EUROPEAN PARLIAMENT

1999 *2004*

Session document

FINAL
A5-0261/2004

8 April 2004

REPORT

on the communication from the Commission to the Council and the European Parliament on Integrated Product Policy – Building on Environmental Life-Cycle Thinking
(COM(2003) 302 – C5-0550/2003 – 2003/2221(INI))

Committee on the Environment, Public Health and Consumer Policy

Rapporteur: Anders Wijkman

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PROCEDURAL PAGE

By letter of 18 June 2003 the Commission forwarded to Parliament its communication to the Council and the European Parliament on Integrated Product Policy – Building on Environmental Life-Cycle Thinking (COM(2003) 302), which had been referred for information to the Committee on the Environment, Public Health and Consumer Policy and the Committee on Industry, External Trade, Research and Energy.

At the sitting of 18 December 2003 the President of Parliament announced that the Committee on the Environment, Public Health and Consumer Policy had been authorised to draw up an own-initiative report on the subject under Rules 47(2)and 163, and the Committee on Industry, External Trade, Research and Energy for its opinion (C5-0550/2003).

The Committee on the Environment, Public Health and Consumer Policy had appointed Anders Wijkman rapporteur at its meeting of 26 November 2003.

The committee considered the draft report at its meetings of 16 March 2004 and 6 April 2004.

At the last meeting it adopted the motion for a resolution by 26 votes to 16, with 4 abstention .

The following were present for the vote: Caroline F. Jackson, chairman; Anders Wijkman (for Raquel Cardoso), rapporteur; Bent Hindrup Andersen (for Jean-Louis Bernié), María del Pilar Ayuso González, María Luisa Bergaz Conesa, Hans Blokland, John Bowis, Hiltrud Breyer, Martin Callanan, Dorette Corbey, Alexander de Roo, Säid El Khadraoui, Anne Ferreira, Christel Fiebiger (for Jonas Sjöstedt), Karl-Heinz Florenz, Cristina García-Orcoyen Tormo, Robert Goodwill, Françoise Grossetête, Martin Kastler, Hedwig Keppelhoff-Wiechert (for Marialiese Flemming), Christa Klaß, Eija-Riitta Anneli Korhola, Hans Kronberger, Bernd Lange, Paul A.A.J.G. Lannoye (for Marie Anne Isler Béguin), Peter Liese, Giorgio Lisi, Minerva Melpomeni Malliori, Patricia McKenna, Rosemarie Müller, Riitta Myller, Ria G.H.C. Oomen-Ruijten, Marit Paulsen, Dagmar Roth-Behrendt, Guido Sacconi, Yvonne Sandberg-Fries, Karin Scheele, Inger Schörling, María Sornosa Martínez, Catherine Stihler, Robert William Sturdy (for Giuseppe Nisticò), Nicole Thomas-Mauro, Astrid Thors, Antonios Trakatellis, Peder Wachtmeister, Phillip Whitehead.

The Committee on Industry, External Trade, Research and Energy decided on 2 October 2003 not to deliver an opinion.

The report was tabled on 8 April 2004.

MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

on the communication from the Commission to the Council and the European Parliament on Integrated Product Policy – Building on Environmental Life-Cycle Thinking
(COM(2003) 302 – C5-0550/2003 – 2003/2221(INI))

The European Parliament,

- having regard to the communication from the Commission to the Council and the European Parliament on Integrated Product Policy – Building on Environmental Life-Cycle Thinking (COM(2003) 302 – C5-0550/2003)[1],

- having regard to The Sixth Environmental Action Program[2],

- having regard to The Fifth and Sixth Framework Programs for Research, Technological Development and Demonstration Activities,

- having regard to the Lisbon Process, Council Conclusions 15-16 June 2001,

- having regard to the Directive on Public Procurement 98/4/EC amending directive 93/38/EEC[3],

- having regard to the proposed Directive on Energy-Using Products, (COM (2003) 453),

- having regard to the communication of the Commission on a Thematic Strategy on the Sustainable use of Natural Resources (COM(2003) 572) and the Action Plan on Environmental Technologies (COM(2004) 38),

- having regard to Rules 47(2) and 163 of its Rules of Procedure,

- having regard to the report of the Committee on the Environment, Public Health and Consumer Policy (A5-0261/2004),

A. whereas economies are like ecosystems: both systems take in energy and materials and turn them into products and processes, the difference being that our economy follows linear resource flows whereas nature is cyclic; and whereas ecosystems perform functions which convert waste into resources, by transferring energy from the sunlight, and whereas industrial processes are not able to do this; whereas, against the backdrop of rapidly growing economies and populations, production and products that lead to waste streams which nature cannot absorb and turn into new resources are increasingly problematic from the point of view of sustainability,

B. whereas the changes in the biosphere induced by human society are widespread,

C. whereas incremental policy steps have led to improvements, but real progress towards

[1]Not yet published in OJ.
[2] OJ L 242, 10.9.2002, p. 1.
[3] OJ L 101, 1.4.1998, pag. 1.

sustainable development can not be achieved through such measures alone,

D. whereas to exceed the carrying capacity of the earth can help society temporarily to raise material living standards but, at the same time it puts our natural capital in serious decline; whereas limitations to prosperity in the future will be determined by natural capital rather than industrial innovation and skills,

E. whereas the interests of commerce and the environment need not be in conflict, recognising at the same time that sustained economic prosperity in the future will only be possible in a market-based system in which all forms of capital, including natural capital, are fully valued, and the costs of damage to human health and the environment are fully internalised into product prices,

F. whereas a transformation of the present system of production and consumption is urgently needed; whereas the main objective is to change consumption in a sustainable direction and bring the processes of raw material extraction, production and product design as much into line with natural processes and designs as possible,

G. whereas society depends primarily on products made up of a set of different materials i.e.: biological, mineral and synthetic materials, which are often combined to produce composite materials and whereas these materials ought to be used and handled in such a way, that, when the useful life of the products is over, they do not become useless waste,

H. whereas the creation of product life cycles would be facilitated significantly by the phaseout of substances that are persistent, toxic and bioaccumulative, or of similar concern,

I. whereas the IPP concept offers opportunities to create a framework for the systematic bundling of those instruments of substance-oriented environmental policy and policies on the protection of natural elements (such as water, air, etc.), conducted to date, and which have had an isolated impact, so as to make instruments for resource efficiency, waste minimization and controlled use of hazardous substances more coherent and more transparent for consumers and industry,

J. whereas the Commission proposal, giving priority to "working with the market" has its merits whereas such a strategy should be accompanied by sound scientific research into the internalisation of external costs and can only be successful if scientifically clear boundary conditions are set, based on the carrying capacity and preserved health of the natural systems,

K. whereas the IPP is meant to be an integrating concept, providing principles to be observed by EU environmental policies in general,

L. whereas the Commission has launched a variety of policy proposals, all related to IPP, without sufficient attention being paid to the need for an integrating systems view and to the many links and synergies that do exist,

M. whereas the Commission initially devotes all its attention to products; whereas this is highly regrettable since it is by offering services, rather than products, that powerful

incentives are created for a more efficient use of energy as well as materials,

N. whereas our industrial system feeds on distant ecosystems by means of trade and is often insensitive to their degradation; whereas this implies that efforts to promote the IPP-approach on an international level as pointed out in the Communication are highly important;

O. whereas consumers are in great need of relevant information as regards the environmental characteristics of products and whereas the various eco-label systems were launched with the best of intentions; whereas, however, most eco-label efforts have not come up to expectations, one reason being that no work has ever been done on reduced VAT for eco-label products; whereas the most obvious shortcomings are those observed at EU level,

P. whereas the information flow through the whole product chain needs to be improved and whereas there is a need for the development and co-ordination of different information instruments, not least to facilitate reuse and recycling;

1. Welcomes the IPP communication but regrets that it provides only limited guidance on how to move society in the direction of truly sustainable systems of product development and design;

2. Calls on the Commission to present, at the earliest possible opportunity, a framework directive for IPP based on a set of clearly defined principles and objectives; points out that the objective is not to present detailed requirements on all products but to establish framework conditions aimed to facilitating business practices in the future which should be built on systems thinking, giving priority to resource efficiency and should be structured progressively along biological lines;

3. Notes that the IPP concept must be geared to creating a framework for product-related systematic bundling of those instruments of substances-oriented environmental policy and policies on the protection of natural elements (such as air, water, etc.), which have been conducted to date and which have had an isolated impact and for making those instruments coherent; calls on the Commission to formulate tangible objectives aimed at establishing coherence and consistency in the area of product-related environmental protection;

4. Suggests that the main principles guiding the IPP framework have to be based on:

   a) systems-based approach, where life-cycle thinking is at the core and primary attention is given to product design,
   b) an enhanced understanding of how natural systems work and of how structuring business along biological lines can improve both the environment and establish the bottom line.
   c) ensuiring that products, whose useful life is over, should ideally not become useless waste but be separated and reconditioned to become inputs for new production cycles,
   d) an enhanced understanding of how consumption patterns are formed and how they can be changed to contribute to sustainable development.
   e) optimization of the product design process, by the selection of low-impact materials - giving preference to bio-based materials; moreover, scarce elements, like many heavy

metals, should not be allowed systematically to increase in concentration in the biosphere; furthermore, chemicals should be used in a non-dissipatory way; safety of chemicals should be assessed through a science-based hazard and/or risk-approach; priority, should be given, however, to the substitution principle meaning that hazardous substances including many heavy metals should preferably be replaced by more benign ones or safeguarded through tightly controlled closed-loop recycling,

f) optimization of production techniques, by giving preference to the clustering of production by encouraging reuse and recycling of materials, in particoular by developing techniques for the separation and reconditioning of used products and materials to become input for new production cycles,
g) reduction of impact during use,
h) making full use of the potential offered by ICT to promote miniaturisation and dematerialisation, enhancing energy and material efficiency and reducing transport demand turning products into sustainable services,
i) maximum involvement of stakeholders;

5. Suggests that the short-term objectives for the IPP framework ought to be focused on reductions in emissions of greenhouse, eutrophying and acidifying gases and air pollutants, reductions in energy intensity, reductions in the use of hazardous substances and reductions in the intensity of virgin material resource use, water use, waste production and increase in renewable material use;

6. Recognises that, without the creation of such a framework the necessary signals and incentives are not put across to designers and decision makers; insists that the IPP framework should provide clear targets for these priority environmental objectives, drawing from existing and future targets and objectives in the relevant framework directives, international conventions and thematic strategies so as to send a clear orientation to designers and decision makers;

7. Calls on the Commission to assist industry in the on-going IPP process by means of coherent and consistent rules in order to promote sustainable development and rethink traditional business models in an affort to facilitate the evolution of more integrated and systems-based practices, such ad for instance **the clustering of production**, **functional thinking (**turning products into services), **dematerialisation** and **technology development based on imitating nature**;

8. Calls on the Commission to give priority to the following actions:

g) develop the necessary incentives to promote IPP,
h) identify key R&D areas and pilot projects,
i) develop and implement effective information tools at the consumer level (product registers, eco-labels and/or comparable tools); present a strategy on how different information instruments can be developed and co-ordinated in order to improve the information flow in the whole product chain,
j) develop and implement education and awareness-raising programs in society at large, giving special attention to certain target groups,
k) integrate IPP and life-cycle thinking in all major EU policy areas,
l) draw up a plan for co-ordinating IPP with other on-going processes such as relevant thematic strategies, the follow-up to Johannesburg, Chemical Strategies, Climate action

plan etc.

9. Calls on the Commission to explore possible measures for the promotion of sustainable consumption with a focus on reduced resource consumption and resource efficiency, enabling consumers to act in a more sustainable way;

10. Calls on the Commission to make the various IPP instruments (including eco-labels, management systems, public procurement, EMAS, product information, etc.) dovetail with each other, to make them clear for the consumer and practicable for all undertakings;

11. Calls on the Commission, when refining the IPP concept, to attach particular importance to knowledge transfer and environmental information for consumers;

12. Recommends that the Commission develop the concept of life-cycle thinking into a policy principle that could be referenced but stresses the need to have a realistic understanding of the value and manifold limitations of life-cycle assessments (LCAs), in particular given the continuing problems with regard to the availability, quality and comparability of LCA data;

13. Calls on the Commission to mainstream the IPP concept in all its relevant legislative proposals;

14. Recommends that the Commission draw up a strategy within the Copernicus Charter in order to add the life-cycle and eco-design concept as an objective in primary and higher education and engineering training;

15. Calls on the Commission to carry out an IPP compatibility review of existing legislation;

16. Calls on the Commission to develop a system of benchmarking for key product groups in order for improvements in environmental performance to be measured over time and to formulate mandatory minimum design obligations;

17. Urges the Commission to recognise the key role played by the availability, quality and comparability of environmental lifecycle data of products in enabling IPP – especially for benchmarking, labelling and other IPP tools;

18. Urges the Commission to initiate a process whereby the targets outlined in the previously presented Action Plan on Green Public Procurement become binding;

19. Urges the Commission to develop systems for technology procurement at EU-level, ideally managed by the Commission or managed by the member states and coordinated by the Commission, the purpose being to stimulate the development of more functionally-oriented innovations, including enhanced environmental performance;

20. Insists that market prices must reflect the true social and ecological costs of production and consumption in order for "green products" to attract the interest of consumers and in order to encourage the evolution of more sustainable products; urges the Commission to reduceand/or eliminate subsidies counteracting IPP; urges the Commission to take the lead in implementing the Polluters Pays Principle; calls on the Commission to promote 'working with the market', to which the Commission proposal attaches priority, and have

this accompanied by sound scientific research into the internalisation of external costs;

21. Calls on the Commission to give at least equal relevance to "service design" (functional and system thinking) as compared to "product design" and to undertake clear actions within IPP to shift from products to services, where possible and environmentally beneficial;

22. Calls on the Commission to assess the achievements and limitations of the New approach and present proposal for the revision of the New Approach;

23. Calls on the Commission and on the Member States to make available sufficient resources to implement IPP;

24. Recommends that the role of retailers in delivering product information be further investigated, and that the critical role of marketing and indeed of the finance and insurance sectors should be recognised;

25. Considers that public access to environmental information on products is a fundamental prerequisite for and incentive to manufacturers to reduce the life-cycle impactss of their products;

26. Calls on the Commission, to take into consideration on-going R&D programs on eco-design and to use resources within the Sixth Framework Programme proactively to stimulate the necessary trans-disciplinary research needed for IPP, including the development of appropriate business models; takes the view that special emphasis should be given to the development of standards for re-usable materials and separation techniques for multi-layer materials;

27. Calls on the Commission to establish a steering committee for IPP as well as working groups in specific areas, such as systems design, economic tools, product environmental lifecycle data and consumption policy; is of the opinion that parallel to this, clear stakeholder procedures and a detailed workplan and timetable for actions, initiatives and implementation foreseen by the Commission should be established; believes, moreover, that a study should be initiated to clarify how and in what way the various tools and instruments considered to promote IPP interact, strengthen and support each other; takes the view that important aspects to be taken into consideration would be measures that enable and motivate individuals as well as companies to take lifecycle concerns in their decisions, measures that stimulate and reward leaders and measures that force laggards to improve, measures that address immediate challenges as well as long term objectives;

28. Calls on the Commission to take initiatives to promote the transfer of IPP knowledge (LCA, eco-design, etc.) to developing countries;

29. Instructs its President to forward this resolution to the Council and Commission.

EXPLANATORY STATEMENT

The IPP communication in short

Traditional environmental policies have been relatively successful in combating point source emissions. However, the negative impact from consumption and transportation is becoming increasingly serious. Although energy and material efficiency have increased across the board, the generation of waste and pollution is rapidly increasing. A recent report by the EEA confirms that the total volume of waste within EU member states increased by more than 15% during the 1990´s.

Through globalisation, western production and consumption patterns are rapidly spread across the world. Against the backdrop of growing economies and populations, pollution levels will continue to rise and lead to increasing pressure on the natural systems. If prevailing production and consumption systems are not drastically changed, we are no doubt heading towards serious ecological disasters. The main responsibility to address these problems rests with industrialized countries. Given the central role of sustainable development in the Treaty, the EU ought to take a lead role in these efforts.

The IPP Communication should be seen against this general background. According to the proposal IPP shall "contribute to addressing the environmental challenges identified both in the Sixth Environmental Action Program and the Sustainable Development Strategy". More specifically, it "seeks to support sustainable development by reducing resource use and the negative impact of waste disposal and by reducing the environmental impact from products throughout their life-cycle". The proposal aims at "supplementing existing product-related polices by providing a wider "life-cycle" conceptual framework". Furthermore it "will strengthen the co-ordination and coherence between existing and future environment related product policy instrument".

To achieve these goals the Commission will focus on two interrelated actions. Firstly, "by establishing the framework conditions for the continued environmental improvement of all products throughout the lifecycle". Secondly, "by developing a focus on products with the greatest potential for environmental improvements".

The main challenges of sustainable development - putting IPP in a prespective

At the beginning of the industrial revolution both skilled labour and financial capital were relatively scarce, while global stocks of natural capital were abundant and little exploited. Today the situation has radically changed and nature is becoming alarmingly scarce. The main problem is not that we will run out of finite materials, like minerals or oil. No, the main problem is the potential loss of living systems, on which we all ultimately depend.

The market system, as practised, has so far been financially profitable. But it is not sustainable, the main reason being its neglect to assign a correct value to the largest stocks of capital it employs – the natural resources and living systems. Many of the services we receive from the living systems have no known substitutes at any price.

To exceed the carrying capacity of the earth can help society temporarily to raise material living standards but, at the same time, it puts our natural capital in serious decline. To use a metaphor: the ability to accelerate a car that is low on gasoline does not prove that the tank is full.

Besides climate, the changes in the bioshere are widespread. In the past fifty years the world has lost an estimated fourth of its topsoil and a third of its forest cover. We are loosing fresh

water ecosystems at the rate of 6% a year and marine eco-systems by 4% a year. Moreover, as a result of prevailing production and consumption patterns, a gradual build-up in nature of potentially hazardous substances is taking place.
Few of the major environmental problems experienced so far have been predicted by science before they were actually observed. The fact is that our understanding of the complete make-up and functions of the global eco-system is very incomplete. One reason for this is the vertical organisation of both science and education.
CFC´s for instance were initially perceived as ideal chemical compounds from a sustainability perspective. In retrospect, however, they were found to have a destructive effect on the ozone layer. There are numerous historical examples of products and practices, assumed to be have been ”without danger”, but which later on have been revealed as inherently unsustainable for large-scale societal use. Examples include PCB, DDT as well as the methyl mercury in biota. Other examples, potentially more serious, are now being discussed: brominated flame retardants in our blood, endocrine disruption of human foetal development by plastic additives, man-made antibiotics leaking into nature, cadmium accumulating in our bodies etc.

Nothing disappears – everything spreads

Materials introduced in society will eventually disperse in nature, no matter what we do. Hence, the products and services being offered have to be as clean as possible and in co-evolution with nature. Air, water and soil will not be able to safely absorb our waste products unless the waste itself is healthy and biodegradable. For example, recent studies have found hormones, endocrine disrupters, heavy metals and other dangerous compounds in bodies of water that receive "treated" sewage effluents.
Furthermore, a number of studies have shown that various products, like a computer mouse, an electric shaver and a portable CD player during their use off-gas teratogenic and/or carcinogenic compounds – substances known to have a role in causing birth defects and cancer. Such products produce poor indoor quality and are also likely to cause serious allergies and/or weaken the immune system among segments of the population.
Europe´s growth experience over the last decades can be summarized as both too little, and of the wrong kind. Too little, because it has failed to produce enough jobs for its labour force. Of the wrong kind, because of an unsustainable production model based on material and energy intensive structures.
Incremental step-by-step approaches by governments have led to improvements, but progress towards sustainability cannot be achieved through such efforts alone. The resource efficiency gains brought about by the rise of eCommerce and the shift from heavy industries towards knowledge-and service-based industry have been more than offset by the tremendous scale of economic growth and consumer choices that favor energy-and material-intensive lifestyles.

IPP provides unique opportunities

The IPP concept offers excellent opportunities to create a framework of incentives for both businesses and consumers to move away from a production model of linear flows of resource use to one characterized by resource efficiency, waste minimization, controlled use of hazardous substances and restoration and expansion of the stocks of natural capital. Such a shift will not happen over night. It will require a **long-term vision** of the role of IPP in the necessary transformation of the industrial system of production. Moreover, **clear environmental objectives** are needed for short-term action. The Commission proposal is conspicuously vague on both these counts. To turn the obvious potential of IPP into reality will require a much more proactive approach than the one presented by the Commission.

A new type of industrialism is needed.

We know today that incremental change has not worked well enough. Eco-efficiency is a step in the right direction. But to really move society in the direction of sustainability, a new approach is needed. To pollute less is not sufficient as a strategy.

As more people and businesses place greater strain on living systems, limits to prosperity will increasingly be determined by natural capital, in combination with industrial innovation and leadership. Future economic progress will only be possible in a market-based system of production and distribution in which all forms of capital, including natural capital, are fully valued.
Today´s more or less linear material flows means that the natural systems are damaged by increasing volumes of waste and pollution. Also important, and often overlooked, is the fact that a lot of resources are wasted. The principles guiding IPP must therefore be derived from a much better understanding how natural systems work. Product design and production should be made much more in line with natural processes and designs.
Consumption today is based on products made up primarily of the following types of materials: **renewables, minerals, chemicals** and **composite materials**. To enhance material efficiency does not only mean to do more with less. Materials should be handled in such a manner that, when the useful life of a product is over, it does not become useless waste but can be separated and reconditioned to become inputs for new productive use - or, when this is not possible, be turned into nutrients for biological processes. Such a direction of production and product design would offer benefits for society as well as for business.

A strategy like this would only work if it were based on the following conditions:

First and foremost, to base production and product design as much as possible on renewable materials. By doing so, residue materials can easily be turned back to nature and be used as nutrients. For instance, there are fascinating developments within bio-technology companies offering all kinds of non-petroleum plastics (derived from different grains). Special attention should be given to packaging materials. Such materials make up a significant part of the waste volumes in our society. A lot would be gained if the bulk of packaging was biodegradable. Why should tooth-paste tubes and ketchup bottles, to take a few examples, last for decades while their content is consumed more or less instantly.

Secondly, to stimulate the clustering of different production activities, regardless if they are based on biomass or non-renewables, so that residue materials from one process can be easily used as inputs in another process. By doing so new jobs would be created, the busines cash-flow would improve and pollution would be reduced. In order for this to happen, present incentives structures in the economy as well as business models may have to be reconsidered.

Thirdly, to encourage R&D for the development of separation techniques for the increasing volume of composite materials in society. Many of these materials are positive from a functional point of view and often lead to reductions in energy and material use. However, in order to for these materials not to become useless waste, they must undergo separation so as to be used again productively. A case in point is the rapidly increasing volumes in society of CD:s and DVD:s. Billions of these will end up in the waste stream unless technologies are

developed to separate aluminium from the polycarbonates. Or take another example of multilayers: Paper, low density polyetheline and aluminium are all common in packaging materials. Historically these materials have not been possible to separate, the result being a loss of valuable materials as well as huge volumes of waste. Recent research, however, shows that separation is possible, using biological processes. These are the kind of research efforts that have to be supported.

Fourthly, to separate as much as possible material flows that are based on renewables from those based on minerals and/or chemicals. Scarce elements, like most heavy metals, should not be allowed to systematically increase in concentrations in the biosphere; they should either be substituted for by other materials or safeguarded in tight technical loops within society.

Fifthly, to use chemicals in a non-dissipative way; priority hazardous substances should be replaced by more benign ones or safeguarded through tightly controlled closed-loop recycling.

Specific comments on the IPP proposal.

The EU IPP-strategy needs to focus both on short and long term improvements, strive for incremental improvements as well radical new solutions. IPP should build upon existing knowledge to develop a policy mix that should strive to strengthen the drivers and tear down the barriers for shifting society towards sustainable development.

There is a need for clear objectives. The communication puts forward two overarching objectives that could be summarized as follows; *IPP aims at reducing resource use and the environmental impact of waste and reduce the environmental impacts from products throughout their life-cycle.*[1]While it is difficult to be specific on an overarching level, one problem with this formulation is that the objectives fail to give clear indications of the role of IPP in relation to other policy initiatives. It would therefore be beneficial for the IPP process to develop objectives on a more detailed level. These objectives should reflect priority environmental areas such as use of natural resources, prevention of waste, use of hazardous substances, reduction of greenhouse gases etc. As a support for the implementation of IPP and for facilitating the process there is a need for so called process objectives. Examples of such objectives are priority areas for R&D in relation to IPP, the development of the necessary policy incentives and indicators for IPP as well as the appropriate information and education tools.

The IPP strategy lacks a focus on innovation. A shift towards new production and consumption systems will depend a lot on innovation. It is surprising how little the IPP strategy emphasizes the role that IPP can play to trigger and support positive innovations such as systems design and systems innovation. The role of R&D is hardly mentioned in the communication.

To "work with the market" can only succeed within a context of positive incentive structures and clear boundary conditions. The Commission puts a lot of emphasis on "working with the market", such an approach has its clear merits, but it will only be

[1] The Commission Communication.

successful in an environment where "green products" are priced favourably compared to other products. The application of the Polluter Pays Principle would be a key step in the right direction. Moreover, in order for the market to function well, and live up to the overall objectives of IPP boundary conditions must be set, based on the carrying capacity of the natural systems.

The EU IPP strategy must include services. Although the Commission explicitly notes that services are not excluded from the scope of IPP, the implementation strategy is focusing primarily on products. Both Council and Parliament have called on the Commission to make services a part of the strategy at once. There are three major arguments for this. Firstly, the service sector is a large and important sector, with considerable associated environmental impacts, particularly in the southern part of Europe where tourism is an important source of income. Secondly, many products are already sold as a package together with associated services; thus there is already an intrinsic link between products and services. Thirdly, the encouragement of new models of providing products, through for example product service systems, where a company sells the function of a product rather than the product itself, is one way to address the problems of our high levels of resource use and waste generation.

The IPP-strategy needs include education measures to a larger extent. If people are to reflect on and include the lifecycle perspective into their decisions, education and information with regard to the underlying logic of lifecycle thinking is imperative. IPP must thefore include comprehensive plans for education activities directed at policy makers, current and future professionals in engineering, product design, marketing, purchasing, economy and general management as well as current and future consumers.

Develop a new generation of eco-labels. Consumers will play a critical role in ensuring the overall success of the future EU IPP framework through the product and service choices that they make. The provision of a complete and balanced set of information regarding the 'sustainability' of any given product or service is therefore central in the drive towards sustainable consumption. On the European level, the only system for environmental product information to the consumer is the EU-flower. In spite of good intentions the EU-flower has not been successful. It is therefore imperative that measures are taken either to greatly enhance the effectiveness and relevance of the EU-flower so it becomes a real tool for encouraging and enabling consumers to make a "green decision", or alternative tools for providing life-cycled based environmental product information need to be developed.

Public Procurment as well as Technical procurment can play a major role.
Public procurment represent an stimated 16 %of GDP within the EU. It could play a central role in enhancing demand for environmentally benign products. The same goes for technical procurment in areas of particular importance. Experince from several member states, such as Sweden, shows that well targeted technical procurment - as in the field of energy efficiency - has had a major impact on market developments.

IPP must rest on a balanced mix of policy tools
In implementing a variety of policy instruments as one of the key principles of the IPP-approach one should take the following into consideration

- Measures that enable individuals and organizations to reflect lifecycle concerns in their decisions as well as measures that motivate such concern. The proposal from the commission lacks innovative suggestions on motivating measures.

- Measures that stimulate and rewards leaders as well as measures that force the laggards to improve.
- Measures that addresses immediate challenges as well as measures that lay the foundation for fundamental changes in the long run.