

Pre-submission Draft

Cost Recovery for Water Services and the Polluter Pays Principle

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Abstract

This paper considers the general rationale for cost recovery pricing in respect of water services and examines the specific provision that is made for this, and related obligations, in Article 9 of the European Community Water Framework Directive. Despite guidance drawn from the Common Implementation Strategy, uncertainties remain, particularly with regard to the need to recover environmental and resource costs and how account should be taken of the polluter pays principle. Given the intractable character of these difficulties, it is suggested that the some of the practical outcomes and environmental benefits of implementation are speculative.

Keywords

European Community Water Framework Directive; Cost Recovery for Water Services; Environmental and Resource Costs; Polluter Pays Principle.

1. Purpose of Paper

The Water Framework Directive¹ must be placed somewhere near the 'high water mark' of European Community environmental legislation in respect of its many innovative features and general ambitiousness. As commentators have observed, 'it is the most significant piece of European environmental legislation ever introduced'.² Largely, the elevated status of the Directive arises from the holistic river basin district approach to the management of waters and aquatic ecosystems that it adopts, and the exacting sequence of administrative actions that are required to achieve its environmental objectives by stated deadlines. Most prominent amongst these is the objective of achieving good chemical and ecological status for all relevant waters by 2015.

Although the quest for realisation of good water status may be widely seen as the focal point of the WFD, the mechanisms for achieving this involve a distinctive combination of legal and economic approaches towards water management. The programmes of measures that are needed to secure

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¹ Directive 2000/60/EC establishing a framework for Community action in the field of water policy, OJ L327/1 22 December 2000, hereafter 'WFD'.

² *Le Quesne and Green* [6].

realisation of good status envisage both traditional kinds of legal prohibition and restriction of environmentally damaging activities alongside the use of economic approaches and instruments. For the present discussion, emphasis is placed upon the role of cost recovery in respect of water services as an element in the overall strategy of the WFD and the wider implications of this for the Community's environment policy.

Hence, the main purpose of this paper is to provide an exposition of the background, content and interpretation of Article 9 WFD. Article 9 is primarily concerned with obligations in respect of cost recovery pricing for water services, incentives for efficient water use in pricing policies and adequate contributions by water users to the costs of water services.³ Following introductory discussion of the general rationale for cost recovery in relation to water services, an analysis is given of the provision for this in the Directive and discussion is provided of the uncertainties that surround its interpretation and implementation.

Given the relatively terse statement of the water services cost recovery obligations in Article 9 WFD, the practicalities of implementation will be greatly influenced by guidance that has been formulated at Community level. Here again, the WFD is set apart from previous Community environmental legislation in the emphasis that is placed upon the role of guidance in securing coherent and harmonised implementation across the Member States. The Common Implementation Strategy for the WFD has resulted in the publication of a range of guidance documents indicating a common approach that member states should adopt towards various technical and practical aspects of interpretation and implementation of the Directive. Most pertinently for the present discussion, specific guidance has been provided on the implementation of the water services cost recovery obligations. Whilst the guidance documents are without legal authority, they are of considerable practical importance for those entrusted with the task of implementing the cost recovery obligations.

Despite valuable insights that may be drawn from the guidance documents, several aspects of the water services cost recovery obligations remain unclear. Particular difficulties are seen to arise in the interpretation and application of the obligation to recover 'environmental and resource costs' of water services and in the need to take account of the polluter pays principle.⁴ Because the PPP is undefined, and capable of being interpreted in markedly different ways, there are major uncertainties as to how it should be 'taken into account' in applying the water services cost recovery obligations. Given the intractable character of the difficulties, it is suggested that some of the practical outcomes and environmental benefits of implementation of Article 9 WFD are speculative.

2. The Rationale for Cost Recovery

³ Recognising that Article 9 WFD provides for three distinct substantive obligations, these are collectively referred to in the following discussion as 'water service cost recovery obligations'. Key academic literature on Article 9 WFD includes *Unnerstall* [9] and *Assimacopoulos* [1]

⁴ Hereafter, 'PPP'.

A natural starting point for the discussion is to consider the fundamental rationale for applying an environmental cost recovery approach in relation to the services of supplying water and treating waste water. *Why* should the price of water services seek to incorporate not only their financial cost, but also their environmental cost? An instinctive feeling is that the price of *any* product should reflect both the costs of its production and the adverse impacts of the production process upon the environment. Producers should not be allowed to cause environmental damage with impunity and, as a matter of fairness, the cost of that damage should be met by either the producer or the eventual consumer of the product. However, as the first recital to the WFD reminds us, 'water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such'.⁵ If so, do the same considerations apply? *Why* should the price of water be determined by reference to the cost of actions that *fail* to protect that heritage and how should the price of a 'heritage' (as opposed to any other kind of 'product') be determined?

In addressing these questions, some useful insights may be gained from the Commission Communication on *Pricing Policies for Enhancing the Sustainability of Water Resources*,⁶ which preceded the adoption of the WFD. The purpose of the Communication was to present the justification for use of economic and environmental principles in water pricing policies, in furtherance of the need for more sustainable use of water resources, and to offer guidelines to policymakers for the development of such policies.

In the view of the Commission, there was evidence of alarming misuse of water resources in the Community, both in respect of excessive abstraction and water pollution. Quantitatively, serious concerns surrounded over-abstraction, resulting in loss of wetlands and salinisation of aquifers, and ecological degradation due to diminished river flows. Qualitatively, there was evidence of heavily polluted rivers and increases in diffuse pollution, particularly in nitrate contamination, posing a hazard to health where water was used for supply purposes. These concerns were seen to be consequence of the failure of water pricing policies to give the 'right signal' to water users or to encourage the sustainable use of water.

The general lack of integration between economic and environmental objectives in water pricing was seen to be evident across the Community, with marked differences both within national approaches and across different economic sectors. For example, in Southern European countries, suffering the greatest water scarcity problems, the agricultural sector was identified as the largest and least efficient water consumer, yet agriculture paid much lower water prices than other sectors as a result of direct subsidies and cross-subsidies.

⁵ Recital 1 WFD.

⁶ European Commission, *Communication on Pricing Policies for Enhancing the Sustainability of Water Resources* COM(2000) 477 and see *Water Pricing Policies in theory and practice* – SEC(2000) 1238.

In the opinion of the Commission, the appropriate response towards these concerns was to move water pricing policies towards greater sustainability, by requiring each user to pay the full costs resulting from water use, both in respect of its quantitative and qualitative impacts. Efficient water pricing policies have a demonstrable impact on water demand, sending the right price signal to water users and providing a clear incentive for users to improve efficiency of water use and to reduce water pollution. Nonetheless, it was recognised that the incentive effect of cost recovery pricing was greatly dependent upon the price elasticity of water demand and pollution damage costs. Creating a desired level of incentive would require a systematic assessment of the impact of pricing upon the main economic sectors under different hydrological and socio-economic conditions.

As well as creating an incentive for more efficient use of water, cost recovery might also be seen as a mechanism for producing revenue to rectify the cost of environmental damage arising from water use. If that is what was envisaged, there would need to be a mechanism to ensure that payments made in respect of an adverse environmental impact should actually be used to rectify that impact and not used for other purposes. The Commission did not address the hypothecation aspect of cost recovery in any detail, but acknowledged that 'there is a need to ensure that the financial revenue from the recovery of environmental and resource costs is used efficiently in the case of earmarking'. Notably, no explicit provision for the allocation of recovered water service costs is made in the WFD.

More specifically, the Commission proposed that cost recovery water pricing policies would need to reflect three different kinds of cost: *financial costs* of providing water services; *environmental costs* (of damage to water environment); and *resource costs* (of foregone opportunities, where water used for one purpose is unavailable for a more beneficial use). Assessment of each of these gives rise to difficulties, both in respect of information availability and methodology. With regard to financial costs, accounting rules in different member states give rise to differing ways of assessing water service costs and a common approach is needed to facilitate comparisons. The assessment of environmental and resource costs (and benefits) was seen to represent a particular challenge. Existing methodologies for the monetary valuation of environmental and resource costs, and more particularly ecology-related environmental costs, were not seen as sufficiently robust and in need of further development. Also, there were recognised to be potential difficulties of comparability in respect of the levels at which the different kinds of cost are assessed. Financial costs are most readily assessed at the level of water service providers, whereas environmental and resource costs are better assessed through impacts which occur at a river basin level. Notably, these areas are not co-extensive.

Alongside the potential implementation challenges of establishing cost recovery pricing for water services, it was also seen to raise sensitive social and economic issues. Stringent application of cost recovery for water services would be likely to affect their affordability, particularly for low-income groups and rural communities. The Commission was appreciative of these

sensitivities, but took the view that social concerns should be addressed through social measures, rather than water prices. It was suggested that initiatives such as 'rising block pricing' policies might combine affordability with economic efficiency. Nonetheless, ex-ante and ex-post assessment of both the social welfare effects and impacts on household water demand of such pricing policies were seen as necessary to ensure that both social and environmental objectives are met.

The Commission also recognised the limitations of cost recovery water pricing in emphasising that cost recovery is not a 'pricing alone' policy, but needs to operate in conjunction with supplementary measures. These might include, promotion of water saving devices and practices, reduction of water leakage in the production-supply-distribution systems, or education and public information campaigns. Integration would also be needed between cost recovery pricing and related measures to ensure environmental, economic and social objectives are met cost effectively. The proposed WFD (as it then was) was seen as offering a framework for this to be done, through the preparation of the river basin management plans, but the consistency and coherence of other policies also needed to be addressed. Hence, other sector, structure and cohesion policies needed to be designed and implemented so as to ensure compatibility with sustainable water pricing policies. In particular, reconciling water policy and agriculture water use was seen to be a key priority for the Common Agriculture Policy.

Despite the potentially problematic issues that were acknowledged in the Commission Communication, the overall commitment to cost recovery pricing as a means of enhancing the sustainability of water use was emphatic. The general legitimacy of using economic instruments to address environmental concerns has been internationally affirmed by the 1992 Rio Declaration on Environment and Development. Principle 16 of this states that

National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution with due regard to the public interest and without distorting trade and investment.

At European Community level, the EC Treaty incorporates the polluter pays principle as a foundation of the Community's environment policy.⁷ Whilst recognising that only limited progress had been made in the actual application of economic instruments so far, the Commission was firmly of the view that introducing cost recovery water pricing, under the proposed WFD, would be an appropriate application of the polluter pays principle. This view prevailed and cost recovery water pricing is now provided for in Article 9 of the WFD.

3. Economic Approaches to Water Management in the WFD

Cost recovery pricing for water services needs to be placed in the context of a Directive that is remarkable for the innovative use that it makes of economic approaches to environmental management. Amongst the many novel aspects

⁷ Article 174(2) EC Treaty, discussed below.

of the WFD is the groundbreaking use that it makes of economic approaches towards water management. Recital 38 notes, first, the appropriateness of economic instruments in programmes of measures, directed at realising the environmental objectives of the WFD; second, the need for cost recovery in relation to water services, in accordance with the polluter pays principle; and, third, the need for an economic analysis of water services as a precursor to implementing cost recovery.

Article 5(1) WFD requires member states, amongst other things, to conduct an economic analysis of water use for each river basin district, and for each portion of an international river basin district, within their territory. The initial economic analysis, which was required by 2004, was to be undertaken in accordance with technical specifications set out in Annex III to the WFD. Annex III makes it apparent that the purposes of the economic analysis are twofold. The analysis should contain: first, sufficiently detailed information to make relevant calculations and estimates of the volumes, costs and prices associated with water services and information about investments for the purpose of implementing cost recovery obligations (under Article 9); and, second, information needed to make judgements about the most cost effective programme of measures to be adopted (under Article 11).

Articles 9 and 11 WFD are closely linked. The ‘basic measures’, as the minimum requirements needed to secure the environmental objectives (under Article 4) are to include ‘measures deemed appropriate for the purposes of Article 9’. That is to say that water service cost recovery is an integral part of what is required by way of administrative actions to achieve the environmental objectives of the WFD. Whilst recognising the broader implications, attention here needs to be focused more specifically upon the meaning and implications of the cost recovery obligations.

4. The Content of Article 9

Article 9 WFD, on cost recovery for water services, is a deceptively brief provision which gives rise to issues and complexities that are as profound and far reaching as anything found elsewhere in the WFD. In summary, its content may usefully be divided into five key elements:

1. Recovery of the costs of water services;
2. Ensuring incentives in water pricing;
3. Ensuring adequate contributions by water users;
4. Having regard to social, environmental and economic effects; and
5. Reporting on implementation.

4.1. Recovery of the costs of water services;

Article 9(1) provides as follows.

Member States shall take account of the principle of recovery of the costs of water services, including environmental and resource costs, having regard to the economic analysis conducted according to Annex III, and in accordance in particular with the polluter pays principle.

In contrast to the later provision for incentives in water pricing, this paragraph takes effect from 2003, the date when the WFD should have been transposed into national law. However, given that the economic analysis was not required until 2004, it may be seen as having a progressive but continuing effect. As more detailed and specific information becomes available the need to 'have regard' to the specified matters becomes more substantial and demanding.

Significantly, however cost recovery is formulated as a relatively weak obligation upon member states. The requirement, to 'have regard to' the specified matters indicates that a high level of national discretion is allowed, with a consequent difficulty in showing a contravention of this requirement. Nonetheless, the progressive and continuing character of the obligation may be significant in the interpretation of other parts of the Article and the WFD more generally.

On the meaning of 'water services', Article 2(38) provides the following definition.

'Water services' means all services which provide, for households, public institutions or any economic activity:

- (a) abstraction, impoundment, storage, treatment and distribution of surface water or groundwater,
- (b) waste-water collection and treatment facilities which subsequently discharge into surface water.

Hence, adequate recovery of 'water service' costs means recovery of those costs that are incurred in the wide range of activities involved in the provision of water supplies and the treatment of wastewater. This seems to encompass the recovery of costs for everything done by a body entrusted with water utility responsibilities, from the point where raw water is directed from the natural water environment to the point where treated wastewater is returned to that environment.

4.2. Ensuring incentives in water pricing

The second element in Article 9(1) is formulated as a more substantial kind of legal obligation, the achievement of which is stated more categorically.

Member States shall ensure by 2010

- that water-pricing policies provide adequate incentives for users to use water resources efficiently, and thereby contribute to the environmental objectives of this Directive . . .

The need to 'ensure' adequate incentives in water pricing will require particular measures to be taken to achieve this, subject to the discretion to have regard to the qualifications set out later in the Article, discussed below. Recalling the previous observations of the Commission, the difference between cost recovery in water pricing and the need for adequate incentives

for efficient use should be noted. Critically, what constitutes an 'adequate incentive' will depend upon considerations of price elasticity and the sensitivity of different users to different levels of pricing, matters which the Commission recognised would require systematic assessment of the impacts of different levels of pricing.

On the meaning of 'water use', Article 2(39) provides the following definition.

'Water use' means water services together with any other activity identified under Article 5 and Annex II having a significant impact on the status of water.

This concept applies for the purposes of Article 1 and of the economic analysis carried out according to Article 5 and Annex III, point (b).

From this definition, it is to be noted that 'water use' is a wider concept than 'water service'. 'Water uses' encompass the provision of water services, but may also extend to any other kind of activity that significantly impacts upon the status of waters within the WFD. Potentially, the range of possible 'water uses' is open-ended, but the definition limits its possible breadth by making reference to activities that have been identified under the review of the pressures and impacts of human activity.

Article 5, amongst other things, requires a review of the impact of human activity on the status of surface waters and groundwater, and this review must be undertaken in accordance with technical specifications set out in Annex II. Annex II⁸ requires an identification and review of all significant anthropogenic pressures upon surface waters and groundwaters. For this purpose, member states are required to gather information on the type and magnitude of significant anthropogenic pressures within each river basin district. For surface waters, this involves identification and assessment of impact of significant point source and diffuse source pollution (particularly, where these are provided for under other Directives), abstraction, flow regulation, morphological alteration and other anthropogenic impacts, extending to land use patterns. For groundwaters, a range of quantitative and qualitative aspects are to be reviewed, particularly where groundwater is considered to be at risk of failing to meet the environmental objectives of the WFD. In part, the purpose of these assessments is to inform the process of establishing an appropriate programme of measures for each river basin district. Equally, the assessments are significant for the purpose of ascertaining the contribution that significant 'water uses' make to the cost of provision of water services. In short, if an activity is identified as imposing a significant anthropogenic pressure upon waters, it falls within the scope of a 'water use' for water service cost recovery purposes.

4.3. Ensuring adequate contributions by water users

The third element under Article 9(1) is provided for as follows.

Member States shall ensure by 2010

⁸ Particularly, paras. 1.4 to 1.5 and 2.3 to 2.5.

- an adequate contribution of the different water uses, disaggregated into at least industry, households and agriculture, to the recovery of the costs of water services, based on the economic analysis conducted according to Annex III and taking account of the polluter pays principle.

Again, this provision is concerned with 'water uses', in the wide sense that this has been indicated above, and requires those making such uses to contribute to the costs that they impose upon water services. Significantly, it extends beyond situations where payments are made for water services. Hence, where an activity gives rise to an increased cost to a water service provider, there is an obligation to ensure that those engaged in the activity make a corresponding contribution to meet that increased cost. A degree of averaging is envisaged in ensuring adequate contributions of this kind, in that recovery is to be from at least the sectors of activity that are identified, industry, households and agriculture. Nonetheless, the obligation envisages that the respective contributions of these three sectors to the increased water service costs will be ascertained and those engaged in the sectors will, collectively, be required to meet their respective shares of the costs.

4.4. Social, Environmental and Economic Effects.

The requirements for cost recovery, incentive pricing and adequate contributions set out in Article 9(1) of the WFD are not unqualified. The requirements are subject a widely formulated statement that, in ensuring these requirements are met by 2010,

Member States may have regard to the social, environmental and economic effects of the recovery as well as the geographic and climatic conditions of the region or regions affected.

The need to have regard to social, environmental and economic effects is admirably consonant with the imperative of sustainable development. However, the facility that this offers for member states to subsidise water charges for vulnerable groups on grounds of affordability remains to be tested. Given the comments in the Commission's Communication, the reduction of water charges for social purposes would seem to be limited to situations where provision of this kind cannot be made by social measures.

Article 9(3) provides that,

Nothing in this Article shall prevent the funding of particular preventive or remedial measures in order to achieve the objectives of this Directive.

Again, this provision appears to be of potentially broad application. One possibility is that this might be interpreted to allow state-funded measures for the remediation of land or water that has been contaminated by past use, particularly in relation to 'historic' contamination, where the polluter no longer exists. Given that the definition of 'water use' is couched in the present tense, concerned with activities '*having* a significant impact on the status of water', it might be argued that past activities, that are no longer being undertaken, might fall outside the scope of 'water use'. If so, the need for present

remedial measures to address the continuing impacts of past activities might fall outside the cost recovery obligations, making the need for other mechanisms in relation to historic contamination critically important.

Article 9(4) provides that,

Member States shall not be in breach of this Directive if they decide in accordance with established practices not to apply the provisions of paragraph 1, second sentence [concerned with incentive pricing and adequate contributions], and for that purpose the relevant provisions of paragraph 2, for a given water-use activity, where this does not compromise the purposes and the achievement of the objectives of this Directive. . . .

Again, the potential scope of this is rather open-ended. One possibility might be that a member state envisages an alternative, but equally effective, means of addressing an environmental problem. Prohibiting an activity, as opposed to charging for it, might be an illustration of something coming within this provision for alternative approaches.

The upshot of these various qualifications to the obligations in respect of cost recovery, incentive pricing and appropriate contributions is that there may be quite wide scope for member states to depart from these obligations. Cost recovery does not seem to be required outside the sphere of water services or where an activity has an environmental impact outside the water environment. Even within the scope of water services, member states are allowed to have regard to 'social, environmental and economic' effects in determining how cost recovery is to be applied and may, it seems, opt to address particular impacts otherwise than through application of the cost recovery mechanism.

4.5. Reporting on Implementation

In each instance of derogation from the basic obligations of cost recovery, incentive pricing and appropriate contributions, there is a requirement of transparency in reporting the extent to which the obligations are not fully applied. Reporting on this is to be provided in river basin management plans, where appropriate, giving the reasons for non application of the obligations. The need for transparency in respect of the practical implementation of the obligations is provided for in Article 9(4) by the requirement that,

. . . Member States shall report the reasons for not fully applying paragraph 1, second sentence [concerned with incentive pricing and adequate contributions], in the river basin management plans.

Further reporting requirements are provided for in Article 9(2).

Member States shall report in the river basin management plans on the planned steps towards implementing paragraph 1 which will contribute to achieving the environmental objectives of this Directive and on the contribution made by the various water uses to the recovery of the costs of water services.

5. Guidance

In reviewing the main elements of Article 9, some of the inherent difficulties have been glossed over for the purposes of the initial exposition. Three points are especially problematic and require further consideration: first, the meaning of 'the costs of water services'; second, the meaning of 'environmental and resource costs'; and, third, the need for cost recovery and appropriate contributions to be required in 'accordance with the polluter pays principle'. On the meanings of these critically important expressions, the WFD is silent. Insights as to what might be intended, however, may be drawn from non-legal guidance on the implementation of the Directive.

5.1 *The Common Implementation Strategy Guidance*

The WFD is set apart from other European Community environmental legislation by the unprecedented emphasis that has been placed upon various forms of guidance as to its interpretation and application. Recognising the challenges raised by the WFD, in respect of its demanding timetable for interpretation, the complexity of the text and the need for scientific and technical capacity building, a Common Implementation Strategy has been established at Community level.⁹ Whilst stressing that the final responsibility for implementation resides with the member states, the aim of the Strategy is to enable a coherent and harmonious implementation of the WFD through agreement of a common understanding on the approach that needs to be adopted. This is facilitated through the provision of supporting technical and scientific information to assist in the various aspects of implementation. This guidance is intended as practical advice to the various persons and bodies entrusted with the task of implementing the WFD in the member states. For that reason, it tends to adopt a pragmatic tone, avoiding legal or academic analysis of the areas of potential uncertainty in the legal text. It is emphasised that the guidance formulated under the Strategy is of an informal and non-legally binding character, but it is of considerable significance nonetheless.

In furtherance of the Strategy, working groups have been established to prepare guidance documents on key aspects of the WFD, with priority being given to coverage of those activities needing to be undertaken in the early phases of implementation. Most pertinent, for this discussion, is the work of working group established to develop guidance on economic analysis (WATECO (on Water and Economics)) led by France and the European Commission, which has produced overall guidance on *Economics and the Environment*.¹⁰ In several respects this overall guidance on economic analysis has been supplemented by two information sheets, prepared by other groups working on the Strategy. The first Information Sheet is on *Assessment of the Recovery of Costs for Water Services* and the second on

⁹ Generally, see European Commission, *Common Implementation Strategy for the Water Framework Directive (2000/60/EC): Strategic Document* (2001) available at http://circa.europa.eu/Public/irc/env/wfd/library?l=/framework_directive&vm=detailed&sb=Title

¹⁰ European Commission, *Common Implementation Strategy for the Water Framework Directive (2000/60/EC) Guidance Document No. 1 Economics and the environment: the implementation challenge of the Water Framework Directive* (2003) available at http://circa.europa.eu/Public/irc/env/wfd/library?l=/framework_directive&vm=detailed&sb=Title

*Assessment of Environmental and Resource Costs.*¹¹ Insights into the interpretation and implementation of Article 9 WFD drawn from these guidance documents are recounted in the subsections that follow.

5.2. *The WATECO Guidance*

The principal WATECO Guidance document was prepared with particular emphasis upon the 2004 reporting requirements (under Article 5) but provides some broader observation on the role of economics in water management which are of significance in relation to implementation of the cost recovery obligations. The guidance notes the need for economic analysis of the most significant water uses within a river basin district and suggests various elements should be investigated in estimating the current (2004) level of cost recovery. These include matters such as socio-economic indicators, sectoral policies, land planning, implementation of existing water regulation and other environmental policies. However, the general message is that the 2004 reporting was required to be explicit about the limitations in the information available, the assumptions and approaches that underlie the reports, and other uncertainties. These are matters needing to be returned to at a later stage, particularly in relation to the implementation of the 2010 cost recovery obligations.

Perhaps most pertinently for the present discussion, the WATECO guidance highlights several unresolved issues requiring further research and analysis. Amongst the matters requiring methodological development is that of how to assess environmental and resource costs: how can methods for assessing environment costs (developed at an academic level) be made operational in the context of the development of river basin management plans? This question, along with the more general issue of how to assess the costs of water services, have been returned to in subsequent information sheets prepared as a part of the Common Implementation Strategy.

5.3. *Information Sheet on Assessment of Costs for Water Services*

The issue of assessment of the recovery of costs for water services in the 2004 Article 5 Reports was revisited in the Information sheet prepared by the Drafting Group ECO1 under the Common Implementation Strategy Working Group 2B, *on Assessment of the Recovery of Costs for Water Services for the 2004 River Basin Characterisation Report (Art 9)* which sought to build upon the WATECO guidance. The Information Sheet raised several key issues on the implementation of cost recovery pricing for water services. Specifically, issues were identified concerning the form of 'adequate incentive pricing', the assessment of 'adequate contribution of the different water users' and,

¹¹ Particularly, European Commission, Common Implementation Strategy, Working Group 2B: Drafting Group ECO1, *Information Sheet on Assessment of the Recovery of Costs for Water Services for the 2004 River Basin Characterisation Report (Art 9)* (2004) and *Information Sheet on the Assessment of Environmental and Resource Costs in the Water Framework Directive* (2004), available at http://circa.europa.eu/Public/irc/env/wfd/library?l=/framework_directive&vm=detailed&sb=Title

perhaps more fundamentally, the meaning of the 'polluter pays principle' in the context of cost recovery.

Nonetheless, the Information Sheet does not dwell on the points of uncertainty. It adopts a strongly practical ('what to do' and 'how to do it') tone in dividing the exercise of assessing levels of cost recovery into a sequence of seven key tasks:

1. Define the water services;
2. Identify providers, users and polluters;
3. Calculate the financial cost of water services;
4. Identify and estimate environmental and resource costs;
5. Identify the cost recovery mechanism;
6. Calculate the rate of cost recovery; and
7. Identify the allocation of costs to users and polluters.

First, on the definition of 'water services', it is noted the WFD does not state whether this encompasses both public and private water services, whether it applies to self-supply (where water is used by the person that abstracts it, as is common in agricultural water use) or whether private treatment of wastewater comes within the definition. It is suggested that these kinds of uncertainties can be resolved by reference to the pressures and impacts study (under Article 5). That is, the appropriate water services to include are those that are identified as having a significant impact on the status of water bodies.

Second, the identification of 'providers', involves listing the various organisations that provide water and wastewater treatment services. In some jurisdictions, this may involve different bodies having responsibility for different services. In others (such as England and Wales) single privatised water companies have comprehensive responsibilities for water services, though their boundaries do not necessarily correspond with river basin districts and geographical adjustments may be needed to take account of this. Data on self-services, including abstraction by users and private wastewater treatment, was recognised to be less readily available, and may have needed to be estimated for the 2004 Reports, with further post-2004 work being undertaken to refine these estimates.

'Water uses', following the WFD definition, encompasses those engaged in any activity having a significant impact upon the status of water including, as a minimum, households, agriculture and industry. For the purpose of the 2004 reports, it was not necessary to disaggregate the three categories of user, but this will be required from 2010 to meet the cost recovery obligation. Nonetheless, identifying 'water uses' will involve collection and/or collation of considerable amounts of data on populations served, volumes of water supplied and volumes of wastewater treated.

'Polluters' is broadly understood to encompass those whose actions give rise to a cost in respect of water services. For example, this would arise where a person's actions involve the transmission of a contaminant into water that is subsequently used for supply purposes, so that the contaminant needs to be

removed before the water is supplied to consumers. Again, the identification of 'polluters' is closely linked to the pressures and impacts survey, but it is recognised that this may need to be augmented to take account of historic pollution. Where past polluting activities give rise to continuing remediation costs for water service providers these need to be identified, if not within the 2004 reports, then subsequently. Clearly, cost recovery from entities that have ceased to exist, but whose activities cause continuing contamination to water quality, raises considerable logistical problems. How these problems are to be addressed is not clearly indicated in the guidance.

The third task is the calculation of financial costs of providing water services and administering these services. The Information Sheet suggests these should encompass four kinds of cost: operating costs, capital costs, administrative costs, and taxes and subsidies.

'*Operating costs*' are the costs of providing the services, including the employment, energy and maintenance costs of bodies engaged in water supply and wastewater treatment.

'*Capital costs*' are the costs of expenditure on assets that are funded by loans and interest payable on principle amounts that are borrowed. The calculation of this raises some intricate issues in respect of the allowances that are made for depreciation of assets over time, and further work is likely to be needed to agree upon common methods for calculating depreciation across different member states.

'*Administrative costs*' relate to the costs of regulating water service provision, for example, through charges to water service providers for abstraction licences and permits to discharge waste water.

On '*taxes and subsidies*' a distinction needs to be drawn between general taxes (for example, on corporate profits) and environmental taxes (that are imposed in relation to meeting the cost of environmental damage). Subsidies may be of a direct or indirect form, but invariably entail the provision of a financial benefit to a water service provider which avoids a cost being transferred to customers. Clearly, subsidies that undermine full cost recovery for water services will be incompatible with post-2010 implementation of Article 9 but, for the purpose of the 2004 reports, the aim was merely to identify and quantify levels of subsidies for the purpose of calculating the current level of cost recovery.

Fourth, identification and estimation of the environmental and resource costs of water supply is initially problematic because information of this kind has not been systematically collected by member states. For the purpose of the Article 5 reports, it was recognised that the collection of this data was complex, time consuming and expensive. Consequently, the best that could be expected was an estimate of these costs, with the underlying assumptions and uncertainties clearly explained. It was suggested that, for the purpose of the 2004 reports, this could mean that where monetary valuation is not possible, these costs should be described in qualitative terms, despite the unhelpfulness of this in calculating the precise extent of cost recovery.

Fifth, identification of revenues and the cost recovery mechanism involves provision of a statement of the existing charging regime for water services. In

part this was likely to relate to the institutional arrangements for provision of water services and payments to the various bodies that are involved. This might also incorporate discussion of the main price-setting mechanisms and the regulatory structures for water services.

Sixth, the calculation of cost recovery for economic costs involves the assessment of the extent to which economic costs of water services are met by charges to water users and other cost recovery mechanisms. In effect, the cost recovery rate will be the total revenue paid by water consumers, less any amount provided through subsidies, divided by the total costs of water service provision. This could be stated as an overall percentage figure or the corresponding figure per unit of water services (water supplied and wastewater treated).

Finally, it was necessary to identify the allocation of water service costs to users and polluters. This involved an assessment of what proportion of the costs of water services are used to address pollution and to meet environmental and resource costs. For example, if it is found that a particular activity, such as agriculture, is responsible for an identified proportion of the pollution in a river basin district, then the aim should be to assess the extent to which those engaged in agriculture actually met the cost of pollution attributed to their activity. Clearly, identifying those who have contributed to pollution and quantifying the extent of this in terms of its cost is a complex exercise. Although a systematic assessment of these contributions and costs will be needed to implement the cost recovery obligation post-2010, it was recognised that the Article 5 reports needed to be based only on assumptions and 'expert judgement', with detailed analysis having to wait until after 2004.

5.4. Illustration: Financial Costs of Water Services in England and Wales

It may be helpful to illustrate the application of the principles for assessment of the extent of cost recovery in water services, by looking at the way that they were applied in a national context in the 2004 reports.¹²

By comparison with other member states, water service provision in England and Wales is unusual, in that by private water and sewerage companies, established under statutory provisions, are responsible for the whole sequence of water services: abstraction, treatment of drinking water, treatment of wastewater and discharge of treated effluent. The water industry consists of 10 water and sewerage companies and 14 water supply companies. Economic regulation of these companies is provided by the Water Service Regulation Authority (OFWAT) which has the duty of ensuring that the companies can carry out their functions whilst protecting water customers, promoting economy and efficiency and facilitating competition. Perhaps most importantly, OFWAT regulates the tariffs that water companies are allowed to charge for their services. Alongside economic regulation of the industry, separate regulation of the environmental impacts of water service

¹² *Department for Environment, Food and Rural Affairs* [4]. Information on agricultural water contamination costs used in this report was drawn from *Pretty* [7].

provision is provided by the Environment Agency, which has responsibility for authorising abstractions and permitting discharges of wastewater. The quality of drinking water at the point of supply is also separately regulated by the Drinking Water Inspectorate, within the Department for Environment, Food and Rural Affairs.

The privatised character of the water industry in England and Wales, *should* have the consequence that cost recovery is comprehensive, at least in respect of the financial costs of water service provision. This is because water service prices to customers are set at a level which allows the companies fully to recover their costs, plus an amount that OFWAT will accept as a 'reasonable return on capital'. However, using water company and OFWAT data to confirm this situation is not straightforward because assessment of cost recovery pricing must be undertaken at a river basin district level, whereas the boundaries of water companies bear little relationship to the boundaries of river basin districts. This meant that it was necessary to undertake a complex exercise of aggregating water services data to attribute populations of water customers to river basin districts, rather than water service providers.

The national report followed the Common Implementation Strategy guidance in considering four cost components: operating costs, capital costs, administrative costs and taxes and subsidies. The unremarkable overall conclusion was that there is no subsidy of water services in England and Wales. Given the established policy of OFWAT, to allow full financial cost recovery and to avoid cross-subsidies between different customers, as expected, the levels of cost recovery for both water supply and sewerage services were confirmed to be 100%.

However, one of the most revealing findings from this study was the extent of costs attributable to activities external to water services, that is, where water service costs incorporate an element to meet a cost generated by another sector. The best examples of this arise where water suppliers are involved in expenditure to remove contamination of raw water generated by agriculture. Specifically, this is required where capital expenditure for water treatment is needed for the removal of nitrate, pesticides or other contaminants, or to reduce the risk posed by cryptosporidium originating from animal waste. In England and Wales it was estimated that capital and operating expenditure attributable to treating raw water was about £313 million annually, equating to about 10% of the total public water supply costs of England and Wales. About £220 million of this cost was estimated to be attributable to the external impact of the agriculture sector on raw water quality.

This finding raises important questions in relation to the need for an 'adequate contribution' from agriculture to the cost of water services. The implication is that water supply customers are paying more than they would be if the cost of agricultural contamination was met by the agricultural water 'users'. Moreover, the UK government is presently failing to ensure that agriculture makes the 'adequate contribution' that will be required by 2010. However, it is unclear what mechanisms could be used to recover this adequate

contribution. In part, the problems may be attributable to incomplete national implementation of existing Community environmental legislation, particularly the Agricultural Nitrates Directive (91/676/EC). Possibly, a levy on nitrate fertiliser or a tax on pesticides might be a means of addressing some aspects of the problem, but it is far from clear how cost recovery would be possible in relation to other kinds of agricultural impact.¹³

Even if it were possible to devise an effective and equitable means of recovering the additional water treatment cost generated by agricultural activity, it is unclear what overall benefits of agricultural cost recovery would be. Some farmers might be willing and able to modify their activities in response to new charges, but others would seek to pass these charges on to their consumers. From the perspective of an average household, the consequence could be that the price of food might increase by almost as much as the cost of water services was reduced, depending upon the extent to which farmers sought to pass on their additional costs to their customers. Given the limited scope for consumers to stop buying either food or water, cost recovery from water users seems capable of generating extraordinarily complex legal and administrative challenges for, what may turn out to be, comparatively little environmental benefit.

5.5. The Information Sheet on Environmental and Resource Costs

The purpose of the Information Sheet on *Environmental and Resources Costs*, published by the ECO2 drafting group in 2004, was further to investigate these concepts in order to make them of practical use in developing river basin management plans. Hence, the Information Sheet seeks to define 'environmental and resource costs', to identify their role in the WFD and to ascertain how they are to be measured in practice.

Following the WATECO guidance, 'environmental costs' are defined as representing the costs of damage that water uses impose on the environment and ecosystems, and those who use the environment. 'Resource costs' are defined as the costs of foregone opportunities which others suffer due to the depletion of the resource beyond its natural rate of recharge or recovery.

Within the scope of 'environmental costs' fall the various kinds of environmental and ecological damage that might result from water pollution or water use. These may be subdivided as to whether they have a financial cost impact upon others who use, or may use, the environment, termed 'use-values', or whether they relate to impacts upon the environment aside from its use value, termed its 'non-use value'. Use values, would incorporate the diminished value of water for abstraction, water supply or angling, where the benefits of water use can, in principle, be fairly readily quantified in financial terms. Non-use values are more difficult to quantify, because they rest on the belief that environments and ecosystems are of 'intrinsic value' and should be conserved for the enjoyment of future generations. Clearly, putting a price

¹³ For discussion of the challenges of applying the PPP to agricultural activities, see *Baldock* [2] and *Seymour, Cox and Lowe* [8].

upon this non-market value of the environment is an extremely challenging exercise.

'Resource costs' equate to the opportunity costs involved in using a limited resource in a particular way. This involves a comparison between the overall benefits of an existing use of water gauged against the economic value of the best current or future alternative use of that water. Hence, resource costs arise as a result of an economically inefficient allocation of water and/or pollution over time between different water users, because some alternative to the actual use generates a greater economic value. For example, the current use of water for purpose A (receiving industrial effluent), may be less economically beneficial than its use for purpose B (water supply), and the resource cost will be a long-term measure of this difference. The resource cost drawn from this kind of comparison needs to be separately assessed from the environmental costs arising from either kind of activity, since comparison between the relative efficiency of different uses bears no clear relationship to the environmental damage to which either will give rise.

The concept of 'environmental costs' is itself dependent on the idea that an activity gives rise to 'damage' to the environment and this in itself calls for elaboration. As a theoretical matter, 'damage' is seen as arising in a situation where there is a discrepancy between some 'reference' and 'target' point or situation. Generally, the failure of some part of the environment to reach an agreed norm or standard would be illustrative of this. In the context of the WFD, the natural target to adopt is that particular waters should achieve their relevant environmental status objective, required by the Directive, by 2015. The relevant reference point would be the actual or expected status of the water in 2015. If a particular water fails to meet its environmental objective at that date, the environmental damage is the difference between its actual state and required status under the WFD.

Within the concept of environmental and resource costs a further distinction is drawn between 'internal' and 'external' costs. A cost is internal when it is met, or compensated for, by the person causing it, whereas a cost is external where it is not met by the person causing it. Hence, for example, the discharge of wastewater from an industrial installation may have a cost to a downstream water user, where it needs to be treated for water supply purposes to remove contamination originating from the wastewater. Insofar as this cost is not met by the wastewater discharger, it is an external cost. To the extent that the discharger treats the effluent before discharge, and incurs a cost in so doing, that cost is an internal cost. The discharger has to bear these internal environmental costs, usually because of pollution abatement requirements in respect of the quality of wastewater that may be discharged. However, it may be expected that these costs will be reflected in the price that is charged for the product generated by the industrial process. In relation to cost recovery for water services provision, the task is that of identifying external environmental resource costs and putting in place mechanisms to secure that all external costs are effectively internalised.

As has been noted, Article 9 imposes obligations to take account of the environmental resource costs in respect of cost recovery for water services and (post 2010) to ensure that water prices provide adequate incentives for efficient water use. To implement these obligations it is necessary to calculate the total environmental and resource costs involved in providing water services and to ascertain the extent to which these are internalised by different water users through existing mechanisms. In effect, full implementation of the polluter pays principle is seen to be realised where all environmental and resource costs are fully compensated for where there is complete internalisation of costs through charges to water users.

The critical difficulties in taking account of environmental costs associated with water services and uses lie in the practical task of measuring these. The Information Sheet suggests that the assessment of environmental costs involves three elements: assessment of environmental impact; valuation of environmental damage; and the institutional and financial assessment of the extent to which environmental costs are internalised.

Of these three elements, the most problematic is that of placing a price on environmental damage. The Information Sheet suggests that there are two main methods of assessing environment costs, a 'cost based' approach and a 'benefits based' approach. The cost based approach involves an assessment of the cost of those measures that may be needed to protect against environmental damage. Hence, in a situation where a particular water fails to meet its target environmental objective under the WFD by 2015, a costs based assessment of environmental costs would equate the environmental damage with the cost of those additional measures that are required to secure the target objective. As it is put, 'environmental protection costs are used under certain circumstances as a proxy for the environmental damage costs'. This seems an admirably pragmatic approach, but raises the critical issue of whether the PPP is correctly interpreted as requiring the recovery of *preventative* rather than *remedial* costs, discussed later.

The benefits based approach to assessment of environmental costs is based on the 'loss of welfare' due to environmental damage. 'Loss of welfare' is a rather elusive expression, which encompasses any effect on human well-being, but it is suggested that this can be estimated through 'Willingness to Pay' or 'Willingness to Accept Compensation' assessment methodology. Essentially, these are techniques that seek to measure the value that ordinary people attach to natural resources. Individual willingness to pay for something, or to accept money in exchange for its loss, is seen as a means of attaching a contingent market value to things that do not normally admit market valuation.

However, some hesitancy may be detected towards the 'benefits' approach to environmental cost assessment. A footnote reference in the Information Sheet acknowledges that the relevance of the costs based approach to valuation of environmental damage depends on the character of the environmental standards relating to the target situation.

'If these standards are fixed and non-negotiable (e.g. hands-off policy regarding a particular area) and based on the idea of 'strong sustainability' 'one could argue that monetary valuation of the target situation is methodologically speaking pointless for the provision level of the associated (non-market) environmental goods and services at that point is not 'for sale'. Monetisation through WTP or WTAC measures assumes *a priori* inter-changeability (also referred to as 'weak-sustainability) of non-market goods and services (e.g. environmental goods and services such as biodiversity of landscape amenities) and market goods and services (e.g. the amount of income people are willing to accept as compensation if the natural area is given up).'¹⁴

More broadly, the Information Sheet acknowledges that all valuation techniques have strengths and weaknesses. All methods involve some uncertainty and it is suggested that it may be possible to use more than one valuation technique and to compare the results. The reluctance to opt for a single methodology for the assessment of environmental costs may seem indecisive and unhelpful to those entrusted with this task at national levels. Alternatively, it may be seen as reflecting the seemingly intractable difficulties involved in undertaking this exercise in practice.

In summary, it is evident that none of the methods that have been proposed for valuing environmental damage are entirely satisfactory. The costs-based approach presupposes that the cost of *preventing* environmental damage and the cost of its *rectification* are the same thing. The benefits-based approach is based upon the rather dubious supposition that environmental quality and ecosystems can be characterised as market commodities and financially quantified at a price that is somehow revealed by a survey of the hypothetical preferences of individuals. The hopeful position initially adopted by the Commission Communication was that, with sufficient endeavour, suitably robust methodologies to assess environmental costs would materialise. This may be seen as contrasting with a view that the environment is intrinsically valuable but, in principle, not capable of market valuation. If so, the exercise of attempting the impossible is bound to fail.

6. Interpretation of the Polluter Pays Principle

The final part of the discussion examines how cost recovery pricing for water services applies the PPP. It will be recalled that cost recovery pricing is to be in accordance with the PPP and the adequate contribution of water uses is to take into account the principle (Article 9(1)). A difficulty in assessing how this is to be done arises because of the ambiguity of the principle. A compelling environmental campaigning slogan does not necessarily translate into a practicable legal norm which can be formulated with the precision needed for legal certainty as to its sphere of application. In the case of the PPP, its apparent simplicity masks a range of difficulties in its interpretation and application.

Taken literally, the polluter pays principle might be spelt out as follows: a person who is responsible for pollution of the environment must pay the cost of the resulting environmental damage. If understood in this way, translation of the principle into a workable legal norm requires: (1) a definition of what is

¹⁴ Footnote 8 to Information Sheet.

to count as 'pollution'; (2) an identification of who is the 'polluter'; (3) a means of assessing the financial 'cost' of environmental damage; and (4) the identification of the body to whom the payment is to be made, perhaps subject to a requirement that it should actually be used to make good the environmental damage.¹⁵

However, there are serious uncertainties inherent in each of these stages in the interpretation of the PPP. Beyond that, in some circumstances there are profound doubts as to whether environmental damage is genuinely capable of being made good by payment of money or whether it is ethically defensible to allow environmental damage to be 'condoned' and somehow 'legitimised' simply by being paid for. If an aim of sustainable development is to preserve the environment for future generations, it is difficult to see how environmental destruction could be justified purely on the basis that its loss had been sufficiently 'paid for' at the time it occurred.

Conceivably, making headway against intractable difficulties of this kind might be possible through an enquiry into the underlying purpose that the PPP is intended to achieve. However, a scan of the legal literature at European level reveals diverse attempts to formulate the PPP with significantly different objectives in mind. A study of OECD Council Recommendations, European Community Council Recommendations and statements drawn from Community Action Programmes on the Environment reveals the shifting meaning of the PPP over time. Hence, in different formulations the PPP has been seen as having:

- (1) an economic integration function, in avoiding distortion of competition through preventing state aid being used to finance anti-pollution investment;
- (2) a redistributive function, in internalising the cost of polluting impacts;
- (3) a preventative function, in encouraging or requiring potential polluters to meet the costs of pollution abatement; and
- (4) a restorative function, in allocating the cost of environmental remediation.¹⁶

These differing possible functions of the PPP are not necessarily exclusive of one another, but do place markedly different emphases upon the different potential purposes that the principle may be seeking to achieve.

In the context of the cost recovery obligation under Article 9 of the WFD, the version of the PPP that is referred to must be taken to be that provided for under the EC Treaty and this must serve as a starting point for discussion. Under the Treaty, the intention is that progression towards sustainable development is to be facilitated through the application of more specific environmental principles that are stated to provide the basis for the Community's environment policy. Specifically, that policy is to be based on 'the precautionary principle and on the principles that preventative action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay'.¹⁷ (Art.174(2)). However, the Treaty provides no definition or elaboration of the meaning of these principles or any indication as to their respective gravity or interrelationship. Hence, the

¹⁵ Vandekerckhove [10].

¹⁶ de Sadeleer [3].

¹⁷ EC Treaty Art.174(2).

meaning of the PPP and its role, alongside the other environmental policy principles, is a matter of considerable speculation.

In interpreting the EC Treaty, it is not generally possible to 'look behind' the text for background information as to the meaning of obscure provisions. Hence, the European Court of Justice is unwilling to have recourse to the legislative history of a provision, since this may lead to conflicting interpretations. Even previous Community measures relating to the PPP¹⁸ may not be relevant to the interpretation of wording that has subsequently been adopted in the Treaty. Words in the Treaty need to be interpreted according to their ordinary meaning, and only where that wording is unclear do the context and objectives of the provision become relevant. Secondary legislation,¹⁹ and its interpretation by the Court,²⁰ may provide a guide to the interpretation of Treaty provisions, but in the case of the PPP principle there is little that can be drawn from this.

On that basis, a relatively early analysis of the PPP, as provided for in the EC Treaty, concluded that the principle may be characterised as follows.

'Community action in environmental matters shall proceed on the basis that the costs for removing environmental pollution in cases where existing provisions have not been adhered to are in principle to be borne by the emitter. The burden of such costs is only to be imposed on the general public by way of exception. Exceptions can be formulated differently for the various regions.'

A further inference from this analysis was that there is 'pollution' only where Community legislation has laid down legal rules on nuisance to the environment and these limits have been exceeded. In addition, it was stressed that the PPP contains no element that obliges an emitter to take preventative measures to minimise emissions.²¹ Hence, on this view, a distinct separation is maintained between the PPP, concerned with rectification of past environmental damage, and the prevention principle, concerned with avoidance of future damage.

The limitation in the scope of PPP to the redress of past environmental damage, and the exclusion of preventative action from its remit, are significant points which seem to follow logically from a reading of the EC Treaty. The

¹⁸ For example, prior to its adoption in the EEC Treaty under the Single European Act in 1987, the PPP, was referred to in the First Environmental Action Programme (OJ 1973 C112/1) which stated that 'the cost of preventing and eliminating nuisances to the environment must in principle be borne by the polluter'; and has been referred to in all subsequent Action Programmes. The PPP was also considered in 1975 Council Recommendation (75/436 OJ 1975 L194/1) on the allocation of costs and intervention by public authorities in the case of environmental measures.

¹⁹ The PPP was implicit in early secondary legislation on waste (Directives 75/442 and 78/319) providing that the costs of the safe disposal of waste are to fall on the holder of the waste, a previous holder, or the producer of the products from which was the result. Directive 84/631, on transport of waste, provided for the costs of transporting to fall upon the holder.

²⁰ Case C-293/97 *Standley* [1999] ECR I-02603 provides some discussion of the application of the PPP, but is mainly concerned with the need for its 'proportional' application (see paras. 51 to 52).

²¹ *Kramer* [5].

incorporation of four different environmental policy principles in the Treaty (precaution, prevention, rectification at source, and polluter pays) would suggest that these are intended to have distinct meanings. Preventative action would clearly be justified under the preventative principle, but not under the PPP. The distinct purposes of the different principles are usefully kept in mind. If this interpretation remains valid, the cost recovery obligations under the WFD must be interpreted as being concerned solely with recovery of costs for past environmental damage. That is, taking account of the PPP does not extend to the imposition of cost recovery for preventative action. Clearly, it might have been possible for Article 9 of the WFD to have made reference to the preventative principle, or possibly the rectification at source principle, but it does not and this omission seems significant.

On the other hand, a markedly contrasting interpretation of the remit of the PPP is to be drawn from the Environmental Liability Directive.²² (2004/35). Recital 18 of this Directive reads as follows.

According to the 'polluter-pays' principle, an operator causing environmental damage or creating an imminent threat of such damage should, in principle, bear the cost of the necessary preventative or remedial measures. . . .

This seems to affirm the exact opposite of what has been suggested above, in assimilating the PPP and prevention principle, or taking the PPP to incorporate a justification for prevention as well as remediation. Certainly, the Environmental Liability Directive makes numerous references to the need for 'prevention' of different kinds of environmental harm, but the apparent consolidation of different environmental policy principles raises the question whether a similar approach is needed towards water service cost recovery under the WFD, opening the possibility that prevention, as well as remediation of environmental damage, may be within its the scope. If so, this might provide a justification of a cost-based approach to assessment of environmental damage of the kind discussed in the Information Sheet on *Environmental and Resource Costs*. What is most unfortunate, however, is that, in the context of the cost recovery obligations under the WFD, radically contrasting ways of interpreting PPP seem almost equally plausible.

7. Concluding Observations

A common criticism of environmental law is that it fails to keep pace with contemporary concerns. Regulation concerned with 'industrial' environmental problems may be seen as backward-looking in its failure to anticipate and address the present and future environmental challenges confronting post-industrial societies. The provisions for cost recovery under the WFD are, if anything, subject to the opposite kind of criticism. They impose well-intentioned legal obligations without clarification of the fundamental ideas upon which they are based (the meaning of PPP) and in advance of establishing a satisfactory methodology for their implementation (in respect of the assessment of environmental and resource costs). Whilst the measures

²² Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage, OJ L143/56, 30 April 2004.

concerning recovery of financial costs may be beneficial and practicable, the balance between the costs and the environmental benefits of the more ambitious aspects of water services cost recovery obligations are, at best, speculative.

References

1. *D. Assimacopoulos*, 'Recovery of full cost and pricing of water in the Water Framework Directive' (2002) available at <http://environ.chemeng.ntua.gr/wsm/Uploads/Publications/Recovery%20of%20full%20cost%20and%20pricing%20of%20water%20in%20the%20Water%20Framework%20Directive.pdf>.
2. *D. Baldock*, 'The Polluter Pays Principle and its Relevance to Agricultural Policy in European Countries' [1992] *Sociologia Ruralis* 49-65.
3. *N. de Sadeleer*, *Environmental Principles: From Political Slogans to Legal Rules*, Oxford, Oxford University Press, 2002, Ch.1
4. *Department for Environment, Food and Rural Affairs*, Final Report, Assessing Current Levels of Cost Recovery and Incentive Pricing (2004) (the 'ERM Report').
5. *L Kramer*, 'The 'Polluter Pays' Principle in Community Law', *Focus on European Environmental Law*, London, Sweet and Maxwell, 1st Ed 1992, Ch.11 at pp.263 to 264.
6. *T Le Quesne and C Green*, *Can We Afford Not To? The Costs and Benefits of a Partnership Approach to the Water Framework Directive*, Godalming, WWF-UK, 2005, 4.
7. *J.N. Pretty et al*, 'An assessment of the total external costs of UK Agriculture' (2000) 65 *Agricultural Systems* 113-136.
8. *S. Seymour, G. Cox and P. Lowe*, 'Nitrates in Water: the Politics of the Polluter Pays Principle' [1992] *Sociologia Ruralis* 82-103.
9. *H. Unnerstall*, 'The Principle of Full Cost Recovery in the EU Water Framework Directive – Genesis and Content' [2007] *Journal of Environmental Law* 29-42.
10. *K. Vandekerckhove*, 'The Polluter Pays Principle in the European Community' [1993] *Yearbook of European Law* 201-262.