European Commission: DGXI

Integrated Product Policy

A study analysing national and international developments with regard to Integrated Product Policy in the environment field and providing elements for an EC policy in this area

March 1998

Executive Summary from the Final Report

The United Kingdom firm of Ernst & Young is a member of Ernst & Young International
EXECUTIVE SUMMARY

This is the Executive Summary of the final report from the study which has been carried out by Ernst & Young and the Science Policy Research Unit (SPRU) into Integrated Product Policy (IPP).

Background

IPP is a relatively new area in environmental policy, which is receiving increasing attention in several EU member states as well as in international organisations like the OECD and the UN Commission on Sustainable Development. Integrated product policy addresses the whole life-cycle of a product, thus avoiding shifting environmental problems from one medium to another, as opposed to specific product policy, which addresses one particular environmental effect.

The definition of IPP has been unclear, and a number of important themes and concepts have required exploration when describing and formulating integrated product policies.

Objectives and Scope of our Work

On the basis of analysis of national and international developments in this area, our main objective has been to make suggestions for elements of a possible EC integrated product policy, based on an initial review of the state of activity related to IPP at present. Our empirical findings are based on an interview programme with policymakers in the EU and in international organisations, European industry, and consumer groups. Our work with industry focused on five sectors (chemicals, paper, food, electronics, and consumer goods) in order to provide coverage of the spectrum of product types and producers. Four case studies were also conducted, exploring particular product-focused initiatives. These covered an industry product management initiative, a public purchasing pilot, a producer responsibility pilot, and a public policy initiative in product management system development. In addition, we have carried out research and document analysis, and held workshops at which core concepts and emerging findings have been debated.

Why should there be Integrated Product Policy?

A number of factors have combined to create a need for a product-focused environmental policy.

There has been a growing awareness that the traditional focus on production processes may no longer be appropriate in environmental policy and regulation. While industrial and energy production remains an important source of pollution and waste, the relative importance of consumption-related emissions and wastes has been rising over the past two decades. For instance, an inventory of volatile organic compound (VOC) emissions in the Netherlands in the late-1980s revealed that three-quarters of emissions were consumption-related, in particular in the application of paints and during vehicle refuelling. Emission sources of several key gaseous pollutants, such as nitrogen dioxide and carbon monoxide, arise primarily from the use of vehicles. The management of
consumption-related solid wastes also became an urgent political issue in many EU states during the 1980s.

As these practical policy issues emerged, a number of new concepts were also being developed that describe a vertically-integrated approach to analysing product systems stretching from production through consumption. These ‘life cycle approaches’ take explicitly into account the whole product system from cradle-to-grave, including the extraction and processing of raw materials, the manufacture of products, their distribution, their use, and the management of the waste residuals along the product life cycle. Other important concepts, such as eco-efficiency, also developed, concerned with materials and energy efficiency.

As a result of these factors, the impact of products on the environment are under scrutiny in a number of political and economic contexts already. There is a widely held perception that current policies to tackle the problem have tended to be ineffective because they have been insufficiently product-focused. Moreover, influencing the environmental performance of products is complex. It requires many, varied policy instruments applied in an integrated way.

The Rationale for EU Integrated Product Policy

Product policies and product management strategies are emerging in many member states. These activities are very patchy across the EU. The variety of national approaches taken creates some familiar arguments in support of EC intervention. These are:

- barriers to trade could emerge if different approaches develop across the EU, creating a fragmented product policy context;
- the differentiated picture will widen gaps and disparities across member states. National policy makers recognise this, and some have expressed a wish to combine their experiences and efforts in order to build a consistent European policy;
- impacts on the internal market would result, distorting patterns of trade, production, and consumption. Industry might also suffer from the lack of a level playing field. Several firms have expressed the wish that the EC take action to introduce a coherent international framework;
- conversely, promoting environmentally superior products in industry may enhance Europe’s international competitiveness. Product policies can play a positive role in stimulating competitiveness, particularly as firms plan their strategies and develop their technologies in a Community-wide context.
EXECUTIVE SUMMARY (Continued)

An additional argument for an EC product policy is that the range of issues associated with products are important in the context of developing strategies for sustainable development. A way forward for sustainable development which does not incorporate actions related to products is likely, in itself, to be unsustainable in economic, environmental, and political terms.

The Challenges in Framing IPP

The transition towards product-oriented policies faces diverse practical, political and legal obstacles. First, it implies a transition from intervening directly in the frequently local environmental impacts of single sites with well-known technological and environmental characteristics operated by single industrial firms, to influencing indirectly the imprecisely understood and frequently regional and global environmental impacts of globally-spread product systems involving many stakeholders distributed across many countries.

Second, the recognition of products as a key focus for environmental policy is far from pervasive in EU or wider international policy making circles. There is a great need for a clear framework for an integrated product-oriented environmental policy which can be widely communicated and applied.

Third, the global scope of product systems and environmental impacts raises the issue of the trade-off between promoting the internal market and securing high levels of environmental protection. A balance needs to be struck between allowing market forces to help foster innovative product development in the context of continuing economic growth, and taking targeted action to ensure that any such growth is sustainable in environmental terms. Although a consistent and harmonised IPP framework compatible with the single market will not be possible in the short-term, there is no reason why a harmonised approach cannot develop over the medium-long term, founded upon a clearly articulated framework at EU level. Such an approach has guided the implementation of other environmental policies, such as the Integrated Pollution Prevention and Control (IPPC) directive, where national variations in implementation have been accepted within a longer-term goal of consistency, founded upon a clear framework for action.

Other deep-seated problems exist. These are related to the issue of consumer sovereignty, the diversity of products of the market, the range of actors engaged in producing and consuming products, and the problem of reconciling differing social attitudes to environmental risk.

Finally, product policy represents a new role for governments and the European Commission. It represents an important new area of policy with new objectives, new instruments, new problems and new possibilities. Product policy cannot be devised and implemented in the same way as traditional process-oriented policies.
The policy process needs to become more transparent, open, interactive and co-operative, placing greater stress on voluntary actions and market instruments, with public authorities taking the role more of facilitators and arbitrators, rather than merely enforcers of rules laid down in legislation. While some product-oriented policies have begun to develop in the early 1990s, there is still a need to give coherence and clarity to a field of policy which is emerging and where little consensus exists on key terms, concepts and objectives.

**Framing an IPP: The Policy-Makers’ Experience**

A three level model of product policy has been identified in this study:

- At the European level no explicit policy related to products and the environment yet exists, although there is an intention to establish a broader policy. Several existing measures (the EU Eco-label, the Packaging and Packaging Waste Directive) could form elements of a European IPP.

- At the member state level a few states have articulated comprehensive policies on products and the environment, notably the Netherlands and Denmark, with significant policy developments also taking place in Sweden, Finland and Austria. There has also been much interest in Germany. Most EU states do not have explicit product policies. As always in the emergence of a new field of environmental policy, there are leaders, followers and laggards. Nowhere do we see a fully developed and effective IPP, while in much of Europe little progress has been made in beginning the process.

- A third level of IPP consists of policy instruments concerned with products and the environment. A variety of these measures are already in force in most EU member states, some originating in Community policy (the EU Eco-label).

Our empirical work with policy makers has focused on developments at national level, where the most direct experience has been gained of developing product policy. We describe several important issues and trends which emerge from this analysis. In summary, these are:

- two broad tendencies can be identified in the evolution of product-oriented policies within the EU: an *incremental* approach; and a *comprehensive* approach. In the incremental approach, the aim is to set out a policy framework, and then to develop incrementally a portfolio of more product-oriented environmental policies. In the comprehensive approach, products are seen as the lens through which all environmental policies should be focused. Within this approach the longer-term aim is to shift the basis of all environmental policy towards a product orientation, in the context of securing sustainable production and consumption.
at member state level, IPP measures have tended to develop backwards along the product system in a series of stages, gradually becoming more inclusive in scope and comprehensive in impact. In the first phase of IPP policies for managing a growing number of visible product-related wastes emerge. In the second phase, policies which aim to generate and make accessible environmental information about product systems (eco-labels, product dossiers, advice centres) are developed. In the third phase, policies specifically aimed at stimulating innovation and market creation for green products are introduced. In the fourth, and as yet mostly uncharted, phase product policy operates across the whole life cycle of products in a coherent, integrated way, shaping eco-efficiency and the environmental impact of products. We describe this process as the reverse chain management model, and construct a taxonomy of measures which provides a ‘road-map’ of measures in the development of a comprehensive IPP at national or EU level.

The Evaluation of Product Policies is in its Infancy

Policy instruments that influence the environmental performance of products have been in existence in EU member states for the last 20 years or more. However, the development of coherent policy frameworks aimed at products are a much more recent phenomenon, and are still in the process of unfolding. Although evaluation of impact is typically one of the aims of these policy developments, formal evaluation has not taken place of any of these instruments in any member state.

The Roles and Experience of Industry and Consumers

Industry plays a leading role in defining issues

European industry has played a leading role in defining many of the issues around products and the environment. In taking this leading role, industry has been responding to market pressures from consumers and competitors, taking advantage of technological and market opportunities. Many of the firms who have pioneered the adoption of life cycle approaches have done so with the aim of bringing more ‘balance’ to public debates about the environmental burdens associated with the products they contribute to producing.

Industry is also responding to the increasing responsibilities which are being placed on them to manage and reduce environmental impacts across life cycles (producer responsibility, integrated chain management) through regulations and voluntary agreements.
Our results show that most of the firms interviewed think of themselves as providers of products, rather than services. Overall, no broad trend away from production of products towards the provision of services can be detected in EU manufacturing industry. Nor have we detected a generic shift towards the leasing concept, although there are exceptions to both of these rules.

Given the differing technological and market contexts in which firms operate, the attitudes and actions taken in managing the environmental impacts of product systems vary greatly across different sectors. In general we have found a very mixed picture, within and across sectors.

There is also little clear pattern in specific actions taken. Environmental information is transmitted in a variety of ways, through labels, product dossiers, and annual reports, for example. The level of involvement in recovery and recycling was lower than anticipated. Most firms agree that environmental performance plays a limited role in creating new markets for products and services, although there are exceptions in specific niches. Basic ground rules and checklists have been developed for product development, and in many firms some use is made of LCA-based tools. The most intensive use of these tools in product innovation tends to be among final goods producers where opportunities for making environmentally-significant changes to product systems are greater. The table below sets out these high-level conclusions by sector.
## EXECUTIVE SUMMARY (Continued)

### Summary of findings from business survey

<table>
<thead>
<tr>
<th>Building Blocks</th>
<th>Chemicals</th>
<th>Paper &amp; Pulp</th>
<th>Food</th>
<th>Electronic Goods</th>
<th>Consumer Goods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product or Service</strong></td>
<td>Product (some services)</td>
<td>Product</td>
<td>Product (and two retailers)</td>
<td>Product (and one service provider)</td>
<td>Product (some services)</td>
</tr>
<tr>
<td><strong>Customers</strong></td>
<td>Intermediate and final producers (some final consumers)</td>
<td>Intermediate and final producers (some final consumers)</td>
<td>Retailers and final consumers</td>
<td>Private and public sector customers and final consumers</td>
<td>Final consumer</td>
</tr>
<tr>
<td><strong>Product Management Actions</strong></td>
<td>Responsible Care and Product Stewardship</td>
<td>ISO 14000 becoming industry standard</td>
<td>Mixed picture, some PMS adoption</td>
<td>ISO 14000 becoming industry standard</td>
<td>Mixed picture, some in-house PMS</td>
</tr>
<tr>
<td><strong>Building Blocks</strong></td>
<td><strong>Transmitting Environmental Information</strong></td>
<td>Product data sheets, Environment reports, responses to inquiries</td>
<td>Product data sheets and some eco-labels</td>
<td>Contents and packaging labelling</td>
<td>Environment Reports, responses to inquiries</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environment labels</td>
<td>Environment reports, responses to inquiries</td>
<td>Environment labels</td>
<td>Environment reports, responses to inquiries</td>
</tr>
<tr>
<td><strong>Managing Wastes</strong></td>
<td>Minor activities in polymers</td>
<td>Plant level recycling, recovery infrastructure partner, recycled brands</td>
<td>Packaging waste recovery</td>
<td>Take-back of some items</td>
<td>Piloting take-back of some items</td>
</tr>
<tr>
<td><strong>Creating Markets</strong></td>
<td>Environment important in some niches</td>
<td>Environment has limited impact in some niches</td>
<td>Environment has limited impact in some markets</td>
<td>Environment has limited impact</td>
<td>Environment plays some role in creating new markets</td>
</tr>
<tr>
<td><strong>Green Product Innovation</strong></td>
<td>Wide use of LCA-based tools in final product development</td>
<td>No clear pattern</td>
<td>Environments a driver of packaging design-adoption of LCA-tools</td>
<td>Some use of LCA-based tools</td>
<td>Environment a driver, some use of LCA-based tools</td>
</tr>
<tr>
<td><strong>Allocating Responsibility</strong></td>
<td>Production phase</td>
<td>Production phase and some recycling</td>
<td>Production and packaging recycling</td>
<td>Production phase</td>
<td>Varied - only production phase to total life cycle</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY (Continued)

<table>
<thead>
<tr>
<th>Impact of Product Policies</th>
<th>Minor</th>
<th>Minor</th>
<th>Yes, Packaging directive</th>
<th>Minor</th>
<th>Yes, take-back and energy standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectations of Product Policies</td>
<td>Common rules and environmental objectives</td>
<td>Paper recovery infrastructure development</td>
<td>Packaging recycling infrastructure development</td>
<td>Common rules and shared responsibility</td>
<td>Consistent environmental objectives</td>
</tr>
</tbody>
</table>

**Impact and Expectations of Public Policy on Product Management**

In general the impact of product policies has been minor in the industrial sectors surveyed for this study. The main impacts detected were from packaging and take-back regulations in the food and consumer goods sectors.

Industry is in general suspicious of efforts by policy makers to manage the environmental performance of products. They fear that direct regulations will have an impact on their competitiveness, while not effectively improving environmental performance. There is also a widespread resistance to the concept of Extended Producer Responsibility and a preference for the alternative concept of Shared Responsibility. The most consistent signal from industry is that they are supportive of risk-based approaches to reducing the environmental burden associated with final consumption, but that this is only possible if basic environmental objectives are clearly articulated by policy makers, and if a ‘level playing field’ exists, within the EU and globally.

**Consumers**

Consumers can play an important role in influencing the environmental behaviour of manufacturers, and do play a fundamental role in determining broader environmental impacts through patterns of consumption. The consumer’s influence runs throughout the entire product life cycle; affecting patterns of purchasing, use and product discard.

The types of consumer we consider to be of particular relevance to the product policy context are individuals (acting as private consumers), professional or corporate consumers (often in the supply chain of manufacturers), and agencies of government who carry out public purchasing. Our overall conclusion is that a number of factors combine to create obstacles to environmentally-conscious purchasing, use and product disposal amongst all three classes of consumer. These include lack of knowledge, perceptions of cost, additional complexity, and inertia. The most important factor in all areas is the need for the sensible provision and use of environmental information.
EXECUTIVE SUMMARY (Continued)

A Framework for IPP

One of the key tasks of this study has been to develop an analysis of IPP which can inform the development of European Commission policy. Our approach has been both empirical and conceptual. We have analysed policies related to products and the environment at the national level, and within firms and consumer organisations. This analysis has supported the development of a general framework for IPP which can be applied at the EU or the member state level. The study has shown that there is currently much policy activity related to products and the environment, but that substantial differences in the scope and approach have emerged between national product-oriented policies.

A Definition

Having reviewed the existing literature and analysed the results from our empirical research, we propose a limited definition of integrated product policy. The global objective of IPP is to improve the resource efficiency and reduce the environmental impact of the final consumption of goods and services. We propose a more specific definition of IPP, as:

Public policy which explicitly aims to modify and improve the environmental performance of product systems

The key aims of this definition are that IPP relates to:

- **products**: that is, artefacts rather than ‘services’. We do not believe that the debate over ‘products’ and ‘services’ is sufficiently mature for conclusions to be drawn about the need for, or benefits of a generic shift from products to services. We also argue that the ‘sustainable consumption’ concept is well defined enough to form the basis of EU policy action and therefore do not include the wider issue of consumption in our definition.

- **the environment**: policies defined as IPP must be explicitly concerned with resource efficiency or environmental impacts of products. We believe that the introduction of implicit environmental impacts makes it impossible to draw a boundary between what is and is not IPP.

- **the life cycle of the product**: policies defined as IPP must be ‘integrated’. They must be concerned with resource efficiency or environmental impacts across more than a single stage of the product life cycle. Ideally they would be concerned with the total life cycle.

We have chosen this limited definition as a way of establishing clarity about the objectives and instruments of IPP. We believe that a strong, coherent and effective EU IPP will depend on a definition which is limited and clear. A new field of policy must
be defined that is as distinct as possible from existing fields of policy. Without this, political support and clearly defined actions will be more difficult to achieve.

The ‘Building Blocks’ of Integrated Product Policy

From our research and analysis, we have identified five core packages of policies, or ‘IPP Building Blocks’ which are common to all contexts. These policy building blocks are made up of specific policy instruments. Taken together these specific measures organised within building blocks would form an Integrated Product Policy. Each building block is a cluster of policies which share a common objective. This study has identified five IPP building blocks:

- measures aimed at reducing and managing wastes generated by the consumption of products: these will include ‘dissipative wastes’ (material wastes generated in ‘using up’ a product) and ‘non-dissipative wastes’ (material streams which may be recovered and reused or recycled). Measures in this category may currently be classified as chemicals or waste policies.

- measures targeted at the innovation of more environmentally-sound products: these will include measures aimed at stimulating research and development of technologies and products; and measures to encourage the environmental management of products.

- measures to create markets for more environmentally-sound products: these will be measures which encourage the adoption of environmentally-friendly products onto the market, both in the private and public sectors.

- measures for transmitting information up and down the product chain: these will be measures which encourage greater transparency about the environmental burdens and full environmental costs of product systems. These informational and price signals will serve to alter customer behaviour across the product system.

- measures which allocate responsibility for managing the environmental burdens of product systems: these will be measures which allocate legal and financial liability for the product-system environmental burdens. This would include potential burdens (related to the design of the product), and actual burdens (related to the actual use and discard of products).

A wide variety of measures are represented with the IPP building blocks, some very product-specific (take-back regulations), others cross-cutting and general (a generic producer responsibility policy). All are connected in being aimed at improving the environmental performance of product systems. The building blocks framework is used as a heuristic device throughout our analysis, and in our discussion of policy recommendations.
Role of the European Commission

Given the potential risks of inaction at EU level, and the capacity for the EU to play a positive enabling role, we conclude that the European Commission has an important role to play in the development of this new arena of policy. We believe that the European Commission may take four key roles in integrated product policy:

- to define a common understanding of integrated product policy, and to articulate a common vision of what it is setting out to achieve. A key task in this is being clear about objectives;
- to encourage the diffusion of best policy practice beyond the ‘heartland’ of member states which have already taken concerted action, and so to harmonise the ‘product policy context’ across the EU;
- to support the effective implementation of product policies through the integration of product policy aims in EU policy more generally, and
- to develop specific integrated product policy measures where action at an EU level is justified, taking into account internal market provisions and the principle of subsidiarity.

This policy approach may be characterised as enabling, primarily concerned with capacity-building, encouraging convergence between policies at a national level, and enabling national policies to work effectively. It is not an approach reliant on traditional command and control mechanisms. It is well-attuned to the fragmented nature of current national activity and also to the principle of subsidiarity.

Recommendations

In considering the four key roles described above, we consider that there is a sensible order of priority which the Commission should follow. It is clearly of prime importance to establish a common understanding of product policy, and to articulate that in a product policy ‘vision’. This visioning activity needs to set out clear objectives. Diffusing best policy practice and supporting policy implementation can be seen as second-tier activities, which can only occur on the back of clearly articulated definitions and objectives. All of these areas of activity need to be built upon a foundation of specific measures. We propose specific measures in relation to these three overarching roles, and also provide recommendations relating to the five building blocks.
The diagram below summarises our detailed recommendations, along each of the four key roles identified and in each of the five building blocks:

- **Managing Wastes**
  - Review prohibitions policies
  - Extend systematic management to all non-dissipative waste streams

- **Green Product Innovation**
  - Increase emphasis on Green product R&D
  - Initiate an EU eco-design scheme

- **Creating Markets**
  - Integrate environmental factors into EU public procurement policy
  - Support related electronic trading initiatives
  - Develop EU Green fund to support procurement
  - Encourage the development of product focused fiscal measures

- **Transmitting Environmental Information**
  - Develop a differentiated product information policy
  - Analyse best practices for conveying information to consumers
  - Target retailers, and consider an EMAS-type scheme for them
  - Develop labelling code of practice

- **Allocating Responsibility**
  - Extended producer responsibility applying on a case by case basis
  - Study business opportunities and environmental benefits of leasing and pooling concepts

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Executive Summary (Continued)
EXECUTIVE SUMMARY (Continued)

Concluding Remarks

In the longer term the development of IPP is about the structured accumulation of measures. We therefore consider that the EU needs to be working along many fronts at the same time, encouraging the development of policies in each of the five building blocks. It is important that measures are planned, developed, and implemented in an integrated framework. A lesson from experience of the European Eco-label is that the introduction of a single isolated instrument lessens its chance of becoming effective policy. IPP needs to be seen as an integrated whole. We have therefore provided a framework for IPP and some detailed elements of policy applicable at EC level. We consider that the EU should be actively encouraging member states to adopt this framework and recommending that they develop measures which derive from it as well. This will not only ensure that there is consistency, but that there is dynamism in the process and burgeoning constituencies of interest.

A Timeframe for Action

We have commented previously that there is a sensible order of priority which the Commission should follow when taking these recommendations forward. More specifically, we believe that the desired actions fall into two broad categories: short-term actions to be taken from now over the next 12-18 months, and medium-term actions from 18-36 months. Work on some of the medium-term actions could begin now, but due to the complexity of the task, will take longer to achieve. Most of the short-term items should be capable of completion within 12-18 months. Some of the medium-term actions, such as developing product-focused fiscal measures, describe a process which will probably require longer than 36 months.
However, we consider it is important to make good progress in these areas, as pressure for progress will probably continue from member states, and companies will be keen to have as clearly defined a framework as soon as possible. The table below groups our recommendations into these categories.

<table>
<thead>
<tr>
<th>Short term actions</th>
<th>Medium term actions</th>
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<tbody>
<tr>
<td>Publish a paper on IPP</td>
<td>Instigate and lead an IPP best practice network</td>
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<tr>
<td>Create a policy-makers round table</td>
<td>Explore sector-specific best practice schemes and tailored support for SMEs</td>
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<tr>
<td>Open consultation with industry</td>
<td>Review prohibitions policies</td>
</tr>
<tr>
<td>Organise and convene an IPP conference</td>
<td>Extend systematic management to all non-dissipative waste streams</td>
</tr>
<tr>
<td>Integrate a product focus into all relevant EU policy</td>
<td>Increase the emphasis of green product R&amp;D</td>
</tr>
<tr>
<td>(start now, and continue over medium-long term)</td>
<td>Initiate an EU eco-design scheme</td>
</tr>
<tr>
<td>Develop links between product policy and EMAS</td>
<td>Integrate environmental factors into EU public procurement policy</td>
</tr>
<tr>
<td>Conduct a study into competitiveness and trade impacts of IPP. Ensure continued research into LCA in Fifth framework programme</td>
<td>Develop EU fund to support green procurement</td>
</tr>
<tr>
<td>Support relevant electronic trading initiatives</td>
<td>Encourage the development of product-focused fiscal measures</td>
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<td>Study the business opportunities and environmental benefits of leasing and pooling concepts</td>
<td>Apply extended responsibility on a case by case basis</td>
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