through the application of the best available techniques, and that no significant pollution is caused, that the waste that cannot be avoided is recovered or safely disposed of, that energy is used efficiently, that accidents are prevented and their consequences limited and that the site of operation is returned to a satisfactory state when the installation closes. This integrated, holistic approach should ensure that the large number of environmental issues that may be relevant for an installation are all considered and that appropriate priorities are set and the costs and advantages of the different options taken into account. In concrete terms, this means that the Directive addresses *inter alia* the following environmental aspects:

- acidification resulting from emissions to air;
- eutrophication of land and waters resulting from emissions to air or water;
- oxygen depletion in water;
- global warming;
- stratospheric ozone depletion;

² OJ L 257, 10/10/1996, p. 26-40

³ Energy industries, production and processing of metals, mineral industries, chemical industries, waste management sector, pulp and paper industry, pre-treatment of textiles, tanning of hides, slaughterhouses and processing of food products, disposal or recovery of animal by-products, rearing of poultry or pigs, surface treatment using organic solvents, production of carbon/electrographite (see Annex I to the Directive)

- emissions of particulate matter, including micro-particles and metals, to the air;
- photochemical ozone formation;
- releases of persistent, bioaccumulative and toxic pollutants to water or land;
- generation of hazardous and non-hazardous waste;
- noise and odour;
- consumption of raw materials and water.

With such an impressive number of issues at stake, the implementation of this Directive is a formidable challenge for all installations concerned and for society as a whole. It is also a key element of several thematic strategies being developed as part of the Sixth Community Environment Action Programme⁴.

2. PROGRESS IN IMPLEMENTATION

The implementation of the Directive in the EU is still in its early stages. There are relatively few new installations in the EU. Furthermore, there has only been a limited number of changes in existing installations which the authorities deem to be substantial, thus requiring an updated permit. Therefore, it is too early to make any projections of the ecological results of the Directive. In the Candidate Countries, the actual implementation is at a very early stage or has yet to start.

Since there are many difficult implementation issues, it is important to have structures in place at European level which allow exchanges of good practice. An important example of this is the IMPEL⁵ network. Similarly, the central role of the concept of ‘best available techniques’ and the lack of absolute standards laid down in the Directive imply that a functional structure for exchanging information on best available techniques and monitoring is crucial to ensure a “soft harmonisation” of environmental standards in Europe. Annex 1 lists the available structures for exchange of information.

2.1. Member States

Several Member States have experienced delays in enacting national legislation giving effect to the Directive. In spite of that, the Commission has indications that for new installations and extended or altered installations, implementation so far is largely satisfactory. However, many Member States are behind schedule for ensuring timely implementation in all existing installations, in particular since it is highly desirable to allow operators of installations time for meeting all conditions laid down in the permit.

⁴ OJ L 242, 10/9/2002, p. 1-15

⁵ The Member States’ informal network of authorities responsible for implementation and enforcement of EU environmental law

Member States are required to reply to a questionnaire⁶ containing detailed questions about their implementation of the Directive by September 2003. That exercise will allow a more thorough evaluation of Member States' compliance with the Directive.

2.1.1. *Legal transposition (communication and conformity)*

The deadline for transposing the Directive into national legislation expired on 30 October 1999. Very few Member States managed to meet this deadline. In April 2003 one Member State, Luxembourg, had still not enacted complete national legislation. In March 2002, the Court of Justice ruled against Greece, Spain and the United Kingdom (for Northern Ireland). A case against Luxembourg is still pending. Spain and Belgium completed transposition for the whole national territory in 2002, and the United Kingdom and Greece did so in March 2003.

In addition, Ireland applies interim legislation as their transposition of the Directive has been delayed and Italy has only transposed the Directive for existing installations although they do apply the legislation in question to new installations on an interim basis.

The Commission has checked the conformity of national legislation with the provisions of the Directive for Finland, Sweden, Austria, Denmark, the Netherlands, the United Kingdom, France and Germany. For Portugal, Spain and Belgium, this work has not yet been completed.

In all the countries investigated, except for the UK, the Commission has identified major suspected or confirmed shortcomings in the legislation. Common and/or important shortcomings include the following:

- no definition of 'best available techniques', which creates legal uncertainty as to the basis for permit conditions;
- no ban against prescribing technologies in the permit, which could severely restrict the operator's flexibility and innovation potential;
- no requirement that the authority take account of the technical characteristics of the installation concerned, its geographical location and the local environmental conditions when it determines the conditions of the permit decision;
- insufficient information requirements for the permit application and no obligation on the operator to produce a non-technical summary of the application;
- insufficient content requirements for the permit decision, e.g. with regard to measures to ensure compliance with the obligation to return the site of operation to a satisfactory state upon definitive cessation of activities;
- inadequate requirements as regards monitoring and reporting of releases;

⁶ Commission Decision 1999/391/EC of 31 May 1999 concerning the questionnaire relating to Council Directive 96/61/EC concerning integrated pollution prevention and control (IPPC), OJ L 148, 15/06/1999, p. 39-43

- incomplete list of activities covered;
- no provision to ensure compliance by existing installations no later than October 2007 and subsequent periodical review of permits.

The Commission has not yet brought any case to the Court of Justice for deficiencies in Member States' legislation. So far, Finland has accepted all the points made by the Commission, and changed their legislation accordingly, and Austria and Sweden have accepted most points. Discussions with the other countries are at an earlier stage.

2.1.2. *Application*

A study carried out for the Commission investigated compliance with the requirements of the Directive for 49 cases where permits had been issued in 2000 and 2001 in 11 Member States⁷. It reported that compliance was largely satisfactory. The study covered such aspects as the completeness of applications, coordination between authorities, monitoring requirements, review periods and consultation of the public.

However, certain ambiguities in the Directive give rise to difficulties in the implementation, unless the Member State has adopted more specific provisions. Difficult issues include the following:

- How should the threshold criteria in the list of activities be interpreted in order to assess whether or not an installation is covered by the provisions of the Directive?
- How should the boundaries of an installation be drawn, given that the definition includes all directly associated activities with a technical link?
- When should a change be considered as “substantial”? (In which case, an update of the permit is required.)
- How should emission limit values be derived from the levels for best available techniques indicated in ‘BREF’ documents (see chapter 6), which are often expressed as ranges, e.g. 10-100 mg/m³? This question is complicated by the fact that the Directive does not harmonise the ways in which emission limit values are expressed and enforced in the Member States.
- What is meant by “return the site to a satisfactory state” and how should this principle be applied in the context of the permit?
- How should permit conditions be written for such aspects as accidents, waste minimisation and energy efficiency?
- How and how often should inspections be carried out and what kind of information should be included in monitoring reports?

⁷ Not Austria, Greece, Italy and Portugal as no permits had been issued in accordance with IPPC legislation.

- When should companies that exceed their limit values be prosecuted and what other enforcement measures are effective?

Question 1a: Is there a need for any additional action at EU level to address implementation difficulties or should current and future Member States deal with them individually?

Question 1b: If there is such a need, what type of action would be appropriate?

2.1.3. *First Report of representative limit values*

The Directive requires Member States to report representative limit values in permits for new and existing installations every three years. These reports give an indication of how the Directive is implemented in different countries. The first such reporting exercise took place in 2001. To facilitate the work of the Member States, the Commission developed a questionnaire that included a selection of activities and pollutants. No Report was submitted by Luxembourg. The Belgian Report only covered one part of the territory and the questionnaire was not used, which made it impracticable for the Commission to process and analyse the data. The UK only used the questionnaire for part of its Report.

The purpose of this exercise is to collect comparable data in order to verify the expected convergence of limit values within the Union. However, as the first reports clearly showed, it is impossible in most cases to meet this aim. The reason is not that Member States have not made a real effort, but rather that they all use very different ways of expressing limits in permits, which they are perfectly entitled to do, since the Directive does not require harmonisation of these diverse practices.

The usefulness of the limit value reports is thus limited. Possibly, certain trends within Member States can be monitored and some data could be used as a basis for future proposals for EU-wide limit values (see chapter 8). However, the Commission is not in favour of imposing a burden on Member States that is disproportionate to the value of the exercise and will therefore seek to make this exercise better adapted to the potential benefits.⁸

2.2. **Candidate Countries**

Since ten Acceding Countries are to join the Union in May 2004, the development of realistic implementation programmes has been a crucial task for these countries. Particularly important elements in these programmes are the training of staff at competent authorities and raising awareness at the installations concerned.

For the competent authorities the new permit system generally implies radical changes compared to the previous system. They have to get used to an integrated approach where all environmental aspects are considered simultaneously and site-specific issues are taken into account. They also have to engage in a constructive dialogue with operators and “negotiate” the conditions of the permit. For this, a

⁸ Increasing the usefulness of reported data is also the aim of the Commission’s ongoing review of the entire system for reporting implementation of EU environmental legislation.

thorough knowledge of industrial processes and the best available techniques is required. These changes are, however, not unique to Candidate Countries; they also occur in several of the current Member States.

A number of Candidate Countries have increased their know-how through comprehensive twinning projects with Member States, either as bilateral cooperation or within the EU Phare Programme.

Some Candidate Countries requested transition periods for the implementation of the Directive at new and/or existing installations. In the negotiations, the Commission and the Council insisted on compliance for new installations, i.e. installations which came on stream in 2000 or later, upon accession.

However, for some countries, transition periods for up to 20% of the existing installations have been accepted. For the installations concerned, adaptation is a major challenge but they do not cause any serious transboundary (environmental or commercial) effects. These installations must receive a permit by the end of October 2007 but they will not be obliged to meet emission limit values based on the best available techniques until 2008 – 2012 depending on the transition period agreed in each case. The countries that have been granted transition periods are Poland, Slovenia, Slovakia and Latvia. Transition periods have also been requested by Romania and Bulgaria.

2.2.1. Legal transposition

As at February 2003, full transposition of the Directive has been achieved in eight of the thirteen Candidate Countries. In three of the Acceding Countries – Cyprus, Slovakia and Slovenia – transposition has yet to take place. The Candidate Countries have mostly opted for a system of integrated permits, with the exception of Cyprus and Malta. A country-by-country overview is available on http://europa.eu.int/comm/environment/ippc/ippc_cc.htm.

2.2.2. Application

To date, only a limited number of pilot permits have been issued in some of the Candidate Countries.

In the spring and summer of 2002, the Commission and the Council carried out “peer reviews” of the administrative capacity in place for implementing the Directive in each of the ten Acceding Countries. It was found that the Candidate Countries still need to strengthen their administration, notably at regional and local level. Staff still needs to be trained in issuing integrated permits and in several cases staff increases may be necessary.

In the light of this, it was concluded that some Candidate Countries will face significant problems in implementing the Directive for all new installations by accession. The peer reviews also resulted in recommendations for steps to remedy identified problems. The Commission monitors the progress in this respect, discusses possible deficiencies with the Candidate Countries and regularly reports its findings to the Council.

On the other hand, there are indications that a large proportion of the operators concerned in these countries are relatively well-informed of their future obligations.

3. SOCIO-ECONOMIC IMPACTS

The implementation of the Directive could have considerable socio-economic impacts. The Commission has made a study of the impact of best available techniques on the competitiveness of individual plants⁹, which found, *inter alia*, that

- there is no evidence that best available techniques prevented those companies using them and achieving good environmental standards from remaining competitive both nationally and internationally;
- many plants that perform well on the environmental front are able to use this as a competitive strength;
- it does not follow, however, that early introduction of best available techniques by other plants in the industries studied would also have little or no negative impact on their competitiveness.

One of the main conclusions of the study, and of a stakeholder workshop held in May 2002¹⁰, is that investment cycles are a key factor for the competent authority to take into account. It is clear that a planned renewal of plant machinery is an optimal moment to make environmental investments. However, industries with relatively long investment cycles have less flexibility in combining these investments compared to industries with shorter investment cycles. Authorities should therefore discuss the planning of investments with operators and balance any economic or financial disadvantages against the needs of the environment, bearing in mind that installations must operate in full compliance with the provisions of the Directive no later than 30 October 2007 (see also chapters 5.1 and 5.2).

The study also found that implementation of the best available techniques is facilitated by a number of skill factors characterising well performing installations, including training, innovation and management.

There can be specific cases where the operator does not have the necessary means to upgrade the installation to the best available techniques. This might be a particular problem in regions whose development is lagging behind, or in declining industrial regions. When operators are not able to meet the environmental standards required by the Directive, Member States should be encouraged to actively promote environmentally and economically beneficial industrial conversion, using the Structural Funds available in certain parts of the Union for this purpose.¹¹

The Directive mainly covers large industrial and agricultural installations. However, even if the Commission has no precise figures it is clear that small and medium-sized enterprises (SMEs) make up a significant part of all IPPC installations in Europe.

⁹ *The Impact of Best Available Techniques (BAT) on the Competitiveness of European Industry* (case studies of the cement, non-ferrous metals and pulp and paper industries), David Hitchens et. al, Institute for Prospective Technological Studies, November 2001. Available on the internet: <http://www.jrc.es/pages/f-publications.html>

¹⁰ The Economic Consequences of the IPPC Directive, http://europa.eu.int/comm/enterprise/environment/index_home/ippc/bat_conference.htm

¹¹ The European Regional Development Fund, for example, is intended to help to redress the main regional imbalances in the Community through participation in the development and structural adjustment of regions whose development is lagging behind and in the conversion of declining industrial regions.

Making SMEs comply with environmental legislation is a major challenge¹² and therefore Member States may need to give special assistance to operators who lack the resources to cope with the administrative burden and the environmental challenges. Any assistance provided must of course comply with competition rules (see also chapter 10.2.4).

Question 2: What support measures should be taken at EU, national, regional or local level to facilitate compliance by installations, in particular SMEs?

4. SUSTAINABLE PRODUCTION IN A GLOBAL CONTEXT

When the Directive was conceived, legislators expected that the development and exchange of information at EU level about best available techniques would promote the worldwide dissemination of pollution prevention and control techniques used in the Union.¹³ The Commission has also noticed that interest from outside the EU in the ‘BREF’ documents published on the Internet is already quite high.

It is of paramount importance that the EU continues to work for high environmental standards in industry located in other parts of the world, since many environmental problems are global or regional and most of the industries concerned by the Directive are exposed to fierce competition from production sites outside the Union. In some sectors, a degree of “eco-dumping” might take place and any such tendencies must be avoided in order to achieve environmentally, economically and socially sustainable development.

At the World Summit on Sustainable Development that took place in Johannesburg, South Africa from 26 August to 4 September 2002, participating countries agreed on an EU proposal for a 10-year framework of programmes on sustainable consumption and production. The industrialised countries agreed to take the lead in this global effort to correct current unsustainable patterns and help developing countries put in place policies and tools to this end. The Directive and the dissemination of best available techniques could play a role in this context.

Question 3: What role can the Directive and its exchange of information on best available techniques play in the international arena to promote sustainable production?

In order to raise global awareness of the EU policy addressing pollution from major industrial point sources, with emphasis on the IPPC Directive and the exchange of information on best available techniques, and to obtain information on policies applied outside Europe, the Commission and the Spanish Presidency organised an

¹² According to the report *European SMEs and Social and Environmental Responsibility* (Observatory of European SMEs, 2002, available on the internet: http://europa.eu.int/comm/enterprise/enterprise_policy/analysis/observatory.htm), the majority of SMEs are ‘vulnerably compliant’ as far as the existing legislation and regulations are concerned, in the sense that they do not know enough about environmental legislation to ensure that they are always compliant (p. 35).

¹³ This aspiration was reflected in one of the recitals to the Directive

international conference for policy-makers at Environment Ministries and Environment Protection Agencies in April 2002 in Seville.¹⁴ A brief summary of information presented at the conference by representatives of the USA, Canada, Japan, China and India is given in Annex 2.

5. KEY INTERPRETATION ISSUES

The implementation of the Directive in Member States and Candidate Countries has revealed several ambiguities. A number of recurrent legal issues need to be uniformly interpreted and applied in the EU and in the Candidate Countries, some of which are described below.

5.1. Implementation of the best available techniques by 2007

The Directive states that by 30 October 2007 existing installations must operate in accordance with the requirements of the Directive. This is a clearly formulated obligation. It is therefore not sufficient to simply issue a permit by 30 October 2007, giving the installation additional time before operating in full compliance with the Directive. The basic obligations of operators include above all the duty to take all the appropriate preventive measures against pollution, in particular through application of the best available techniques.

When setting the permit conditions based on best available techniques (BAT), the competent authority shall take into account the technical characteristics of the installation concerned, its geographical location and the local environmental conditions. The notion of BAT and the 'BREF' documents are by nature dynamic and sufficiently flexible to allow the operator and the authorities to take into account constraints resulting from basic choices in the production process or plant layout and to respect cost efficiency considerations. (See also chapter 5.2)

In order to achieve full compliance with the Directive no later than 30 October 2007¹⁵, both operators and competent authorities have to bear in mind the time needed for the upgrading of existing installations and take appropriate action at a sufficiently early stage.

5.2. The definition of 'best available techniques'

Over the years, various definitions of BAT have been used in the framework of EU legislation as well as in other contexts such as international conventions. The Directive includes a comprehensive definition that is supplemented by 12 specific considerations listed in an annex. It provides for the determination of BAT not only in a general sense (i.e. the aim of the "Sevilla Process" – see below) but in specific cases as well.

This means that BAT can actually vary from one plant to another because costs and benefits can obviously vary. The fact that costs and benefits are elements in the definition of BAT also means that BAT inevitably is a balance between different

¹⁴ Proceedings available on the internet: <http://eippcb.jrc.es/pages/doc/PCIPsevilla/mainpage.htm>

¹⁵ The exception being those installations in Candidate Countries that have been given an extra transition period beyond 2007.

environmental impacts and associated costs. Therefore, techniques may very well be better than BAT in terms of their overall environmental performance or for one particular environmental aspect.

The definition of BAT requires that the technique is developed on a scale that allows implementation in the sector. The evidence to support a technique as BAT can come from one or more plants applying the technique somewhere in the world. In some rare cases, even pilot projects can provide a sufficient basis.

It is expected that process-integrated measures will generally have a positive or more or less neutral impact on the profitability of enterprises. “End-of-pipe” measures, on the other hand, often have a negative short-term impact on profitability. It is inevitable that some BAT will not have any payback at all, but their societal benefits outweigh the costs incurred by the operator, in keeping with the polluter pays principle.

The determination of BAT involves an assessment of the estimated net costs of implementing a technique in relation to the environmental benefits achieved through its implementation. A second economic test relates to whether the technique can be introduced in the relevant sector under economically viable conditions. This affordability test can only be legitimately applied on a European sectoral¹⁶ level, not to individual installations. If the techniques are considered too expensive for the sector as a whole, then they are not BAT. However, by taking the sector and not the individual installation as a basis for this test, there can be no perverse effect whereby installations in a difficult financial situation are allowed to continue to pollute because they cannot afford to take the required measures.

5.3. Determination of production capacity

In the list of activities covered by the Directive (Annex I to the Directive), production capacity, expressed for instance as tonnes per day, is frequently used as the decisive criterion for determining the scope of the Directive. It is important for there to be a common understanding of how the production capacity of an installation is to be calculated.

In sectors such as the textiles and leather industries, most installations do not operate continuously for 24 hours a day. Many smaller units do however operate flexibly on the basis of current market demand, with the result that normal working hours may be exceeded at very short notice. Declared working practice, or output, is therefore an unreliable guide to the real capacity of an installation and does not fully reflect the pollution potential of the installation.

The only technically coherent meaning of “capacity” is, therefore, the capacity at which the installation is capable of being operated. That is to say, it is the rated capacity of the installation to operate 24 hours a day, provided that the equipment is capable of being operated in that way.

(See also chapter 7.3.1.)

¹⁶ “Sector” should be understood as a relatively high level of disaggregation, e.g. the sector producing chlorine and caustic soda rather than the whole chemical sector.

5.4. General binding rules and national emissions trading schemes

The Directive offers Member States the possibility of using “general binding rules” for certain sectors instead of including requirements in individual permits. However, it is important to note that the general binding rules approach is limited to particular permit requirements, such as emission limit values or equivalent parameters and technical measures that are identical for several or all installations within a sector.

National emissions trading schemes are therefore compatible with the Directive only in so far as they allow nothing more than trade in emissions that remain after the implementation of BAT (by 2007 for existing installations). This means that the requirement to operate in accordance with BAT-based emission limit values applies to all operators including buyers of emission allowances.

Further consideration on the relationship between this Directive and emissions trading is presented in chapters 7.2 and 10.2.3.

6. THE “SEVILLA PROCESS”

The information exchange on best available techniques and monitoring, provided for in the Directive, is sometimes called the “Sevilla process” due to the fact that the work is co-ordinated and facilitated by the European IPPC Bureau, which is part of the Institute for Prospective Technological Studies at the Commission’s Joint Research Centre, based in Seville.

This exercise is a key driver for improved environmental performance as it involves systematic sector-by-sector benchmarking and comprehensive screening and assessment of techniques applied. The information exchange is also a highly cost-effective activity, as, in its absence, each Member State would be required to do a corresponding identification/determination of BAT in order to fulfil its obligations under the Directive.

The main result of the information exchange are the so-called ‘BREF’ documents (as in BAT Reference documents). These documents are referred to in the annex to the Directive which outlines the considerations that are relevant in the determination of BAT. They are to be taken into account by competent authorities when considering permit applications and establishing permit conditions. Irrespective of this legal aspect, it is anticipated that the quality of the documents will make them a key tool for authorities in the permit issuing process. In addition, operators are expected to consult the relevant documents when they prepare their applications. The public and green non-governmental organisations may also wish to use them to verify that conditions in permits are reasonable.

However, BREF documents do not set any legally binding standards. They simply provide reference information. Since authorities are also expected to take account of the technical characteristics of the installation, its geographical location and the local environmental conditions, BREF documents cannot be the only basis for emission limit values and other permit conditions.

This European information exchange has also led to the creation of a number of informal networks of experts in industry, regulatory bodies and research institutes.

These networks can be used by authorities should information in BREF documents be incomplete, outdated or difficult to understand.

6.1. System set-up

For each BREF document, the European IPPC Bureau co-ordinates a technical working group composed of experts from industry, authorities, research institutes and non-governmental environmental organisations from the EU, EFTA and Candidate Countries. It usually takes two to three years for a working group to complete a BREF document. While consensus in the group is sought, it is not a prerequisite and it is the task of the Commission to reflect any differences in opinion in the document and to include the justification for any divergent views.

The more strategic role of the Information Exchange Forum, which has the same broad representation as the working groups, is to generally oversee the information exchange process.

The Commission publishes the BREF documents on the Internet¹⁷ and on CD-ROM following a formal Commission Decision. Due to concerns over quality, timeliness and resources, the Commission does not translate the full texts, which are always drafted in English, into the other official EU languages. It only translates selected chapters, in particular the executive summaries. Member States and Candidate Countries are encouraged to provide additional translation of the documents.

6.2. Assessment of progress

The Commission's assessment of the achievements since the start of this ambitious information exchange¹⁸ in 1997 is largely positive. An interesting observation is that in each Member State some unique best available techniques exist. This backdrop shows the benefits of the whole exercise for all countries involved.

So far, fifteen BREFs have been produced covering the production of iron and steel, cement and lime, pulp and paper, non-ferrous metals, glass, textiles, leather and large-volume organic chemicals as well as cooling systems, ferrous metals processing, refineries, the chlor-alkali industry, intensive rearing of poultry and pigs and waste water and waste gas treatment in the chemical sector.¹⁹

The contribution made by the industries concerned is usually the most comprehensive information that the Commission receives. Although the existence of environmental performance data necessary for the assessment of techniques varies significantly from one sector to another, the data made available by the industries concerned, i.e. operators as well as technology suppliers, is usually sufficient to enable sound assessments to be made. However, economic data are frequently not made available, and when they are, it is usually not possible to cross-check them with data from other sources. This can be an obstacle to a more objective

¹⁷ <http://eippcb.jrc.es>

¹⁸ As an example, the process of producing the BREF document on refineries entailed 17 meetings, 17 visits/meetings at European refineries (8 countries / 11 companies), some 350 documents/books consulted, some 4300 comments made on 4 drafts, around 1800 e-mails (only counting those that the IPPC Bureau was involved in) and some 800 visits to the members' internet workspace.

¹⁹ The various working groups, their members and the current status of their work is available on <http://eippcb.jrc.es>

determination of the best available techniques as economic aspects are a core part of the definition.

By and large, industries are very active and quite supportive. They feel that the high technical quality of the resulting BREF document justifies their efforts, particularly as the document is likely to improve authorities' understanding of industrial processes and lead to a more constructive dialogue with regulators. With regard to the provision of economic data, industry finds it difficult to strike a balance between the desirable transparency of the "Sevilla process" and the sometimes confidential character of the data.

The contribution of Member States' experts is a crucial supplementary element to that of the industries. The level of activity of Member States' experts varies from group to group, but in general the contributions of German and Dutch experts are particularly significant. Some Member States also send national experts who act as the "authors" of the BREF documents in Seville. In this respect, the Commission is particularly grateful for the support received from German and UK administrations.

The Candidate Countries still do not participate as actively as the Member States in general and this poses a twofold problem: less expert input and the risk of lower acceptance of the BREF documents in the Candidate Countries.

Finally, environmental organisations and their experts also have an important role to play, both for their input and for the external credibility of the information exchange. Overall they are reasonably satisfied with its transparency but they have criticised the huge difference between the resources that they can put into this work and the much greater resources that industry is able to mobilise.

6.3. Next steps

Currently, twelve BREF documents plus a BAT document on mining activities²⁰ are in progress and a further five documents will be launched. The Commission puts a great deal of effort into minimising delays, but it is dependent on the collaboration of Member States and industries. The overall aim is to have all first-edition documents ready by the end of 2005.

It is important that BREF documents be reviewed to ensure that they are up-to-date. The Information Exchange Forum has accepted the Commission's proposal to start the revision process in 2003 with the Cement and Lime document.

The review of the first edition of documents should focus on using any new and relevant emission, consumption or economic data as well as applying the upcoming reference document on economic and cross-media issues and its toolbox to come to more objective conclusions on best available techniques and eliminate divergent views. Moreover, providing more comprehensive guidance on monitoring of emissions is a priority. This aspect has not been well addressed by the technical working groups involved in the first edition of BREF documents. Finally, issues such as energy use, noise and environmental management could generally be more extensively addressed in the sector-specific documents.

²⁰ Produced in accordance with the Commission's Communication on the "Safe operation of mining activities: a follow-up to recent mining accidents", COM (2000) 664 final

The IMPEL network has plans to carry out a survey among users of BREF documents in the Member States' authorities, although the timing and details of this survey have yet to be fixed.

Another issue to consider is the extent to which BREF documents can be used for purposes other than implementing the Directive, and whether any particular action should be taken to promote such additional uses.

Question 4: Is the information exchange on best available techniques optimal and are the BREF documents an effective implementation tool?

7. FUTURE DEVELOPMENT OF THE DIRECTIVE

The Commission has proposed two amendments to the Directive: one strengthening public participation in the permit issuing process, the other essentially removing greenhouse gas emissions from the scope of the Directive in so far as they are addressed by the proposed Directive on greenhouse gas emissions trading. The Council and the European Parliament have agreed on the former amendment (formal adoption is pending) whereas they are still discussing the latter.

In addition, even if the first implementation questionnaire (see chapter 2.1) is mainly retrospective, it also invites views on the future, since it includes a question about the effectiveness of the Directive in comparison with other environmental instruments. In the second quarter of 2004, the Commission will present a Report on the results of that survey. Another issue that needs to be considered is the list of activities covered in Annex I to the Directive. In line with the Community's Action Plan on Better Regulation²¹, any proposal should be preceded by an appropriate impact assessment.

7.1. Aarhus Convention

The purpose of amending the provisions on public participation in the permit procedure is to take one of a number of steps that are necessary to enable the Community to ratify the Aarhus Convention²² signed by the Community in 1998. The Council and the European Parliament have agreed on a number of extended rights for the public, such as²³

- the application for a permit has to include an outline of the main alternatives that the applicant may have studied;
- any draft decision shall be published so as to give the public the chance to comment;

²¹ COM(2002) 278 final

²² Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (<http://www.unece.org/env/pp>)

²³ Proposal for a Directive of the European Parliament and of the Council providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending Council Directives 85/337/EEC and 96/61/EC, COM(2000) 839 final, OJ C 154 E, 29/05/2001, p. 123-128; Result of conciliation: http://www.db.europarl.eu.int/oeil/oeil_ViewDNL.ProcViewByNum?Lang=2&ProcNum=COD/2000/0331

- the authority shall publish the reasons and considerations on which the permit decision is based;
- the “public concerned”, including environmental non-governmental organisations, shall in principle have access to a review procedure to challenge the substantive or procedural legality of decisions or omissions;
- stricter requirements for consultation of the public in other Member States in case of transboundary emissions.

The scope of application of these provisions has been limited to new installations, existing installations planning to carry out a substantial change and other existing installations causing significant pollution. Thus, consultation will not always be compulsory for old installations. When trying to obtain the right to be consulted in the context of a permit update, the public may find it difficult to demonstrate that a planned change actually is "substantial" or that the installation causes "significant" pollution.

7.2. Greenhouse gas emissions allowance trading

Activities that are required to have a permit in accordance with the IPPC Directive emit more than a third of all greenhouse gas emissions in the Union, all sources included. The Commission has proposed that not all installations shall be required to implement best available techniques to prevent or control their greenhouse gas emissions.²⁴ Instead, if they receive a greenhouse gas emissions permit, they will in principle be able to choose whether to reduce their emissions to the amount of allowances allocated to them or to less than that level, or keep emissions above that level and buy allowances from someone else.

The logic behind this novel approach in EU environmental policy is that it is possible to achieve emission reductions in a more cost-effective way and that, in principle, a cap-and-trade system can offer guaranteed results in terms of total emissions, something that a permit system based on best available techniques cannot achieve.

However, there are certain caveats in relation to this “freedom”: firstly, the emissions trading scheme would apply without prejudice to the IPPC Directive’s current obligations in respect of types of pollution other than global warming. Thus, if the operator has to take measures to bring down other emissions, and incidentally greenhouse gas emissions drop or rise, the operator has no other choice than to take these measures.

Secondly, it may be necessary to lay down permit conditions for some greenhouse gases other than carbon dioxide, in order to ensure that trading does not give rise to any significant local pollution.

²⁴ Proposal for a Directive of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, COM(2001) 581 final, OJ C 75 E, 26/03/2002, p. 33-44 - see in particular Article 25. Note that all greenhouse gases under the Kyoto Protocol are covered by the IPPC Directive given the broad definition of ‘pollution’ in the Directive.

Thirdly, the present requirements for the efficient *use of energy* in the form of electricity, steam, hot water etc. remain. Only direct emissions of carbon dioxide on the site, in combustion or other processes, are affected by the proposed amendment.²⁵ This has implications in particular for installations consuming all the electricity, steam etc. they produce.

General aspects of emissions trading versus regulation based on best available techniques are discussed in chapter 10.2.3.

7.3. Activities covered

Many Member States also apply similar permit systems based on best available techniques for activities not covered by the Directive – either the sector as such is not covered or the Directive's threshold in terms of production capacity (or similar) is higher. This begs the question of whether or not additional activities should be subjected to the harmonised rules of the Directive, in keeping with the principle of subsidiarity.

When considering extending the scope of the Directive with the aim of enhancing the protection of human health and the environment, it is necessary to bear in mind that Member States and Candidate Countries do not have unlimited administrative resources for ensuring effective implementation. Even if the integrated approach leads to a rationalisation of the regulatory tasks, the permit system remains highly administration-intensive for both operators and authorities. If their limited resources are dispersed on additional installations, there is a risk that the authorities will not devote adequate resources to the installations that have or risk having the greatest impact.

7.3.1. Review of thresholds

The Commission is aware of a number of activities for which the thresholds in Annex I to the Directive are ambiguous or even unreasonable. There is thus a risk that installations having relatively significant environmental impacts fall outside the scope of the Directive in its practical application, or conversely installations having relatively insignificant environmental impacts fall inside the scope of the Directive. There is also a risk that differing interpretations could lead to distortions in the Internal Market.

Therefore, the Commission intends to examine the way in which the threshold criteria are designed for sectors such as foundries, smithies, tanneries, food processing, textile finishing, manufacture of ceramic products and electroplating.

It is also appropriate to examine whether in some cases it would be more straightforward to have production output thresholds over a given period instead of production capacity thresholds.

²⁵ According to the political agreement of the Council (<http://europa.eu.int/comm/environment/climat/emission.htm>) Member States may still choose to impose requirements relating to energy efficiency in respect of combustion units or other units emitting carbon dioxide on the site.

7.3.2. *The waste management sector*

Currently, the Directive covers the waste management sector in a very fragmented way. In addition, the distinction made between disposal and recovery operations sometimes requires difficult legal assessments.

The Commission sees it as important to ensure a high level of environmental protection for waste management facilities in the EU in order to avoid the risk of eco-dumping in cross-border shipments of waste within the Union. To this effect, including in the scope of the Directive all waste management installations with a capacity exceeding appropriate thresholds is an option to consider.

For waste incinerators, an alignment of Annex I of the Directive with the scope of the new Waste Incineration Directive²⁶ should also be considered.

7.3.3. *Additional activities*

In the light of the above, the Commission is prepared to consider some additional activities for possible inclusion in the Directive. One such activity is aquaculture²⁷, which is reported to be a rapidly developing industry with significant environmental impacts.

To further promote streamlining of permit procedures, the Commission will examine if there is a need for stronger coherence between the list of activities under this Directive and the list of projects subject to environmental impact assessment under Directive 85/337/EEC²⁸.

Question 5: Is the scope of the Directive, in terms of activities and thresholds, appropriate to address the most significant environmental impacts of production processes?

8. COMMUNITY EMISSION LIMIT VALUES

The Directive provides for the setting of Community emission limit values by means of Directives when “the need for Community action has been identified”. This identification should be based in particular on the exchange of information on best available techniques and representative limit values applied in the Member States.

When analysing the need for Community emission limit values in priority sectors and for priority pollutants, the Commission will not only consider the reports on representative limit values in the Member States and the results of the exchange of information on best available techniques but also information submitted for the

²⁶ Directive 2000/76/EC of the European Parliament and of the Council on the incineration of waste, OJ L 313, 13/12/2000, p.12-21

²⁷ See the Commission’s Communication “A Strategy for the Sustainable Development of European Aquaculture”, COM(2002) 511

²⁸ Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, OJ L 175, 5/7/1985, p. 40-48 as amended by Council Directive 97/11/EC, OJ L 73, 14/3/1997, p. 5-15

European Pollutant Emission Register (see below). As usual, the principle of subsidiarity will guide the Commission.

Prime candidates for Community emission limit values are dioxins and furans, in line with the Council's conclusions on the Commission's dioxin strategy²⁹, as well as the priority substances under the Water Framework Directive and other pollutants with transboundary impacts.

However, to some extent, Community-wide limit values undermine both the decentralised and the integrated approach of the Directive, since they restrict the possibility for the competent authority to make pragmatic and environmentally- and economically-justified trade-off decisions. For example, if a limit value corresponding to the lowest achievable emission level of dioxins in steel-making is set, this might cause installations to lower their scrap recycling rates (they would be forced to reject more scrap that could be contaminated) or to significantly increase their carbon dioxide emissions (dioxin reduction measures are not energy-efficient).

When weighing different environmental objectives against each other, and considering the costs of the various options, the most sensible decision is very often influenced by the local situation at each site. Therefore, Community-wide limit values should only be introduced where they are necessary.

If, on the other hand, it becomes clear that in one or more Member States the authorities systematically set emission limit values that are too lenient and not based on BAT, it may be necessary to introduce additional Community emission limit values. In line with the Action Plan on Better Regulation, such proposals should be preceded by an appropriate impact assessment.

For dioxin emissions, where the production and processing of metals remains a major emission source, mandatory monitoring requirements for this sector, without any Community emission limit values in the first stage, might be one option. This could be an effective regulatory tool since the lack of data on emissions is currently a serious impediment to appropriate measures being taken.

Question 6: In which cases do Community-wide emission limit values as minimum requirements help achieve a high level of environmental protection and prevent distortions of the Internal Market?

9. EUROPEAN POLLUTANT EMISSION REGISTER (EPER)

Member States are required to report emissions from individual facilities to the Commission and to include an overview report. The reported data will be made available on the Internet every three years in a public register called 'EPER', which is intended to provide environmental information on emissions to air and water for policy-makers, researchers and the public. The register provides operators of installations with an incentive to reduce their emissions.

²⁹ Communication on a Community Strategy for Dioxins, Furans and Polychlorinated Biphenyls COM(2001) 593

EPER is also a tool to monitor the effectiveness of the Directive, in terms of reduced emissions to air and water, although it is impossible to assess with any degree of certainty the decreases that occur as a result of the Directive separately from those that occur as a result of voluntary actions or other legislation.

9.1. Steps taken

Commission Decision 2000/479/EC on the implementation of a European Pollutant Emission Register³⁰ lays down the obligations of the Member States and the Commission. Information on emissions to water and air of 50 pollutants from about 20 000 individual industrial facilities covered by the Directive will be collected. Every three years, starting in June 2003 with data on emissions in 2001 (unless they prefer to give data from 2000 or 2002), Member States are obliged to report to the Commission. The Acceding Countries are required to deliver their first report in 2006 based on emissions in 2004.

In November 2000, a guidance document³¹ was published. It facilitates the implementation of the register and clarifies the reporting requirements under the Decision. It addresses details on reporting formats and provides references to available emission determination methods as well as sector-specific sub-lists of pollutants that are likely to be emitted by the various sources.

The Commission and the European Environment Agency plan to launch a user-friendly web site with the results of the first reporting in February 2004.

9.2. Next steps

At present, the register deals only with emissions to air and water; neither releases to land nor transfers of waste are part of the register. It should, however, be viewed in the perspective of the UN/ECE Aarhus Convention, in which all parties agreed to disseminate emission data to the public and to use pollutant release and transfer registers (PRTRs) as a tool to monitor environmental progress. The current register can thus be considered as a first step towards a PRTR for Europe.

At the beginning of 2001, a Working Group on PRTRs was established under the Aarhus Convention to develop a legally binding instrument on PRTRs for adoption at the Kiev Ministerial Conference in May 2003. In parallel with the ongoing efforts of the Commission and the Member States to implement the first and second reporting cycles of EPER, the expansion of the register into a fully-integrated and comprehensive PRTR with annual reporting is being prepared.

10. RELATION WITH OTHER DIRECTIVES AND INSTRUMENTS

The holistic, cross-cutting approach of the Directive means that there is an interface with a large number of EU environmental Directives, Regulations and other policies and measures. Some of these are briefly discussed below with the aim of giving a rough picture of the importance of this Directive for other policy areas and

³⁰ OJ L 192, 28/07/2000, p. 36-43

³¹ "Guidance Document for EPER implementation", European Commission, 2000, ISBN 92-894-0279-2, catalogue number: KH-33-00-106-EN-C, <http://europa.eu.int/comm/environment/ipcc/eper/index.htm>

instruments and, conversely, how they can influence the implementation of this Directive.

When further developing EU environmental policy in the field of industrial installations³², it is important to ensure optimal consistency and to examine whether there are any obstacles to the creation of an effective mix of policy tools at EU or national level. In such an analysis, the advantages and disadvantages of the IPPC instrument and alternative or supplementary policy tools need to be analysed.

10.1. Traditional instruments of environmental policy

10.1.1. Environmental Impact Assessment Directive

Many new IPPC installations also have a requirement to carry out an environmental impact assessment in accordance with Directive 85/337/EEC. Member States may, but are not obliged to, provide for a single procedure in order to fulfil the requirements of both Directives. Whether planned changes necessitate an impact assessment is subject to a case-by-case decision, depending on the significance of the potentially adverse effects on the environment.

In the case of a new installation or a substantial change where Directive 85/337/EEC applies, any relevant information obtained or conclusion arrived at pursuant to that Directive is to be taken into consideration when the permit application is assessed.

10.1.2. Large Combustion Plant, Waste Incineration and Solvents Directives

For certain priority sources, other Directives set emission limit values for a number of key pollutants.³³ These emission limit values are not necessarily based on best available techniques as defined in the IPPC Directive, and where an installation is subject to both the rules of the IPPC Directive and limit values under other Directives, these limit values are minimum requirements. These Directives should thus provide a guarantee against the possible abuse of the inherent flexibility of the IPPC Directive.

10.1.3. Seveso II Directive

The Seveso II Directive³⁴ is the other major Directive that specifically addresses industrial installations/establishments. It is aimed at the prevention of major accidents which involve dangerous substances and the limitation of their consequences for man and the environment. It applies to establishments where dangerous substances are present in quantities exceeding certain thresholds.

³² Two interesting ongoing policy review initiatives should be noted in this context: The European ENAP Project (Exploring New Approaches in regulating industrial installations) and the IMPEL Better Regulation Initiative (<http://europa.eu.int/comm/environment/impel/projects.htm#11>)

³³ For example, Directive 2001/80/EC of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from large combustion plants, OJ L 309, 27/11/2001, p. 1-21; Directive 2000/76/EC of the European Parliament and of the Council on the incineration of waste, OJ L 313, 13/12/2000, p.12-21; Council Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations, OJ L 85, 29/03/1999, p. 1-22.

³⁴ Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances, OJ L 10, 14/01/1997, p. 13-33

There is a considerable degree of overlap in scope, in particular for the chemical industry. The IPPC Directive itself also requires operators to take measures to prevent accidents and limit their consequences, but it does not contain specific requirements relating to, for example, major-accident prevention policies, safety reports or internal and external emergency plans.

A concrete example of interaction between the two Directives is that the BREF document on the production of ammonia, acids and fertilisers that is currently being developed will address the manufacture and storage of ammonium nitrate based fertiliser with a view to reducing the risk of accidents.³⁵

10.1.4. *Landfill Directive*

Some landfills covered by the Landfill Directive³⁶ also fall within the scope of the IPPC Directive. The Landfill Directive states that the technical requirements of the IPPC Directive shall be deemed to be fulfilled if the requirements of the Landfill Directive are complied with.

As a consequence, the authority has to issue an IPPC permit to existing landfills covered by the IPPC Directive before the 31 October 2007. Full compliance with the requirements of Annex I to the Landfill Directive, however, is only compulsory as of 16 July 2009. New landfills authorised after 16 July 2001 have to comply with these requirements from the outset. Whereas any change triggers a permit update under the Landfill Directive, the additional requirements, e.g. in terms of public participation, only apply to a “substantial” change in the meaning of the IPPC Directive.

In addition, any landfill covered by the IPPC Directive must be made subject to a periodic review of its permit and to regular reporting of emission data according to EPER (see chapter 9).

10.1.5. *Water Framework Directive*

The deadline for the Member States to bring the new Water Framework Directive³⁷ into effect is 22 December 2003. Among other things, this Directive aims to protect and enhance the status of aquatic ecosystems. A key component is its “combined approach”, i.e. addressing emission sources at the same time as effects on recipients through water quality standards.

On the source side, it sets out a plan for developing further the control measures laid down in the IPPC Directive and other source-based Directives. This comprises the establishment of a list of priority substances for action at EU level, prioritised on the basis of risk, and the design of the most cost-effective set of measures to achieve load reduction of those substances, taking into account both product and process sources.

³⁵ Out-of-specification ammonium nitrate based fertiliser was involved in the disaster at the AZF factory in Toulouse (France) in September 2001.

³⁶ Council Directive 1999/31/EC of on the landfill of waste, OJ L 182, 16/07/1999, p. 1-19

³⁷ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy, OJ L 327, 22/12/2000, p. 1-72

The list of priority substances was adopted in November 2001 and it covers 33 substances or groups of substances.³⁸ According to the Water Framework Directive, the Commission shall submit proposals for emission controls for point sources, as well as environmental quality standards, for these priority substances by December 2003.

10.1.6. *Chemicals Policy*

New chemical substances and priority existing substances are subject to risk assessments, in which potential risks *inter alia* in relation to industrial installations covered by the IPPC Directive are considered. Based on these assessments, risk reduction strategies are drawn up and in some cases marketing and use restrictions are introduced.³⁹ These strategies often comprise measures that target the use of the chemical in IPPC installations.

Most of the current legislation on chemicals is under revision. Potential elements of the future strategy are outlined in the Commission's White Paper presented in 2001⁴⁰. The new system for assessing and controlling the use of both existing and new chemicals is known as the REACH⁴¹ system. This system will provide more information on chemicals used in industrial facilities, thereby enhancing the implementation of the IPPC Directive. It is important to ensure that the new system will be consistent with the IPPC permit system to guarantee a high level of environmental protection without placing unnecessary administrative burdens on operators.

10.1.7. *National Emission Ceilings Directive*

Every Member State and all ten Acceding Countries have agreed to national emission ceilings for four groups of air pollutants responsible for acidification, eutrophication and ground-level ozone pollution.⁴² The ceilings cover total emissions including non-industrial emissions, and form part of a cost-effective strategy for dealing with these environmental problems. It is the responsibility of each state to undertake policies and measures to ensure that the national emissions are below the ceilings by the year 2010 at the latest.

The effects-based approach of the Directive on national emission ceilings complements the BAT-based approach of the IPPC Directive. Strict emission standards set in the context of implementing the IPPC Directive will help in achieving the national emission ceilings.

³⁸ Decision No 2455/2001/EC of the European Parliament and of the Council establishing the list of priority substances in the field of water policy and amending Directive 2000/60/EC, OJ L 331, 15/12/2001, p. 1-5

³⁹ Council Regulation (EEC) 793/93 on evaluation and control of risks of existing substances, OJ L 84, 5/4/1993, p.1-75; Council Directive 67/548/EEC on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances, OJ L 196, 16/8/1967, p. 1-98 and Council Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations, OJ L 262, 27/9/1976, p. 201-203

⁴⁰ COM(2001) 88 final

⁴¹ Registration, Evaluation and Authorisation of Chemicals.

⁴² Directive 2001/81/EC of the European Parliament and of the Council on national emission ceilings for certain atmospheric pollutants, OJ L 309, 27/11/2001, p. 22-30 – covers the following pollutants: nitrogen oxides, sulphur dioxide, volatile organic compounds and ammonia

10.1.8. *Air Quality Directives*

The Air Quality Framework Directive⁴³ and Directives adopted on the basis of that Directive set limit values for the concentration of pollutants in ambient air.⁴⁴ These air quality standards are primarily based on the prevention of negative effects on human health through direct inhalation.

It is the responsibility of each Member State to develop the plans and programmes necessary to ensure that the standards are not exceeded. Quality standards provide a framework for emission limit values. If an installation makes a significant contribution to local pollution and if the use of the best available techniques is not enough to meet a quality standard, the IPPC Directive emphasises that additional measures must be taken.

10.1.9. *Recommendation on inspections*

The IPPC Directive is rather unspecific as regards the means used to ensure compliance with permit conditions. It simply states that Member States shall take the measures necessary to ensure that permit conditions are complied with and that operators shall be required to co-operate with the authorities when inspections are carried out.

However, the recent Recommendation on inspections⁴⁵ should bring about systematic and effective routine and non-routine inspections of IPPC installations all over the Union. It is thus vital that the Commission closely follows the progress made in Member States and Candidate Countries with regard to the inspections of installations in the coming years. In 2002, all the Member States provided the Commission with initial information about their inspection systems as stipulated in the Recommendation. For several Member States there were substantial gaps in the reported data, and it could not be concluded from these initial reports that, on the whole, the Member States were in compliance with the Recommendation.

10.2. **Non-traditional and market-based environmental policy tools**

According to the Sixth Community Environment Action Programme, the EU shall promote sustainable production patterns by using a blend of instruments, including market-based and economic instruments. So far, relatively few non-traditional tools, such as the Eco-Management and Audit Scheme (EMAS), have been applied in EU environmental policy. The proposed Directive on greenhouse gas emissions allowance trading (see chapter 7.2) will be the first overarching market-based instrument used throughout the EU for environmental purposes.

⁴³ Council Directive 96/62/EC on ambient air quality assessment and management, OJ L 125, 18/05/1994, p. 1-44

⁴⁴ There are currently limit values for nitrogen oxides, sulphur dioxide, lead, particulate matter, benzene, carbon monoxide and ozone.

⁴⁵ Recommendation of the European Parliament and of the Council providing for minimum criteria for environmental inspections in the Member States (2001/331/EC), OJ L 118, 27/04/2001, p. 41-46

10.2.1. *Environmental Management Schemes including EMAS*

Environmental Management Schemes such as the European Eco-Management and Audit Scheme (EMAS)⁴⁶ make voluntary participation by companies and their installations in an environmental management system (EMS) possible. EMAS is based on the international standard EN ISO 14001:1996 but goes further in several respects, such as publication of environmental statements and verification of compliance with environmental legislation.

Implementing an EMS, in particular EMAS, makes it easier to comply with the requirements of the IPPC Directive, for example when it comes to preparing applications and monitoring reports. Some European countries have introduced forms of so-called regulatory relief for companies with a certified EMS. The majority of them have introduced special incentives to promote EMS, in particular EMAS and to recognise their benefits. In these countries inspections can be less frequent, as can permit reviews, and reporting requirements can be less onerous for IPPC installations.⁴⁷ However, Member States cannot exempt companies with an EMS from their obligations under the Directive.

Another link between the IPPC Directive and EMSs is provided by the conclusions on environmental management systems that have been produced for use in future BREF documents. These conclusions set out a number of key features of an environmental management system, adding that the nature and level of detail of each system will generally depend on the nature, scale and complexity of the installation and the range of environmental impacts it may have. EMAS, which embodies further supporting measures including external verification and the publication of an environmental statement, gives higher credibility.

10.2.2. *Environmental agreements*

The potential of environmental agreements for sectors of industry, often involving national or European trade associations, to contribute effectively to environmental policy objectives is widely recognised. Agreements can provide a quick response to an environmental challenge, they can deliver a tailor-made and flexible solution to that challenge as well as stimulating a more proactive approach on the part of industry.

The Commission wants to encourage voluntary commitments and agreements to achieve clear environmental targets, as a complement to existing legislation. In its Communication on environmental agreements⁴⁸, the Commission sees a place for environmental agreements at Community level over a wide range of sectors, and singles out the fields of waste management and climate change. However, sector-

⁴⁶ Regulation (EC) No 761/2001 of the European Parliament and of the Council allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), OJ L 114, 24/04/2001, p. 1-29

⁴⁷ The Commission will produce a report on the way Member States have used these and other incentives by the end of 2003. The ENAP Project referred to in footnote 32 above also looks into the possible synergies between environmental management systems and the permit procedures under the IPPC Directive.

⁴⁸ Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions - Environmental Agreements at Community Level - Within the Framework of the Action Plan on the Simplification and Improvement of the Regulatory Environment; COM(2002) 412 final

wide or company-specific targets, on either EU or national level, cannot replace binding installation-specific conditions in permits.

10.2.3. Emissions trading

According to the Sixth Community Environment Action Programme the Community shall analyse “the environmental efficiency of tradable environmental permits as a generic instrument and of emission trading with a view to promoting and implementing their use where feasible”.

A compelling argument in favour of emissions trading is that there is always an incentive for operators to reduce emissions, whereas the system put in place by the IPPC Directive does not offer any direct financial incentive to reduce emissions below the BAT-based limit values set in the permit. There is also the argument that the company often has more information and know-how than the authority and is therefore in a better position to identify cost-effective measures to reduce emissions, provided that the incentive is there.

Emissions trading is an instrument which could cover not only greenhouse gas emissions but also other emissions from installations within the scope of the IPPC Directive. However, it would be necessary to first carefully analyse the possible consequences of a trading scheme and then to take appropriate steps to ensure that it does not lead to any significant local pollution and that the monitoring and enforcement system is as stringent as under existing mandatory instruments such as the IPPC Directive.⁴⁹

With a view to striking the proper balance between different environmental aspects and ensuring a successful co-existence between these two instruments, it is important to recognise that there are some inevitable trade-offs between impacts addressed by a trading scheme and other aspects of the environmental performance of installations.

In any case, no emissions trading scheme should be introduced if it lowers the environmental level of ambition of the IPPC Directive with regard to the state of the environment in Europe. In principle, engaging in emissions trading with countries outside Europe is only an interesting option if the effects of the emissions are of an entirely global nature.

10.2.4. Environmental taxes, charges and subsidies

According to the Sixth Community Environment Action Programme, the Community shall also promote and encourage “the use of fiscal measures such as environmentally related taxes and incentives, at the appropriate national or Community level”.

As with emissions trading, fiscal instruments have the advantage that, as they lead to an internalisation of external costs in prices of products, there is always an incentive for operators to reduce emissions even beyond binding emission limit values. Thus the regulatory approach of IPPC and the use of taxes and charges are complementary

⁴⁹ The ENAP Project referred to in footnote 32 above has looked at links between the IPPC Directive and any future national emissions trading schemes for pollutants covered by the National Emission Ceilings Directive.

instruments. However, while Member States have made extensive use of taxes and charges on emissions, there has been little development in this area at EU level due to the requirement for unanimity on taxation issues among Member States.

Member States can also grant State aid to enterprises for environmental purposes, in particular for investment to go beyond Community standards. The Community guidelines on State aid for environmental protection defines the scope for such measures with a view to both environmental and competition policy objectives.⁵⁰ Where the use of best available techniques is required under the IPPC Directive, these are regarded as ‘Community standards’.

10.2.5. *Environmental liability*

EU environmental legislation focuses on the regulation of activities that carry risks to human health and the environment. Instruments such as the IPPC Directive rarely address the question of what would happen if, despite legislation, damage to the environment should nonetheless occur.

The Commission adopted a proposal for a Directive on environmental liability in January 2002⁵¹, which covers environmental damage, including bio-diversity damage, caused by emissions from point sources such as IPPC installations.

An important point of debate is whether compliance with permit conditions shall be deemed to be a legitimate defence for operators of IPPC installations and exonerate them from liability, or at least be regarded as a mitigating factor. In the Commission’s proposal compliance with permit conditions is regarded as sufficient. If the fact that an operator has complied with permit conditions could be ignored when liability is assessed, there is a risk that regulators could lapse into a lax approach to IPPC implementation, i.e. the permit might not be used as the preventive instrument it is supposed to be.

10.2.6. *Environmental Technology Action Plan*

The IPPC Directive is a driver for the dissemination of environmental technologies in industry. The Environmental Technology Action Plan (ETAP) due at the end of 2003 shall include a series of measures to overcome barriers that are holding back the development, diffusion and use of promising technologies that are able to contribute to both increased environmental protection and higher economic growth and employment.⁵² The ongoing work on the action plan is complementary to the IPPC Directive, *inter alia* because an attempt is made to map a number of promising technologies, that may at some point in the future be introduced as BAT, and to identify ways to remove barriers to technology development and diffusion.

⁵⁰ OJ C 37, 3/2/2001, p. 3-15

⁵¹ Proposal for a Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage, COM(2002) 17 final, OJ C 151 E, 25/06/2002, p. 132-145

⁵² COM(2003) 131 final

10.3. The Common Agricultural Policy

The Common Agricultural Policy (CAP), in its first pillar (Common Market Organisations), makes direct payments conditional to measures Member States shall take in order to improve environmental effects of agricultural activities. These measures may entail making the support conditional to compliance with general or specific environmental standards, including those derived from the IPPC Directive.

In addition, the second pillar of CAP⁵³ offers a range of measures from which the Member States can choose when drawing up their rural development programmes. Some of these measures are geared towards the protection of the environment and may complement the IPPC Directive. For a number of measures (e.g. investment, improving processing and marketing of agricultural products), beneficiaries are eligible for rural development support on condition that they meet minimum environmental standards, again including those established under the IPPC Directive. For agri-environmental measures, payments can be granted to farmers who commit themselves to go beyond usual good farming practice, which entails as a minimum compliance with general mandatory requirements for environmental protection.

The level of support available under rural development measures would be increased should the Council adopt the Commission proposals for a reform of the CAP⁵⁴. Money would be shifted from the first to the second pillar. Moreover, for farmers receiving direct payments, compliance with environmental standards based on Community environmental legislation would be reinforced by a system of controls and sanctions.

10.4. The 6th Research Framework Programme

Activities of the 6th Research Framework Programme⁵⁵ can reinforce integrated pollution prevention and control. For example, the expected results of the RTD and demonstration projects could deliver new techniques that will be available for industry. The knowledge gained within these projects should contribute to the update of the BREF documents. Moreover, the BREF documents can help the research communities focus their attention on issues identified as priorities.

Question 7a: In order to achieve EU environmental objectives for large industrial and agricultural installations, is any action needed to ensure optimal consistency between this Directive and other existing or potential instruments used at EU or national level?

Question 7b: In particular, how can the EU further promote complementary use of market-based instruments, including national emissions trading, and voluntary instruments?

⁵³ Council Regulation (EC) No 1257/1999, OJ L 160, 26/6/1999, p. 80-102

⁵⁴ COM(2003) 23 final

⁵⁵ Decision No 1513/2002/EC of the European Parliament and of the Council, OJ L 232, 29/8/2002, p. 1-33

11. CONCLUSION

Compliance with the Integrated Pollution Prevention and Control Directive is one of the key prerequisites for European industry to achieve good environmental performance. Successful implementation, including full application of best available techniques by October 2007, is essential in order to achieve more sustainable production patterns in Europe and a cleaner and healthier environment for European citizens. It can also make a significant contribution to several other EU objectives: promotion of innovation and modernisation in industry, economic and social cohesion, and fair and sound competition in the Internal Market.

A large number of IPPC plants have demonstrated that strong environmental performance goes hand-in-hand with strong economic performance. The Directive represents a challenge for European industry, but also an opportunity.

The application of the subsidiarity principle has resulted in a system where operators of installations are expected to acquire knowledge of the best available techniques and competent authorities (local, regional or national) designated by the Member States are required to ensure that technical implementation takes place by laying down a number of conditions in permits. This places a large responsibility and considerable demands on both the competent authorities and the operators of installations in terms of resources and access to information.

The exchange of information on best available techniques between Member States and stakeholders represents a key instrument in this respect but it is not in itself sufficient to ensure successful implementation. In addition, the expertise, integrity and performance of the competent authorities and their ability to develop a cooperative relationship with stakeholders, especially plant operators, is crucial.

Should it become clear that the efforts of the authorities are insufficient, it might be necessary to consider a more harmonised approach that ensures a reasonable degree of consistency between permits issued by different authorities, for example by setting minimum Community-wide emission limit values as a rule rather than as an exception. Alternatively, greater use of market-based instruments could be considered.

In the opinion of the Commission, a large number of Member States need to accelerate progress towards a high level of environmental protection, given the final deadline for full implementation. Furthermore, the majority of the Acceding Countries must continue to significantly enhance their efforts, as agreed in the accession negotiations. In all cases except where an extra transition period has been granted, which may be the case for installations located in Poland, Slovenia, Slovakia or Latvia, the final deadline is October 2007.

Successful implementation of the Directive would represent a major contribution to a number of actions under development as part of the Sixth Community Environment Action Programme, in particular the thematic strategies on air pollution, the marine environment, soil protection, sustainable resource use and recycling as well as the strategy on climate change. A particular challenge in this respect will be to evaluate the expected impact of the Directive on the environmental issues addressed in these strategies.

The Community also needs to constantly strive for an optimal mix of environment policy instruments, check that there is full consistency between them and to explore the possibility of making more use of non-traditional approaches which provide incentives to companies to further improve their environmental performance.

In the global arena, the Community needs to continue its efforts to promote a progressive transition to sustainable production patterns within the 10-year framework of programmes agreed at the World Summit on Sustainable Development in Johannesburg. It is particularly important for non-European countries as well to be able to reap the benefits of the European information exchange on best available techniques.

STAKEHOLDER CONSULTATION

With the publication of this Communication, the Commission is launching a broad consultation on implementation issues and future development of the policy that addresses the environmental impact of large industrial point sources. To this end, seven key questions are raised in this Communication and a consultation web site has been set up at http://www.europa.eu.int/comm/environment/ipcc/ipcc_consultation.htm.

The Commission will report to the EU Institutions on the results of this consultation and on Member States' official replies in the general implementation survey in the first half of 2004.

ANNEX 1

IMPLEMENTATION SUPPORT STRUCTURES

IMPEL

Since 1997, IMPEL, the Member States' informal network of authorities responsible for implementation and enforcement of EU environmental law, has devoted a great deal of its activities to this Directive. A number of relevant projects that address important issues have been carried out, such as projects on inspections, compliance monitoring, changes in operations, general binding rules.⁵⁶

The Commission welcomes the identification and promotion of best practice in these projects. However, it is of the view that in general there is scope for focusing the projects more on best practice identification. Given the importance of the reports, Member States should disseminate them more widely and stimulate a wider application of their recommendations.

For the Candidate Countries, the AC-IMPEL network was established to promote the implementation of the environmental *acquis*. Several AC-IMPEL actions, such as studies on administrative capacities, have concerned this Directive. The two networks merged on 1 January 2003.

IPPC Experts Group

The IPPC Experts Group is an informal group that was originally created to further discussions between Member States and the Commission on various ambiguities that needed to be dealt with when the Directive was transposed into national law. More recently the group has focused on reporting and on strategic issues.

Information Exchange Forum and European IPPC Bureau

In 1997, the Commission established an Information Exchange Forum, with representatives of Member States, industry and non-governmental environmental organisations, and a European IPPC Bureau in order to facilitate an orderly and purposeful exchange of information on best available techniques and monitoring. The work that they are involved in, sometimes referred to as the "Sevilla Process", is described in chapter 6.

EPER Committee

In its work on the European Pollutant Emission Register (EPER), including the adoption of the Decision on EPER, the Commission is assisted by a Committee composed of representatives of the Member States. For further information about EPER, see chapter 9.

⁵⁶ Completed reports available on: <http://europa.eu.int/comm/environment/impel/index.htm>
Ongoing projects: <http://europa.eu.int/comm/environment/impel/workprog.htm>

ANNEX 2

BRIEF DESCRIPTION OF POLICIES FOR INDUSTRIAL POLLUTION CONTROL IN SOME NON-EUROPEAN COUNTRIES

The information below was given at a conference on policies for prevention and control of industrial pollution that the Commission and the Spanish Presidency held in Seville on 25 and 26 April 2002.

USA

In the past, traditional command and control regulations have dominated US policy and are considered by the US-EPA to have been effective. They still make use of the BAT concept, emission limit values and environmental quality standards. The Administration has pledged to make greater use of market-based systems that should supplement and substitute traditional approaches. Incentives are also increasingly used at sub-federal level.

The best-known incentive-based system is the 1990 sulphur dioxide trading programme, which was considered relatively successful by the US-EPA. Incentives are considered particularly useful for small and geographically-dispersed sources. They have identified seven types of incentives, four of which are relevant for large industrial point sources: trading, liability, information and voluntary programmes. It is estimated that a quarter of current spending can be saved if incentives are applied instead of traditional regulation.

Under the Superfund system, even a minor contribution to soil contamination can potentially lead to liability for total clean-up costs. All manufacturing facilities that have 10 or more employees are required to report to the publicly available Toxic Release Inventory if they use listed chemicals over and above certain threshold levels. US-EPA also negotiates environmental agreements with private firms.

Canada

In 1999, a new federal Environmental Protection Act was adopted and this is supplemented by some additional regulation by the provinces. Instruments applied include traditional regulation, pollution prevention plans, codes of practice, quality objectives, release inventories, emissions trading, financial incentives, voluntary agreements and North American action plans for regional capacity building.

Pollution prevention plans focus on primary measures and target either a specific pollutant, a production process or a whole facility. The Ministry of Environment can require the preparation and implementation of such a plan and the company is then required, subject to penalties, to keep the plan on-site, but there is no obligation to submit it for approval.

Codes of practice are comprehensive documents developed for various industrial sectors in strong consultation with industry and they correspond to the EU's BREF documents. The codes can be adopted as voluntary commitments by corporations or facilities or used for laying down regulatory requirements or as conditions for financing imposed by the financial sector.

Negotiated agreements supplement the regulatory framework. They are designed to cater for senior-level commitment, clear objectives and measurable results, consultation with stakeholders, public reporting, verification of results, incentives and consequences. Canada recently ran a voluntary challenge programme aimed at reducing emissions of 117 pollutants and involving eight sectors and 318 facilities. A follow-up programme is being prepared.

Japan

While the Japanese Ministry of Environment develops most of the policies, the local authorities are responsible for enforcement and also implement their own policies.

The national legislative framework is not integrated (separate laws for air, water, waste, soil, noise etc.) and emission limit values as well as quality standards are applied. Emission limit values are uniform, minimum requirements that can be supplemented by locally established limits in order to meet local quality standards. The concept of BAT is not used in the central system. However, on local level voluntary, integrated and BAT-based local pollution control agreements are used. There are currently some 30,000 such agreements.

The culture is strongly consensual and prosecutions are few. In future, Japan will put more emphasis on voluntary approaches at national level and more emphasis on transparency and accountability. Due to the recent economic hardships in the country, the climate for introducing new pollution controls is not particularly auspicious at the moment.

China

In April 2002, China had 136 environmental laws and 427 environmental standards, and their main focus was on industrial pollution. In 1979 a permit system was introduced and the enforcement was centralised.

In 1998, 150 000 small enterprises were shut down due to high pollution (in particular in the pulp and paper, tannery, coking and steel industries). When there are river pollution peaks, operations are suspended. China intends to continue to shut down plants with heavy pollution and high energy use.

They have also started to use market-based policies such as promotion of ISO 14000 and environmental labels. New policies, such as emissions trading and total emission control for more pollutants, are being considered, in particular for large combustion plants, the petrochemical industry, metallurgy and the construction material industry.

India

India uses command and control regulation, economic instruments and voluntary approaches. For 17 sectors, an annual environmental statement is mandatory. However, the BAT concept is not applied as a regulatory tool.

Closed-loop processes are emphasised and emission standards are developed in cooperation with industries and made subject to public participation. Clean fuels are promoted in areas sensitive to air pollution. Furthermore, a number of local waste minimisation circles have been set up to make use of reuse and recovery opportunities.