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**THE PRACTICAL INTERPRETATION AND APPLICATION  
OF THE POLLUTER PAYS PRINCIPLE**

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# THE PRACTICAL INTERPRETATION AND APPLICATION OF THE POLLUTER PAYS PRINCIPLE

- Paper to Support a Presentation by Michael Betts, GTZ Short-Term Consultant

## 1. Introduction

Given the limited extent to which economic incentives are used in pollution control policies throughout the world, it is interesting to note that in 1985 the OECD member countries all adopted an environmental declaration which included a reaffirmation of the 'Polluter Pays Principle' (PPP). Countries agreed to seek to introduce more flexible, efficient and cost-effective pollution control measures through a consistent application of the PPP and related economic instruments.

The purpose of this paper is to review briefly the theory behind two interpretations of the PPP, to comment on the literal implications of these for environmental policy, and to consider the extent to which the PPP is applied in practice.

## 2. Theoretical Background

The PPP is an established, though somewhat ambiguous, principle of environmental policy, dating back to OECD recommendations of 1972 and 1974.

As defined by the OECD, the principle means that the polluter should bear the costs of measures necessary to reduce pollution, resulting from his activities, to an 'acceptable state'.

The original 1972 Guiding Principles allow for exceptions, particularly for the transitional period in which the PPP is not yet fully operational. The Recommendation on the implementation of the PPP (adopted in 1974) specifies that, as a general rule, Member countries should not assist the polluters in bearing the cost of pollution control (for example, by way of subsidies or tax concessions).

The 1972 **Standard** PPP interpretation means that the polluter should bear the expenses of carrying out the pollution prevention and control measures decided

by public authorities to ensure that the environment is maintained in an 'acceptable state'. Note that this makes no reference to whether polluters should perhaps also pay for the pollution damage that their effluents or emissions still cause when the environment has reached an 'acceptable state'.

The 1974 **Extended** PPP interpretation, however, means that if a country decides that, over and above the costs of controlling pollution, the polluters should also compensate the polluted for the damage which would result from the residual pollution, then this measure is not contrary to the PPP, but the PPP does not make this additional measure obligatory.

The concept of an 'acceptable state' of the environment, and the two different interpretations of the PPP, are at the heart of continuing theoretical debate about the principle. These questions are reviewed later in this section.

Other ambiguities associated with the principle relate to the use of tax concessions and subsidies to encourage and assist polluters to clean up over transitional periods of time.

There is no agreement on the length of the transitional period or on whether subsidies are, or are not, consistent with the PPP. Both in France and in Germany, for example, subsidies are considered compatible with the PPP as long as, in principle, the polluter remain fully responsible for his pollution and if subsidies would aid the implementation of the PPP or enable stricter environmental controls.

The PPP is basically a non-subsidy principle. If economic instruments have to be assessed against this criterion, all instruments which do not result in having the polluter bear the full cost of pollution control measures would be inconsistent with the PPP. The greater the cost share borne by the polluter, the closer would be the adherence to the PPP.

There is, however, significant variation between theory and practice, as is considered in the description of PPP practice in OECD countries set out in section 3 below.

In the remainder of this section the question of who pays the costs associated with pollution and the concept of 'optimal' (or 'acceptable') pollution levels are considered and related to the two different interpretations of the PPP.

An understanding of the concept of 'optimal pollution' as defined by economists is critical to an understanding of the two fundamentally different interpretations of the PPP.

Economists define the 'optimal' level of pollution as the effluent (or emission) load that will minimise the sum of the private cost of effluent control by the operator and the total social cost of effluent damage to the environment. That is, it is the level of pollution associated with a productive process which minimises the costs imposed in total on society, being both those incurred by the operator in reducing pollution to the optimal level and those incurred by society as a result of damage associated with the residual load.

Thus, the economic concept of optimal pollution recognises that there is some level of pollution cost which it is acceptable for society to bear in return for the goods and services generated by the productive process giving rise to the effluent stream.

In practice, it is not possible to define an optimal pollution level, and the term is rarely used in pollution control policy, where the terms 'acceptable' pollution or an 'acceptable' state of the environment are preferred. But 'acceptability' implies an awareness that pollution has both environmental costs and commercial and other benefits, and that policy should be aimed at reaching a sensible balance between these costs and benefits. It is clear therefore that the practical concept of 'acceptability' is analogous to the economists more theoretical concept of 'optimality'.

The principal question raised by the two interpretations of the PPP is that, if it is economically correct for the polluter to pay the pollution costs associated with his output, and for the price of his output to reflect these costs, should 'pollution costs' include the cost of residual environmental damage caused by acceptable levels of effluent or emissions?

There is no correct economic answer to this. The answer depends entirely upon the polluter's pollution rights, by which is meant the *de facto* or 'economic' rights (generally referred to as property rights) of a firm or individual, which regard anyone who is allowed in practice to do something without paying for it as having an economic right to do so. Pezzey (1990) provides three examples of this:

- a) if the firm is considered to have the right to discharge any effluent it likes then all the pollution control costs needed to reach the social optimum should be paid by the state.
- b) if the firm is considered to have the right to discharge the optimal (acceptable) effluent then the control costs, but no extra charges on the residual pollution, should be paid by the polluting firm; and
- c) if the firm is considered to have no pollution rights at all, it should pay both the control costs and compensation for pollution damage.

Referring back to the two interpretations for the PPP given earlier, these can be expressed as follows:

- o the **Standard PPP** requires that in net terms polluters pay the cost of optimal effluent control, but not for the pollution damage done by the remaining 'acceptable' effluent;
- o The **Extended PPP** requires that in net terms polluters pay the cost of optimal effluent control **and** for pollution damage caused by the remaining 'acceptable' effluent.

It can be seen that these definitions reflect exactly examples (b) and (c) of pollution rights given above.

This difference between the two interpretations of the PPP also raises a number of more practical difficulties which render it impossible to rigidly apply the distinction in practice. For example, the differences between control costs, prevention costs, clean-up costs and damage costs are often far from obvious. Given these difficulties, there is little prospect of environmental policy being formulated on the basis of either one or the other of these interpretations or to expect countries to adhere rigidly to one or the other.

Obviously, since the principle as now interpreted allows for both, countries will choose that combination of approaches which best meets their environmental and other policy objectives.

What can be said, however, is that most industrialised countries apply (either implicitly or explicitly) the Standard PPP rather than the Extended PPP. This

is based on the observation that few practical means of charging for pollution damage exist. Charges are usually linked with schemes that return the charge revenue as subsidies to polluters for improved pollution control, rather than as compensation for those affected by environmental damage (Pezzey, 1990).

Pezzey has also noted that there are no convincing reasons for expecting the current position to change very much. Industry can generally be expected to oppose any general application of the Extended PPP such as incentive pollution charges. This outcome is currently borne out in practice, as the following examples illustrate.

### **3. Practice in OECD Countries**

In a statement in 1984, the Federal German Government made clear that those who cause environmental stress and pollution are responsible (in a moral, legal and economic sense) for the repair of the resulting damage and/or for the reduction of the environmental stress. This affirmation of the PPP is not felt to rule out subsidies, as long as this fundamental responsibility remains.

Subsidies are seen as necessary to ensure that industry is able to meet the costs of increasingly strict controls in cases where acute environmental needs would not otherwise be alleviated. Normally, subsidies take the form of financial aids for environmental investments which are seen by the German authorities as PPP-compatible, since, apart from the initial assistance, the polluter remains the bearer of the costs of anti-pollution measures.

In France, the PPP is seen as the rationale for achieving a long-term objective of internalising pollution-related costs. The redistribution function is therefore stressed more than the incentive function, which has never been officially linked with the PPP in France. Charges are used as the instrument for implementing the PPP, and these would need to be quadrupled if they were to have any significant incentive effect. By means of financial aids paid by the agencies responsible for charge collection this 'incentive' gap has been bridged, although it is claimed that these aids have tended to serve the more important purpose of appeasing powerful economic sectors.

It follows that, in France, the PPP is seen as requiring a complementary principle: that of 'money recycling' in circular schemes: polluters pay for (and

into) funds necessary to sustain a resource, develop new resource-saving through anti-pollution technology, etc. In 1981, the OECD accepted the French self-financing management schemes as consistent with the PPP because the subsidies under the scheme are financed by funds raised from polluters.

Self-financing schemes also operate in the Netherlands, especially in the noise and water sectors (again accepted by the OECD in 1981). The Dutch government has interpreted the PPP as a principle that applies at a more abstract level, by leading to the so-called 'principle of causation'.

This enables government to regard polluters in general as responsible for pollution and allows government to levy charges in order to finance environmental management activities decided by public authorities. A direct link between the individual polluter's contribution to particular types of pollution and the costs of management with respect to the type of pollution is not required. In line with this, a number of specific charges (on noise, air pollution etc) are now being replaced by one charge on fuel consumption, the revenues of which form a substantial source of income for the Ministry of Public Housing, Physical Planning and Environmental Management.

The PPP has therefore developed into a rather abstract rationale for raising the funds necessary for meeting (in part) the costs of public environmental management.

On the basis of its review, the OECD reached the following conclusions regarding Member countries' interpretations of the PPP:

- o Many European countries have a substantial practice of applying financial assistance as instruments in realising their environmental policy objectives. This has led to a range of interpretations of the principle and the way it is used in practice. In some cases, forms of financial assistance are regarded as either PPP-compatible or as an accepted exception; in others, the PPP is presented as a long-term objective; again in others the principle is reinterpreted at much more abstract levels.
- o In deciding on their instruments for environmental policies, the PPP-compatibility (*sensu stricto*) of the instruments concerned is not an issue of overriding concern in most countries.



- o The acceptability, effectiveness and fund-raising potential of instruments are more important than their properties in terms of efficiency and equity. The PPP may provide a moral and economic rationale for adopting a variety of 'new' policy instruments, but in reality it appears mainly to perform a 'finance finding and raising function'.

If the incentive function of charges is mentioned at all in policy documents, the revenue motive clearly, and by far, takes precedence over the control motive.