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The Draft Directive on Integrated Pollution Prevention and Control: An Economic Perspective

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The authors wish to thank Jan Bongaerts for his useful comments on an earlier version of this article.

Summary: This article gives an economic analysis of some of the more important aspects of the new proposal for a Directive on Integrated Pollution Prevention and Control (IPPC). The authors use an economic interpretation of the subsidiarity principle to analyze the concept of IPPC, the choice of the permit as a central instrument and the importance and interpretation of the principle of Best Available Technology (BAT) in the IPPC proposal. They come to the conclusion that the proposal does not conform with the subsidiarity principle to the extent that it allows for a European-wide interpretation of BAT and prescribes the permit as the main instrument to control and prevent pollution. Emission and technology standards should be set at local level, using local and optimally differentiated interpretations of BAT, complying with a European framework of quality standards. Also scope should be given to Member States for using alternative instruments.

II The Proposal for the IPPC Directive

The goal of the proposal for the Integration of Pollution Prevention and Control Directive is to integrate important aspects of the prevention and control of pollution. To this end the proposal contains both procedural and substantive integration requirements.

2. Towards Sustainability, A European Community programme of policy and action in relation to the environment and sustainable development, OJ 17.5.93 C 138/93.

1. Introduction

On 14 September 1993 the European Commission formally tabled the proposal for a Directive on Integrated Pollution Prevention and Control (IPPC). The concept of integrated pollution control, already announced in the fifth environmental action programme, where it was indicated as one of the priority fields of action, fits in perfectly with the "new" European Community (EC) legislative approach towards integration and consolidation of environmental legislation. The Commission proposal went through various amendments during the negotiation process. On 22 and 23 June 1995 the Council unanimously adopted the heavily amended proposal with a view to the adoption of a common position.

Given the EC's history of fragmented environmental legislation the development towards integration is certainly an improvement. The IPPC proposal is a first attempt to integrate some of the sectoral legislation into one decision-making procedure. To this effect the IPPC proposal introduces a new system of environmental standard setting. In this new system the permit plays a central role. Integrated permits are required for polluting activities (if they fall within Annex I to the Directive). These permits have to contain emission standards which must be set on the basis of Best Available Technology (BAT) with reference to Environmental Quality Standards. In this paper we will try to give an economic analysis of the method of integration opted for in the IPPC proposal. We have chosen an economic approach in order to highlight the possible effects of the combination of instruments suggested in the proposal.

In the economic analysis of law, much attention has been paid to the various legal instruments that could be used to reach the economic goal of internalizing the externality, caused by the pollution. We will first give a short description of the contents of the proposal (II). Second we will indicate some economic benefits of the concept of integration (III). Then we will address the question whether the subsidiarity principle is fully taken into account in the proposed Directive, given the economic interpretation of this principle (IV). The question then arises whether it is justified to attribute such a central role to the permit, as the proposal does (V), and the economic meaning of the concept of Best Available Technology (BAT) will be analyzed (VI).

Obviously there are many more aspects of the proposal that would merit an economic analysis. Within the scope of this paper we will however limit ourselves to a discussion of the above mentioned topics. Our contribution will finally provide a few concluding remarks (VII).
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As regards the substantive integration requirements, the proposal prescribes "permitting" as the obligatory instrument to control emissions from industrial installations (Article 3). The proposal specifies certain conditions that have to be included in the permit, which must include at least emission limit values for the substances and preparations listed in Annex III of the Directive (Article 8). These emission limits have to be set on the basis of the best available techniques (BAT) (Article 8(2)(a)), although without prescribing a specific technique. Furthermore, the emission limit values contained in the permit have to be set by reference to environmental quality standards (EQS) (Article 9).

As regards the procedural requirements, the proposal specifies the information that the application for a permit has to contain (Article 5). Regarding the decision on the application, Member States are required to coordinate the procedure and the conditions for the grant of the permit (Article 6). After the granting of the permit, the authority has to ensure a periodical reconsideration of the permit (Article 12). Member States have to ensure compliance with the permit (Article 13) and make available to the public the application, the decision of the authority and the permit itself, as well as the results of monitoring (Article 14).

In this article we will focus on the regulatory system introduced in the IPPC proposal, more specifically the obligation to establish a permit system and the obligation to include in this permit emission standards, set on the basis of BAT and with reference to EQS.

III Economic Benefits of Integration

In the economics of environmental law, environmental pollution problems are generally described as externalities. Firms do not take the environment and environmental damage into account in the economic decision-making process. Costs of environmental pollution do not therefore play a role. In order to integrate environmental concerns in the decision-making, these concerns have to be internalized. Instruments have to be found which require the integration of environmental considerations and costs in the decision-making. The concept of integrated pollution control itself fits in with the economic idea that the legal instruments should be shaped in such a way that the externalities caused by the environmental pollution are internalized as much as possible. A classic problem with a non-integrated pollution control system is that it does not take into account the possible interchangeability of emissions. Because of the – in practice – very fragmented and sectoral pollution control, once environmental regulation is established in one sector, one can often see a shifting of the pollution to other, less controlled or regulated sectors. Strict controls on emissions into water, for example, have frequently lead to installing water purification equipment which in turn produced sewage sludge which was again dumped on land. Instead of internalizing the costs of environmental pollution these costs only became an externality in another sector. Internalizing the externalities however refers to all possible forms of emissions from a certain entity, therefore integrating these different concerns in the decision-making process.

Preventing the shifting of emissions has indeed been advanced as one of the central goals of the proposed IPPC Directive. The original proposal explicitly mentioned, under the specific objectives of operation, that the Directive aims at preventing pollution emissions from larger installations "so that pollution problems are solved rather than transferred from one part of the environment to another". The considerations preceding the proposed Directive mention that "separate approaches to controlling emissions into the air, the water or the land alone may encourage the shifting of pollution across environmental media rather than protecting the environment as a whole".

The advantage of an integrated approach therefore is that all possible emissions, whether in the air, liquid or solid, can be integrated into one decision-making procedure, as a result of which emission limit values are set in such a way that industry has no incentives to shift its emissions from one compartment of the environment to the other. Whether the end result of this procedure will also be efficient will obviously largely depend upon the procedure and the authorities involved and their ability and willingness to take into account the various possible emissions and to set standards in such a way that shifting is indeed prevented. A second condition is that not only are limit values for the various types of emissions set in a balanced manner, but also that enforceability of standards can be guaranteed. Article 13 of the proposed Directive stipulates that the Member States shall take the necessary measures to ensure that the conditions of the permit are complied with by the operator. An integrated pollution control system will obviously be successful only if both the standard setting process and the enforcement system are integrated. Since the enforcement and implementation of the proposal are left to the Member States, the true value of the integration will depend on their approaches.

An integrated approach towards the pollution problem is desirable not only because of the risk of transfer of emissions, but also to enable an efficient calculation of the costs and benefits. Indeed, if one agrees that the marginal costs/marginal benefits test should play a role when emission limit values are set, it is desirable that a standard setting authority takes all emissions into account simultaneously, in order to set the optimal standard to reach the target quality.

The concept of an integrated pollution control system can also be defended by referring to the reduction of administrative costs this will probably bring. A separate licensing procedure for every possible emission from a large plant obviously leads to high costs, both for the industry and the bureaucracies involved. One can therefore expect that industry would welcome an integrated approach. It has the advantage that industry has to address itself to one counter only, instead of having to apply for three or more licences before it can start up its activities. The original proposal of the Directive also aimed at a streamlined

7. For an overview of the economics of environmental policy, see, eg, Baumol, W and Oates, W, The Theory of Environmental Policy, New Jersey, Prentice Hall, p 133-144.
8. COM(93) 423 final, p 25.
9. COM(93) 423 final, p 30.
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decision-making process: in principle decisions with respect to a permit had be taken within six months. This deadline was unfortunately dropped in the common position.

In general there can hardly be any criticism of the concept of integrated pollution control itself. Also the notion, which is stressed many times in the explanatory memorandum, that the aim of integrated pollution control is to prevent and minimize emissions to the environment as a whole, fits into the economic approach. There it is stressed that legal instruments should be used to induce a potential polluter to prevent emissions in the first place.

IV Economic Analysis of the Subsidiarity Principle

We have seen that from an economic point of view IPPC is certainly desirable. A second question is, however, whether action to achieve this integration should be taken on Community or national level. In answering this question, one can look at the guiding principle for European Community action; the subsidiarity principle. On the basis of Article 3B(2) of the EC Treaty, the Community shall take action "only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason or the scale of effects of the proposed action, be better achieved by the Community".

In this paragraph we will discuss how this subsidiarity principle can be interpreted in an economic way (A); and, second, what effect this economic interpretation of the subsidiarity principle will have for environmental policy in general (B); and the standard-setting question in particular (C). These economic principles will then be applied to the problem of integrated pollution control by asking why we need Community action with respect to IPPC (D) and whether the competences for standard-setting as laid down in the proposed Directive correspond with the economic principles (E).

A Economic Criteria for Centralization

With respect to the first question, whether it is possible to provide economic criteria for Community action, we point out the recent inauguration address of the Utrecht law and economics Professor Roger van den Bergh. Under the provocative title "Adieu Bruxelles?", he shed light on the economic analysis of the subsidiarity principle. Van den Bergh argues that one should start with the theory of Tiebout about the optimal provision of local public goods. Tiebout argues that when people with the same preferences cluster together in communities, competition between local authorities will, under certain restrictive conditions, lead to allocative efficiency. Well informed citizens will move to the community that provides the services that are best adapted to their personal preferences. Building on this model, Van den Bergh argues that a similar point could be made in favour of the competition between legislators. Citizens would move (the so-called voting with the feet) to the community that provides legislation that best corresponds with their preferences. Van den Bergh therefore argues that from an economic point of view a decentralization should be the starting point, since competition between legislators will lead to allocative efficiency.

However, there are certain conditions under which Tiebout competition will not work and which can therefore constitute arguments in favour of centralization. The most important argument in favour of centralization is the existence of transboundary externalities. If the externalities that have to be regulated cross national borders, there may be an economics of scale argument to shift powers to a higher legal order that has competence to deal with the externality over a larger territory. A second argument in favour of centralization are the so-called prisoners' dilemmas. This is the risk that "a race for the bottom" between countries would emerge to attract foreign investments. As a result of these prisoners' dilemmas, countries would fail to enact or enforce efficient legislation, in other words try to externalize environmental costs.

B Centralization of Environmental Policy?

Both arguments may play a role in favour of centralization at the European level if one applies Van den Bergh's criteria to environmental problems. With respect to environmental problems, it can certainly be argued that they are often transboundary. A great many of the environmental directives therefore fit this first criterion for Community action. In this respect one can for instance mention the Directive dealing with the discharge of dangerous substances into the aquatic environment and the Regulation on the transboundary shipment of waste. In both cases there is some risk that the pollution exceeds the national borders of the individual Member State. The prisoners' dilemma argument is often found as well, disguised as the argument that the creation of equal conditions of competition is necessary for the functioning of the common market. Although this argument is often repeated, its validity can be questioned. The necessity of creating equal market conditions would be an argument in favour of centralization only if it is clear that environmental costs would otherwise be considerably different, and moreover, that this difference may lead to dislocation of firms to the Member States with the lowest standards (the so-called race for the bottom). It is argued

10. This was at least the case in Article 7(2) of the September 1993 version of the proposed Directive, but has unfortunately been deleted from the June 1995 common position.
11. The explanatory memorandum stated with respect to the proposal, "It is founded upon a preventive approach to pollution control" (COM(93) 423 final, p 14).
14. We cannot go into detail about this problem within the scope of this paper. More information is provided in Van den Bergh, R, Faure, M ad Lefevere, J, "The subsidiarity principle in European environmental law: an economic analysis", in Eide, E and Van den Bergh, R (eds), Law and economics of the environment, Oslo, Juridisk Forlag, 1996, p 121–166.
that pollution control costs are only a minor fraction of the total sales of manufacturing industries. Moreover, recent American empirical literature characterizes the effects of environmental regulations as “either small, statistically insignificant or not robust to tests of model specification”. Obviously one could argue that the stringency of environmental regulations might have some effect on new firms in their decisions to locate for the first time. Increasing stringency of environmental regulations will not, however, induce existing firms to relocate. Repetto rightly argues that it is highly unlikely that a company would sell its plant, acquire a new site, build a new facility and recruit and train new workers simply to save on pollution control costs, totalling less than 2 per cent of sales. Even in the case of new plants, the stringency of environmental regulation typically only has a minor impact on the location decision. Again, the research by Jaffe, Peterson, Portney and Stavins showed that other criteria such as tax levels, public services and the unionization of the labour force have a much more significant impact on the location decision than environmental regulation.

This evidence therefore substantially weakens the prisoners’ dilemma argument for Community action in the field of environmental law. Even if there were differences between Member States in the stringency of environmental laws, this would not generally lead companies to relocate to “pollution havens”. Nevertheless, one can often note European environmental law dealing with merely local externalities. One can think of the drinking water Directive or the bathing water Directive. Given that the prisoners’ dilemma argument for centralization is rather weak for environmental problems and that the Directives mentioned apparently do not deal with trans-boundary externalities, they seem hard to fit into the economic framework.

There is, however, probably a third reason for environmental action at the European level, which has to do with guaranteeing all Europeans a similar environmental quality. Sometimes this is referred to as the protection of the “European environmental and cultural heritage and human health”. Directives that clearly aim at the protection of this “European heritage” are probably the Habitats Directive and the Wild Birds Directive. If one looks at Tiebout’s theory of competition between legal orders, this “European heritage” reason for Community action seems rather weak. In a competitive framework one would indeed argue that citizens of a Member State are free to choose the environmental quality that corresponds with their preferences. If, for example, the Portuguese were to decide that in their scale of preferences, environmental quality does not figure high at the moment, there would be little reason from an executive point of view to enact Community legislation protecting, say, the flora and fauna in the Algarve region. One can, however, argue that European intervention to guarantee a minimum environmental quality to all its citizens is a necessary consequence of the wish to realize a “Europe for citizens”, already mentioned. If the goal of the Union is to create an ever closer union among the people of Europe (as stated in Article A of the Treaty), Brussels may argue that it wishes to guarantee all citizens a basic environmental quality.

C. Subsidiarity and the Standard-Setting Problem

Let us now address the question how this economic analysis of the subsidiarity principle, related to environmental problems in general, also applies to the standard-setting problem. We have previously argued that a possible option to guarantee a basic environmental quality to all its citizens, irrespective of their individual preferences, is through setting harmonized quality standards at the European level and differentiated emission limit values at the Member State level. The reason for harmonized quality standards is obvious: if one accepts the idea that Europe should guarantee a basic environmental quality for all its citizens, the legal instrument to reach this goal is the setting of quality standards to which the environmental components, no matter where they are within the Union, should in principle correspond. Obviously we are referring to quality standards that set high criteria for the quality to be reached and not merely to relatively lenient standards that would function as a “red flag” as is sometimes the case in practice.

However, the theory of optimal specificity has taught that the costs to reach a certain level of environmental protection may well vary with location-specific circumstances. In principle, the differentiation of emission standards should be carried through as long as the

17. Repetto argues that pollution control costs average only about 1.5 per cent of the value of the total sales of manufacturing industries (Repetto, R, Trade and sustainable development. UNEP Environment and Trade Series, Vol 1, p 21–22).
23. The Wild Birds Directive states in its recitals that “whereas conservation is aimed at the long-term protection and management of natural resources as an integral part of the heritage of the peoples of Europe”.
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advantages of further differentiation outweigh the administrative and information costs that are incurred with a highly detailed standard-setting process. The basic idea of this proposal is that the different local circumstances in, e.g., Greece, Portugal, Denmark or Belgium, have the consequence that emission limit values to reach a similar environmental quality may well vary. However, even if one accepts that, from an economic point of view, differentiated emission standards are needed to reach an optimal level of specificity, one could argue that this does not necessarily mean that these differentiated standards should be set by the Member States. Indeed a prisoners’ dilemma could still exist when Member States fix the location-specific emission limit values, but we believe that these can be countered by a European control of the end product, being the quality to be reached. Second, the information necessary to find the optimal level of specificity will be available within the Member States. Provided that the prisoners’ dilemma can be controlled, the differentiated emission limit value should therefore in principle be set by the Member States. Note, however, that there still might be an argument for Community action with respect to emission standards. Zero-standards could for example be set if one agrees that certain (carcinogenic) substances will always have a direct negative impact on the quality to be reached and should therefore generally be banned.

Why Community Action with Respect to IPPC?

A first question that one could ask, looking at the proposed Directive, is why in the first place Community action with respect to integrated pollution control is taken. Although the Commission now usually adds a paragraph on subsidiarity, explaining why Community legislation is necessary in the specific area, the justification given by the Commission is traditionally rather weak. This is also the case if one looks at the explanatory memorandum preceding the IPPC proposal in its September 1993 version. The argument is advanced that integrated pollution control is necessary to set standards in a way that emissions will be least damaging for the environment as a whole. The Directive is intended to provide an EC framework for pollution control. Although we can of course support this argument for integrated pollution control, it in no way explains why this justifies Community action. If one agrees that an integrated pollution control system is efficient, why not let the Member States decide whether or not to install such a regime, given the subsidiarity principle? Several reasons for Community action in this respect can be advanced, but they cannot be found in the paragraph that is said to be devoted to the subsidiarity principle.

One argument could be taken from Van den Bergh’s criteria in favour of centralization. The proposed Directive will apply only to emissions from larger installations. Emissions resulting from these larger installations may be of a transboundary nature. This transboundary character of the externality was an important argument in favour of centralization. However, the pollution itself is not the subject of the IPPC proposal; only the regulatory framework necessary to control the pollution.

Another argument in favour of European intervention could be derived from the “European heritage” reason, if quality standards were to be introduced by the IPPC Directive. The IPPC proposal itself does not provide for specific quality standards. It does however bring together the decision-making on different sectors of Community environmental legislation, which themselves contain specific emission and quality standards.

This brings us to the third, and in this case most valid, argument in favour of Community intervention, which is closely linked to the second argument. Indeed, a large bulk of Community environmental legislation that contains specific standards for specific sectors already exists. The IPPC Directive will now provide for a framework to consider these separate standards in an integrated way.

The most valid argument for the Directive is therefore the practical point that it integrates a large body of existing environmental Community legislation.

E Competences for Standard-Setting

As far as the contents of the IPPC Directive are concerned, the Directive itself provides for a division of tasks between the Community and the Member States that seems to fit into the economic framework. As we have mentioned above, three concepts seem to be most relevant in the proposal; Environmental Quality Standards, Best Available Technology and emission limit values.

The proposal seems a very important attempt to leave the classic Community approach of EC-wide harmonization of emission limit values. As we have argued above, from an economic point of view it makes more sense to harmonize quality standards and to differentiate the emission limit values that are necessary to reach the specific quality standards. Although not explicitly mentioned, the principle of differentiation of emission limit values seems to have been accepted to a large extent, at least if one reads the explanatory memorandum. When discussing the means for achieving integration, it is *inter alia* mentioned that it will be for each Member State to require emission limit values based on BAT. The point whether or not a uniform regulation is necessary is explicitly discussed in the explanatory memorandum under 2.7. There it is stated:

"The proposal recognizes that the setting of emission limit values can generally best be done at local level, 29. The Commission and the European Court of Justice have in recent cases shown a willingness to focus on the practical implementation – whether Member States in practice meet the quality standards as set in some of the water Directives, rather than focusing only on the formal implementation of directives. See, *inter alia*, the ECJ decision in the Verviers Drinking Water Case, ECJ 5 July 1990. Case C-42/89, *Commission v Belgium*, ECR [1990] I-2821. Also, changes in the Treaty (the possibility of a penalty payment, say) and recent case law of the European Court of Justice (Franovitch liability) have increased the possibilities for effective enforcement of these quality standards in the Member States both by citizens and by the Commission, although much improvement is still needed; see Faure, M and Lefevre, J G J, “Introduction to European environmental law” in *Shipping Law faces Europe*, Antwerp, Maklu, 1995, to be published shortly. See also Van Gerven, W, “Bringing the Gap between Community and National Laws: Towards a principle of Homogeneity in the Field of Legal Remedies?”, CMLR 1995 pp 679–702.
30. COM(93) 423 final, p 21.
31. COM(93) 423 final, p 4.
taking into account appropriate environmental conditions. The same standards are not always appropriate at each and every location in the Community".32

This statement can of course be supported from an economic point of view. It is furthermore explicitly recognized that standards may differ precisely because areas with high environmental quality may not need as stringent emission standards. Referring to emission limit values, the memorandum states that these:

"will be derived from knowledge about the best available techniques to prevent or minimize pollution, although lower standards may be acceptable for some substances, and where the environmental quality of the area is good".33

In the explanatory memorandum to the original Commission proposal the clear cut division in competence regarding the setting of emission standards on national and local levels and the setting of quality standards on European level seems to be followed. The proposal embraced the idea of harmonized quality standards and differentiated emission limit values.

The text of the original proposal and the later amendments do not, however, seem to follow this same line. Several phrases in the explanatory memorandum to the original proposal indicate that an exchange of information is necessary to assist the Commission to set standards in the future at European level.34 Apparently the Commission also has in mind a harmonization of emission standards in that respect. Indeed, discussing the necessity of a uniform regulation, the explanatory memorandum to the September 1993 proposal argued that as long as broadly comparable emission limits are set locally across the Community, and when the effect on competitiveness is minimal, there may not always be a need for harmonization at Community level. But they continue:

"where, however, standards are very different, so affecting competitiveness, future proposals under the framework of this Directive are much more likely in order to ensure the effective functioning of the internal market".35

Here one definitely recognizes the prisoners' dilemma argument which was, as mentioned above, rather weak given the limited influence of environmental measures on the competitiveness of industry. The wish of the Commission to set standards at European level is also mentioned in the part concerning the follow up and evaluation of the operation. There it is argued that European standard-setting will still be necessary "where the standards set at Member State level are or become significantly different".36 This is apparently also the reason why Member States should, according to Article 15, send available representative data on limit values and best available techniques to the Commission.

The June 1995 version has a new explicit reference to the setting of emission standards at Community level: Article 17a. On the basis of this Article the Council shall set emission limit values for the installations in Annex I and the substances in Annex III to the Directive. The new IPPC proposal has therefore lost its framework character by creating a new competence to set emission standards for the substances in its Annex III.

It is noteworthy that, with the inclusion of the new Article 17a the proposal seems to respond to the demands of industry to introduce emission standards on Community level, rather than leave the competence to set these at the national or local level. In their reaction to the original proposal industry argued that they would have preferred the immediate agreement of emission limit values at Community level.37 A strong lobbying effort to this effect was undertaken by, inter alia, German industry. In the summary of the proceedings of the workshop on the IPPC proposal which was held on 5 May 1994 in Bonn, it can be read that the participants did not accept the determination of emission limit values at the level of individual applications, mainly for reasons of legal certainty and the absence of the necessary skills within the local authorities, but also because industry should "be certain to have to meet the same conditions of competitiveness across Europe".38 More particularly, Article 9(3) of the original proposal, allowing emission standards lower than BAT, was strongly opposed. This paragraph has indeed been dropped in the June 1995 version.

This industry point of view can be understood from a public choice perspective. Indeed, industry encounters less pressure from environmental interest groups at the European level than at local level. Environmental groups seem to be relatively well organized at national and regional levels where the influence of a certain polluting activity will immediately motivate citizens to engage in environmental groups. Standards at the European level were traditionally proposed by technical committees with very little democratic control. Therefore it seems fair to argue that the influence of industrial lobby groups might be greater at European than at local level. Hence it should not be surprising that industry preferred emission standards to be set at the central level.39

In sum, we believe that the IPPC proposal should explicitly mention that environmental quality standards are as far as possible set at Community level. In addition, the Commission should be extremely cautious with further standardization of emission limit values. Even if the standards set at Member State level become "significantly different", this would not be an argument for centralized European intervention. These "significant differences" can be explained by location-specific circumstances. From a European point of view, the only question should be whether even diverging emission standards can in the end lead to a common environmental quality within the Union.

32. COM(93) 423 final, p 12.
33. COM(93) 423 final, p 21.
34. COM(93) 423 final, p 4.
35. COM(93) 423 final, p 12.
36. COM(93) 423 final, p 28.
37. COM(93) 423 final, p 24.
39. This point is further developed in Van den Bergh, R. Faure, M and Lefevere, J G J, "The subsidiarity principle in European environmental law: an economic analysis", op cit.
V The Permit as the Central Instrument of Integrated Pollution Control

We shall now focus on the provisions concerning standard-setting through permits, which is crucial to the concept of IPPC as laid down in the proposal. With the entry into force of the IPPC proposal the permit is indeed to become the crucial legal instrument for environmental policy. Article 3 provides that Member States shall take the necessary measures to ensure that no new installation is operated without a permit issued in accordance with this Directive.40

The choice of the permit as the most important instrument to be used is not that self-evident. A whole range of possible legal instruments exist that can control the pollution problem, from economic instruments such as taxes to a variety of legal instruments such as liability rules.41 Moreover, public choice theory teaches that permits might generally have the disadvantage that they can give possibilities for capturing by the industry, especially if a large amount of discretion is left with the administrative authority granting the permit. It is indeed questionable why, given the subsidiarity principle, so much weight is put on the permit. In the considerations preceding the Directive, it is merely stated that a system of prior integrated licensing should be established in order to address potential pollution problems before they occur.42 The question, however, arises whether an integrated approach, which we highly support, should necessarily be combined with a permit system. Would it not, given subsidiarity, have been preferable to prescribe an integrated approach towards the pollution problem, but leave freedom to the Member States to choose the legal instruments they consider most appropriate to effectuate this integrated approach. In point 2.7 of the explanatory memorandum, the Commission stated:

"The Directive does not attempt to impose one institutional structure for the whole Community – arrangements which are successful in one country may not be appropriate in another owing to differences, inter alia, in national legal and administrative structures".43

This being so, the question arises why the Commission has put the rather limited emphasis on one legal instrument, the permit.

Although the September 1993 version of the Directive seemed to rely exclusively on the permit as the regulatory administrative instrument, the new June 1995 version now pays attention to other obvious administrative instruments as well. In a new Article 2a, general principles governing the basic environmental obligations of the operator can be found. These are not, however, obligations that are directly enforceable against the operator of a certain plant. The new Article 2a provides that it shall be sufficient for the purpose of compliance with the article that Member States ensure that the competent authorities take account of the general principles set out above when they determine the conditions of a permit. These general principles therefore guide only the standard-setting authorities, not the operator of a plant.

An alternative legal instrument often used in national legal systems is setting standards for certain types of activity or industry through generally binding rules. They were absent in the September 1993 version, but the June 1995 version of the IPPC proposal provides that Member States may prescribe certain requirements for certain categories of installation in generally binding rules instead of including them in individual permit conditions, provided that an integrated approach and an equivalent high level of environmental protection as a whole are ensured. As such, generally applicable rules may have the advantage that they can be set by a technical agency or at a more central level, further away from the political and economic influence in the community where the plant is located. However, for these generally binding rules to be efficient, the procedure should be organised in such a way that it is also transparent, in order to avoid the risk of lobbying. But the question arises whether generally binding rules will play a crucial role for the larger installations to which the IPPC Directive was supposed to apply.

Furthermore, prevention of pollution at source can be achieved by many other legal instruments besides administrative rules like permits. The considerations preceding the Directive seem to suggest that a prior integrated licensing system is necessary to address potential pollution problems before they occur. This goal can, to some extent at least, also be achieved through liability rules,44 notwithstanding their inherent weaknesses. It would therefore have been interesting if the IPPC Proposal had indicated the relationship with the liability system.

Finally and obviously, economic instruments are often proposed by economists as the most efficient devices to prevent environmental pollution. Although at the national level all kinds of environmental levies and charges are introduced and the feasibility of ecological taxation is examined,45 the IPPC proposal limits itself to the permit. One can find reference to economic instruments only in one phrase in the preamble to the Directive, stating that integrated pollution prevention and control "may be supplemented by the use of economic instruments".46 Given the major role that the permit is supposed to play in the pollution control system, it is unclear how the Commission exactly sees this supplementary role of economic instruments.

This rather limited view of the Commission is surprising. In the recent European Community programme of policy

40. This is the June 1995 version; in the September 1993 version it is stated that Member States shall take the necessary measures to ensure that "no installation shall be operated without a permit": no reference was made to this applying only to new installations.
42. COM(93) 423 final, p 30.
43. COM(93) 423 final, p 11.
46. COM(93) 423 final, p 31.
and action in relation to the environment and sustainable development, Towards Sustainability, a lot of attention is given to “broadening the range of instruments”. A first conclusion on the approach of the IPPC proposal seems to be that instead of broadening the range of instruments, the IPPC proposal opts for a limitation of the range of instruments. The second conclusion is that it is very doubtful why, in the light of subsidiarity, given many different approaches in the Member States, the Commission forces all Member States to rely so heavily on the permit system as the main legal instrument to realize environmental policy.

VI Best Available Technology

The concept of Best Available Technology (BAT) is certainly one of the most important aspects of the IPPC proposal. The concept of Best Available Technology Not Entailing Excessive Costs (BATNEEC) has already been adopted in several other EC Directives, such as some of the daughter Directives of Directive 76/464 on the discharge of dangerous substances into the aquatic environment and the more recent Directives 89/369/EEC and 89/429/EEC on the prevention of pollution from new, and the reduction of air pollution from existing, municipal waste incineration plants. The concept of BATNEEC will however be removed from these Directives and replaced by the new concept of BAT, as described in the new Article 2(10) of the June 1995 version of the IPPC proposal.

A BAT as Efficient Standard

From an economic point of view, environmental standards should in principle be based on a weighing of marginal costs and marginal benefits of pollution and pollution reduction. In practice this would mean that the technology to be used would be the one, the marginal costs of which equal the marginal benefits in reduced environmental damage. If the principle of BAT were to allow for such a weighing of costs and benefits it would mean that the economic principles of standard-setting were explicitly recognized in the licensing process.

As we have seen above, earlier Community legislation referred to the notion of BATNEEC. Specifically, the “not entailing excessive costs” seems to refer to the economic marginal cost/marginal benefit test. The IPPC proposal does not however, at first sight, seem to refer to NEEC. Although an explicit reference to the economic test for standard-setting is now missing, one can argue that the marginal cost/marginal benefit test is still at least implicitly present in the current version of the IPPC proposal. The explanatory memorandum to the September 1993 version states that although there is no explicit mention of “not entailing excessive costs”, “the definition of BAT in the IPPC Directive takes cost considerations fully into account, for permitting new and existing installations and for upgrading permits. BAT should be considered at the level of the industrial sector and should weigh the environmental benefit of setting standards based on BAT with the cost (or the benefit) to industry of implementing BAT”.

In the September 1993 version a cost/benefit test can indeed be found in Article 2(10) in the definition of the word “best”. “Best” means “most effective in achieving a high level of protection for the environment as a whole, taking into account the potential benefits and costs which may result from action or lack of action”. The explanatory memorandum of September 1993 explicitly stated that “the definition of ‘best’ reinforces the need to take potential benefits and costs into account in selecting BAT”. The reference to the cost/benefit test in the definition of “best” has however been deleted in the June 1995 version. “Best” now means “most effective in achieving a high general level of protection of the environment as a whole”.

In Article 2(10) of the new June 1995 IPPC proposal “best available techniques” signifies:

“the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where it is not practicable, generally to reduce emissions and the impact on the environment as a whole”.

Reference to some sort of cost-benefit test is now made in the definition of “available”:

“‘available’ techniques means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator.”

Here one can find a clear reference to the fact that costs and benefits should be taken into account when the “availability” of the technique has to be considered.

In sum, the June 1995 version also includes a reference to the cost/benefit test, albeit in the definition of “available” instead of “best”. Obviously the September 1993 version was preferable in the sense that a comparison of costs and benefits does not determine whether the technique is “available”, but whether it is actually the “best”. Also the shifting of the cost benefit test from “best” to “available” has serious consequences for the level on which the contents

47. See OJ 17.5.93 C 138/5.
50. See also, with respect to these principles Ogus, A I, op cit; and Ogus, A I, Regulation, legal form and economic theory, Oxford, Clarendon Press, 1994, pp 161-171.
52. COM(93) 423 final, p 5.
53. COM(93) 423 final, p 14.
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of BAT is to be determined, which will be discussed in the
next paragraph. Although we have argued that there is
certainly a reference to the economic cost/benefit test in
the notion of BAT, the precise content of this concept is still
rather vague. Therefore we believe that this notion of BAT,
with its reference to the cost/benefit test, allows room for an
explicit application of the economics of standard setting.
The economic literature could therefore be helpful in
defining the precise interpretation of BAT.\(^{54}\)

B BAT and Subsidiarity
A second general point that has to be addressed concerns
the relationship between BAT, emission limit values and
quality standards in a world of subsidiarity and therefore
differentiated emission limit values. The IPPC proposal does
not seem clear on that point. As we have seen above, the
proposal starts from the idea that emission limit values
should be set by the Member States.

This corresponds with our economic framework of
harmonized quality standards and differentiated emission
limit values. Therefore it seems logical that emission limit
values should in the first place take into account the
environmental quality that has to be reached. Second, if the
goal to be reached is clear, being a specific environmental
quality (which in our view should be harmonized) BAT can
provide information on the costs and benefits of various
techniques that meet the target quality. However, given
different local circumstances, the Commission agrees that
emission limit values will vary. This is obviously the case not
only for emission limit values, but also for BAT. The
marginal cost/marginal benefit comparison will inevitably
depend on local conditions as well. A technology which can
be “best” in Member State A, might not at all be “best” in
Member State B simply because local environmental
conditions are totally different.

In our view, the IPPC proposal is not clear on the exact
functioning of BAT in its relation to emission limit values.
On the one hand it is stated that both BAT and quality
standards shall determine emission limit values\(^{55}\) and that
emission limit values in a permit should be based on BAT,\(^{56}\)
but on the other hand the proposal seems to accept a
differentiation of emission limit values, but not of BAT.
This conceptual confusion in the proposal becomes clear if
one reads, e.g. the explanatory memorandum preceding the
September 1993 version of the proposal where the impact of
geographical variety is discussed.\(^{57}\) There it is stated that
the Directive “contains a relaxation from the standards of ‘best
available techniques’ in certain areas, where the local
environmental quality is good and where the emissions
would not cause unacceptable environmental effects”.
Apparently the proposal adopts BAT, regardless of regional
differences. From an economic point of view, standard-
setting would of course take into account the local
environmental quality. In that sense adapting an emission
limit value to the local environmental quality (in order to
reach a similar environmental quality in the whole Union) is
in our view not a deviation from the standard of BAT. If
BAT really takes into account marginal costs/marginal
benefits for that particular region, a less costly technology is
obviously BAT. Arguing the opposite would mean that the
standard of BAT should be harmonized, which would
inevitably lead to inefficiencies precisely because environ-

mental quality, and therefore the costs of pollution
abatement, differ. This confusion also becomes apparent
where the Commission argues that the Directive provides
for a comprehensive exchange of information and the
application of BAT to new installations throughout the
Community.\(^{58}\) Again this apparently starts from the idea
that BAT is a universal concept that provides for a similar
standard irrespective of local conditions. This also becomes
clear if one reads the comment to the notion of “available”.
There it is stated that this refers to techniques which are
available anywhere in the world.\(^{59}\)

If one accepts that emission limit values should be
derifferentiated, in accordance with our interpretation of the
subsidiarity principle, the same should of course be true for
the standard of BAT which will precisely guide these
emission limit values. As we have seen above, the
cost-benefit analysis in BAT has been moved from “best” in the
November 1993 version to “available” in the June 1995
version. This move only reinforces the view that the
Community is moving towards a European interpretation of
BAT, rather than interpreting the principle on a
differentiated case by case basis. After all, within a
European market the availability of technology hardly
differs from region to region. The definition of “available”
even specifically states that availability is independent of
“whether or not the techniques are used or produced inside
the Member State in question, as long as they are reasonably
accessible to the operator”\(^{60}\). If one wishes to allow
differentiation in the use of BAT, then a local cost-benefit
analysis of whether the technology is in a given situation
“best” should be made.

C BAT and Technology Requirements
Wisely, it was decided that the proposal should not prescribe
the type of technology the operator has to use. The
explanatory memorandum states that “the operator may
use whatever techniques and other technology he likes, as
long as they meet the prescribed emission limit values.”
Under IPPC the role of the competent authority is “not to
prescribe the technology and other techniques to be used in
the operation of an installation, whose choice is best left to
the individual operator, thereby keeping operating flexibility
with the industrialist”.\(^{60}\) The current version of Article 8(2a)
therefore stipulates that the emission limit values shall be
based on the best available techniques “without prescribing
the use of any technique or specific technology”.

In the economics of standard-setting it has been argued
that indeed so-called specification standards, forcing the
operator to employ certain production methods, may have
the disadvantage that no incentives for innovation are given;
in addition, these specification standards may have anti-

\(^{54}\) See also in this respect, Faure, M and Ruegg, M, \textit{op cit}, p 52.
\(^{55}\) COM(93) 423 final, p 5.
\(^{56}\) Article 8(2a) of the June 1995 version.
\(^{57}\) COM(93) 423 final, p 22.
\(^{58}\) COM(93) 423 final, p 23.
\(^{59}\) COM(93) 423 final, p 14.
\(^{60}\) COM(93) 423 final, p 22.
competitive effects where a rival firm uses alternative processes which reach similar outcomes at no higher costs.\textsuperscript{61}

D. The Enforceability of BAT

Finally, the enforceability of BAT as a general principle of environmental policy has to be addressed. The notion that industry should apply best available technology to reduce environmental harm is extremely useful. Certainly if this is interpreted as a marginal cost/marginal benefit test it could lead to an efficient outcome. However, the question still arises whether the duty to adopt BAT applies directly to the operator or in principle merely to the permit-granting authority. The latter seems to be the case. The way BAT is formulated in the IPPC proposal, it is seen as a duty of the administrative authorities to set emission limit values in the permit conditions based on BAT. BAT comes into play not only when permit conditions for new or existing installations are set, but also when permit conditions need to be reconsidered or updated. Member States are, according to Article 10, forced to ensure that the competent authority follows or is informed of developments in best available techniques. New techniques might lead to more stringent emission limit values, particularly if these new techniques can achieve a higher reduction of environmental damage at low cost compared with existing technology. Therefore Article 12 stipulates that a reconsideration of permit conditions has to take place in any event where substantial changes in the best available techniques make it possible to reduce emissions significantly without imposing excessive costs. But again, this duty to adapt behaviour according to technological developments merely imposes a duty on the administrative authorities to change permit conditions. This is also made clear in the recitals to the September 1993 version:\textsuperscript{62}

"whereas, because best available techniques will change with time, particularly in the light of technical advances, the competent authority must follow or be informed of such developments, in order to maintain a high level of protection of the environment as a whole".\textsuperscript{63}

This approach, formulating BAT merely as a duty for administrative authorities when setting permit conditions, poses serious questions as to the responsibility of the operator. Why not simply state that if "substantial changes", as mentioned in Article 12(2), in the best available techniques have occurred that make it possible significantly to reduce emissions without imposing excessive costs, operators are in principle forced to apply this new technology "within reasonable limits". The current formulation relies solely on the action of administrative authorities to adapt permit conditions. It gives the impression that the operator merely has to follow his permit conditions, even though the emission limit values in the permit might have been based on outdated technology. From an economic point of view an operator should indeed adapt its behaviour to changes in technology. Whenever "substantial changes in the best available techniques make it possible to reduce emissions significantly without imposing excessive costs" it should be the responsibility of the operator to apply these efficient technologies immediately instead of waiting for a change in its permit conditions. A legal instrument that could achieve this goal would feature either a general duty for the operator to apply BAT or a liability in tort as a "stop gap" even if the permit conditions were followed.\textsuperscript{64} Moreover, a right of standing might be granted to environmental groups directly to enforce this duty of operators to follow BAT. This would also have the advantage that the question whether or not BAT has been followed by an operator will be addressed not only by an administrative agency, but also by a judge, eg in a liability suit. This might pose an important counterweight against lobbying by the industry in setting BAT. One now reads that BAT will be based on whatever "is affordable for an average operator in the industrial sector concerned".\textsuperscript{65} Industry might have perverse incentives as far as providing information on BAT is concerned. Therefore private action rights that force an operator to follow BAT (in our interpretation of being the efficient standard) might give incentives for efficient behaviour even though emission limit values have been set inefficiently as a result of lobbying.\textsuperscript{66}

The IPPC proposal also missed the opportunity to formulate BAT as a general principle of environmental policy. The June 1995 version provides for an Article 2a that misleadingly states that these would be "general principles governing the basic obligations of the operator". One of these principles is that all the appropriate preventive measures against pollution should be taken, in particular through application of the best available techniques. But again this is, contrary to what the title misleadingly suggests, not formulated as an obligation of the operator. Again it is stated that the Member States shall take the necessary measures to provide that the competent authorities ensure that installations are operated in such a way that the principles are respected. Once more it is formulated as a duty for the administrative authorities, not for the operator. Even more tragic is the final sentence of this new Article 2a that shows the real character of this provision:

"It shall be sufficient for the purpose of compliance with this article, if Member States ensure that the competent authorities take account of the general principle set out when they determine the conditions of the permit". Once more these general principles bind only the competent authorities when setting the permit conditions, but do not impose a direct obligation for the operator of a plant.

62. Although Article 12 has changed considerably in the June 1995 version.
63. COM(93) 423 final, p 31.
65. COM(93) 423 final, p 5.
66. This has been defended also by Faure, M and Ruegg, M. \textit{op cit}, pp 56-57.
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VII Concluding Remarks

From an economic point of view there is little criticism to be formulated of the principle of integrated pollution control itself. On the contrary, an integrated approach is a better guarantee for an internalization of the externality caused by pollution. In addition, an integrated approach will allow for a more careful marginal cost/marginal benefit analysis when standards are set. Also, the reference to costs and benefits in the definition of BAT allows for an economic appraisal of standards. Using economic methodology to approach the IPPC Directive also had the advantage that we could show some of the benefits of this multidisciplinary approach towards the pollution problem.

The concept of integration itself is extremely useful, but the way it has been worked out in the proposal leaves too much room for discussion. First, the proposal should make the relationship between BAT, emission limit values and quality standards more clear. More specifically, it should clearly state at what level decisions concerning these standards are taken. We would argue that quality standards, that will basically influence the other two, will first have to be set at the European level. Although preferences of citizens might differ, which would be an economic argument in favour of a differentiation of quality standards. One could argue that Europe should not only be a European Economic Community, but also a Europe for citizens. Therefore a similar environmental quality throughout the Union should be achieved. But given different environmental conditions, emission standards should in principle be set at the national level and no further attempt to harmonize them should be made. References to a further harmonization of emission standards in the future should therefore be deleted from this IPPC proposal. Given differences in environmental quality, the Best Available Technology to realize a certain quality will inevitably also differ. This should be accepted by the Commission and therefore no attempt to harmonize BAT should be made either. In this respect the Commission should really respect the subsidiarity principle and abstain from a harmonization of BAT and emission limit values.

Second, the IPPC proposal should not rely too heavily on permits as the sole regulatory instrument for environmental policy. An integrated approach can be achieved through other administrative rules as well but also via economic instruments, which seems to be totally neglected. Instead of limiting the range of instruments, the Commission should indeed strive for a broadening of the range of instruments. Again, one can question whether the Commission should force Member States to use a permit system, given subsidiarity.

Third, the notion of BAT should be taken seriously. Hence, it should be formulated as a obligation for the operator and not merely as a duty of the permit granting authority to take BAT into account when standards are set. When BAT is formulated as a general duty for operators it can also play a role outside of the administrative permit system.

Case Report: C-128/94: Laying Hens

European Court of Justice:
Case Reports

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Case C-128/94: Has Hönig and Stadt Stockach (Directive 88/166 – Minimum Standards for the Protection of Laying Hens Kept in Battery Cages), 19 October 1995 (not yet reported)

Factual and Procedural Background


Paragraph 2(2) of the German regulation provides that with effect from 1 January 1993 cages used for laying hens with an average weight over two kg must have an area which may be used without restriction of at least 550 cm². Article 3(1)(a) of the Annex to the Directive provides that Member States are to ensure that from 1 January 1988 laying hens have at least 450 cm² of cage area. Mr Hönig, a farmer, raises laying hens in battery cages. Before the national court he claimed that the German regulation was incompatible with Community law because it required a minimum cage area greater than that prescribed by the Directive. Notwithstanding the notice he received from the administrative authorities of the Land Baden Württemberg (State Veterinary Office, Radolfzell) to the effect that he would be prosecuted for failing to comply with the Regulation on laying hens, Mr