

Evaluation of the Ecodesign Directive (2009/125/EC) Second stakeholder meeting

Session 3 – Assessment of the feasibility and appropriateness of extending the Ecodesign Directive to cover non-energy related products and means of transport



Centre for
**Strategy & Evaluation
Services**



Structure of presentation

- Work plan - Tasks performed so far
- Methodological approach for case studies
- Presentation of case studies
- Remaining stages of the analysis
- Questions /comments on findings of the analysis for specific products and overall conclusions

Steps of the analysis

1. Identification of non-energy related products and selection of 5 products for in depth case studies – Completed
2. Case studies on representative products – To be completed following stakeholder meeting and feedback received
3. Use findings of the cases studies to derive conclusions on the feasibility of extension to broader product groups - In draft final report
4. Assessment the appropriateness of extension of the Directive to non-energy related products - Recommendations for modifications of the Directive - In draft final report

Step 1 - Identification of non-energy related products and selection of five case studies

- Top-down approach based on the identification of product categories covered by eco-labels, work by the Joint Research Centre
- Initial list of 38 product categories created
- Selection on basis of environmental impact (EIPRO study) and level of information available
- Selection of durable and non-durable consumer goods; combination of industrial and consumer goods

Steps 1 and 2 - Identification of non-energy related products and selection of five case studies

1. Agricultural/food products: Sausages and other prepared products
2. Consumer products – Durable : Clothing
3. Housing products: Floor coverings
4. Industrial/consumer non-durable products: All purpose cleaners and hand dish wash detergents
5. Means of transport: Passenger cars

Step 2 - Case studies of representative products

1. Economic and Market analysis
2. Review of the applicable legislation and other policy tools
3. Life Cycle Analysis on the basis of existing studies
4. Analysis of Ecodesign based requirements against alternative policy tools
 - Considered no action, self-regulation, labelling , financial instruments
 - Effectiveness, costs for implementation, feasibility, Impacts on Ecodesign implementation
5. Initial conclusions and extrapolations to broader product group

Case study 1- Food products

Sausages and processed meat products



Case study 1 - Sausages and processed meat products

Definition : ‘processed products resulting from the processing of meat or from the further processing of such processed products, so that the cut surface shows that the product no longer has the characteristics of fresh meat’ (Regulation 853/2004)

➤ Main types (according to FAO):

Fresh processed meat products (e.g. hamburgers, fried sausages, kebab),

Cured meat pieces (raw cured beef, raw ham, cooked beef, cooked ham,

bacon), **Raw cooked meat products** (Frankfurter type sausages, mortadella,

lyoner), **Pre-cooked cooked meat products** (liver sausage, corned beef, pate,

corned beef), **Raw-fermented sausages** (salami), **Dried meat products** (meat flosses, dried meat strips)

➤ Market size: Volume: 13 million tpy ; Value of € 66.3 billion

➤ Variations on the basis of the type (pork, beef, other) and percentage of meat and other ingredients – over 2000 recipes

Case study 1 - Sausages and processed meat products

Industry Profile	Environmental Impact Profile	Potential eco-design or other requirements identified
<ul style="list-style-type: none"> ➤ 14,000 firms in the EU ➤ Low concentration ➤ Four producers control 16% of market ➤ Large number of very small producers selling locally ➤ Important role of artisanal production in certain countries 	<p>Main impact Categories</p> <ul style="list-style-type: none"> ➤ Global warming ➤ Resource depletion ➤ Eutrophication ➤ Acidification ➤ Land use ➤ Water/energy use ➤ Solid waste 	<ul style="list-style-type: none"> ➤ Use of organic meat (introduction of minimum level in each product) ➤ Requirements on amount and recyclability of packaging <p>Other:</p> <ul style="list-style-type: none"> ➤ Labelling of products with information on environmental impacts ➤ Guidance on appropriate preservation and cooking methods
	<p>Key Lifecycle stages</p> <ul style="list-style-type: none"> ➤ Main: Raw material production (feedstuff/livestock breeding) ➤ Use (refrigeration and cooking) ➤ Production (packaging) ➤ Disposal (waste) 	

Case study 1 - Sausages and processed meat products

➤ Effectiveness

- Eco-design requirements not expected to have significant effects on raw materials production – input so far indicates limited capacity of producers (especially small size) to set process-related specifications on suppliers
- Not clear if mandatory use of organic meat would produce better results (trade-offs, current capacity limited, issue of costs to consumers)
- Water and energy use in production phase already under the scope of IED; Packaging aspects covered by Packaging Directive - questions of effectiveness of these tools
- Use-phase impacts depend on consumer behaviour - difficult to address with product requirements – and EuPs (refrigerators, ovens) that are already covered; mandatory labelling probably more effective tool
- Legislation or financial instruments aiming at livestock breeding changes at a large scale appear more effective

Case study 1 - Sausages and processed meat products

➤ Costs

- Not critical aspect in terms of implementation - Less costs than in the case of other tools (financial instruments)
- No assessment of possible costs to industry, issue for very small artisanal producers

➤ Feasibility

- Problems indicated with development of necessary standards for food products - Current approaches based on estimations (very wide variation) – difficult to ensure compliance
- Monitoring and enforcement – important allocation issues

➤ Impact on Ecodesign

- Need for change of MEEuP to accommodate impacts concerning crop production and livestock breeding issues

Case study 1 - Preliminary Conclusions

- Eco-design requirements do not appear appropriate to address the key lifecycle stage of raw material production associated – limited impact and unclear feasibility
- Greater impact expected from process focused tools such as regulations or financial instruments
- Similar conclusions are expected for most other agricultural products

Case study 2 - Durable consumer products

Clothing - Jeans and Leather Jackets



Case study 2 - Clothing : Jeans and Leather Jackets

Analysis specifies both the material and the functional product:

- **Cotton jeans**
 - At least 90 percent textile (cotton)
 - Diverse dyeing methods
- **Leather jackets**
 - No standard definition
 - Leather is primary, but not only, material (lining, buttons, stitching)
 - Different leather types exist (suede, top grain, full grain, bonded, etc)
 - Different animal types

Major trends:

- Significant shift to sustainability
- International supply chain
- Fully liberalized since 2009
- Demand is cyclical and driven by the fashion industry while supply is determined by retailers

Case study 2 - Clothing : Cotton jeans

Industrial Profile	Environmental Impact Profile <i>Most Significant</i>	Eco-design requirements considered
<ul style="list-style-type: none"> ➤ Industry driven by large retailers ➤ Global supply chain, easy to shift production ➤ European production in high-end market ➤ Low end highly price sensitive ➤ Steady demand 	<p>Impact Categories</p> <ul style="list-style-type: none"> ➤ Water consumption ➤ Aquatic eco-toxicity ➤ Energy use ➤ Human toxicity ➤ Solid waste <p>Lifecycle</p> <ul style="list-style-type: none"> ➤ Agriculture ➤ Cultivation cotton ➤ Use ➤ Washing ➤ Disposal 	<ul style="list-style-type: none"> ➤ Use of organic cotton ➤ Reduction in the use of fertilizers ➤ Extending product lifecycle <p>Other</p> <ul style="list-style-type: none"> ➤ Reducing frequency of washing or type of cleaning products used

Case study 2 - Clothing : Leather jackets

Industrial Profile	Environmental Profile <i>Most Significant</i>	Eco-design requirements considered
<ul style="list-style-type: none"> ➤ Constitutes 10-15 % of leather industry ➤ Highly cyclical ➤ Only high end production remains in Europe (5%) ➤ Main input is a by-product of meat industry 	<p>Impact Categories</p> <ul style="list-style-type: none"> ➤ Energy Use ➤ Waste ➤ Land use <hr/> <p>Lifecycle</p> <ul style="list-style-type: none"> ➤ Production ➤ Tanning process ➤ Fertilizer production 	<ul style="list-style-type: none"> ➤ Reducing emissions from tanning process <ul style="list-style-type: none"> ▪ modern European tanneries have little improvement potential ▪ Chromium, waste water ➤ Agricultural aspect is greatest improvement potential <ul style="list-style-type: none"> ▪ Requiring use of 'organic agriculture' or other cleaner production methods

Case study 2 - Assessment of Ecodesign against alternatives

- **Effectiveness**
 - Medium effectiveness- difficult to target through design standards
 - Alternative approaches could achieve relatively similar degrees of effectiveness
- **Costs**
 - High aggregate compliance and enforcement costs
 - Ecodesign approach would involve planning/ preparatory costs
 - Under a voluntary or labelling approach, these costs would be passed onto industry
- **Feasibility of Implementation**
 - Medium feasibility- would involve significant coordination
 - High aggregate administrative burden due to volume of imports and distribution chain
 - Threat of counterfeit or shift to imports
- **Impact on Ecodesign**
 - Difficulties of accounting for natural fibres under current Ecodesign approach

Case study 2 - Preliminary Conclusions

- Setting eco-design requirements appears inappropriate in the case of natural materials ; difficult to affect environmental impact through eco-design requirements
- Greater impacts expected from input or process focused requirements, not product-focused
- Use-phase impacts depend on:
 - consumer behaviour - difficult to address with product requirements
 - Role of complementary products (e.g. washing machines).

Case study 3 – Non-durable Consumer/Industrial products

All-purpose cleaners and hand dish wash detergents



Case study 3 - Product definition

- Products category
 - All-purpose cleaners (hard surface cleaners)
 - Sanitary cleaners
 - Window cleaners
 - Hand dishwashing detergents
- Covered products for private/household or for professional and industrial use
- Market size:
 - Household : €5.2 million
 - Industry : €2.4 million
 - Total volume: 3.7 bn kgs (estimate)
- Different forms (liquid, spray, wipes) – liquid and sprays dominant (over 75% of total)

Case study 3 - Analysis of main impacts

Industry Profile	Environmental Impact Profile	Eco-design requirements identified
<ul style="list-style-type: none"> ➤ 4 producers control 50 of household market ; 150 producers 80-90% ➤ Less concentration in industrial sector (specialised niche producers) ➤ General trend for higher concentration of active agents ➤ Existing VA: AISA Sustainable charter covers 80% of production 	<p>Main impact categories</p> <ul style="list-style-type: none"> ➤ Toxicity (human and eco-toxicity) ➤ Water/energy usage ➤ Greenhouse gases ➤ Hazardous and non-hazardous waste 	<ul style="list-style-type: none"> ➤ Control/ban chemicals used ➤ Reduce packaging weight/ use of refill bottles ➤ Products that operate at low water temperature ➤ Decrease/manage dosage use per job ➤ increase concentration <p><u>Other</u></p> <ul style="list-style-type: none"> ➤ Labelling on the basis of performance for standard job related to water and energy use
	<p>Key Lifecycle stages</p> <ul style="list-style-type: none"> ➤ Use (photochemical smog, water and energy use, toxicity) – critical role of water temperature ➤ Manufacturing (including packaging) mainly for wipe products; toxicity ➤ Disposal 	

Case study 3 - Assessment of Ecodesign against alternatives

➤ Effectiveness

- Requirements on the basis of Ecodesign for resources, water and energy use can bring important results – main limitation consumer behaviour
- Toxicity issues already within the scope of existing legislation
- Labelling alternative also possible but not expected to be as effective
- Existing industry VA (Sustainability Charter) can bring results but even more so within the context of Ecodesign (monitoring, long term targets)
- Public procurement mainly relevant for industrial sector but, overall, not expected to be particularly effective
- Multi-stakeholder agreements possible but monitoring and enforcement issues

Case study 3 - Assessment of Ecodesign against alternatives

➤ Costs

- Costs for development of standards not expected to be significant
- no data on costs for industry but important part already working in this direction
- VA on the basis of charter appears the less costly option

➤ Feasibility

- While other options possibly easier to implement, Ecodesign not difficult
- No particular issues with development of standards – existing work in this direction
- Not expected to be difficult to monitor/enforce

➤ Impact on Ecodesign

- Need for change of MEEuP to cover toxicity aspects

Case study 3 - Preliminary Conclusions

- Eco-design requirements for all purpose cleaners seem both feasible and expected to be effective
- Voluntary Agreement within the context of Ecodesign alternative option with possible high level of effectiveness and reduced costs
- Conclusions applicable to a broader group of chemical products that are used for cleaning and other sanitary purposes: soaps, chemicals used for polishing or waxing and also possibly for paints and varnishes.

Case study 4 - Housing Products

Floor Coverings



Case study 4 - Floor coverings

Floor coverings

- Hard coverings
 - Ceramic tiles
 - Soft coverings
 - Linoleum
 - Wood
 - Vinyl
 - Carpet (all materials)
- Differ based on material, not functional use
 - Not substitutes for each other
 - Industry trends:
 - Significant internationalisation
 - Shift to increasing sustainability
 - Profusion of labeling and certification
 - Linked to building system performance

Case study 4 - Floor coverings

	Industry Profile: Production and Value (2006)	Environmental Impact Profile Most Significant	Eco-design requirements considered
Ceramic	EUR 1 billion	Production Energy and raw materials	<ul style="list-style-type: none"> ➤ Promote use of sustainably-sourced materials ➤ Minimize material input and production waste ➤ Materials requirements (processed or manufactured) ➤ Installation standards: toxicity of fasteners and sealants ➤ Indoor air quality standards ➤ Maintenance standards: cleaning detergents/solvents ➤ End-of-life requirements including reuse and enhanced recyclability
Carpet	1.125 m sq. m EUR 5.541 billion	Energy consumption Dying process and backing	
Wood	143 m sq m EUR 2.748 billion	Land use Treatment stage	
Linoleum	43 m sq. m EUR 394 million	Production of linseed Pigments and dyes	
Vinyl	25 m sq. m EUR 5.375 billion	PVC production / glues end-of-life	

Case study 4 - Assessment of Ecodesign

➤ Effectiveness

- Ecodesign would accelerate market trends in the most consistent way
- Currently on going standardization process that will achieve similar level of product improvement for some flooring types
- Market trends and building-level regulations could potentially achieve similar degree of impact, though varies according to country

➤ Costs

- High aggregate compliance and enforcement costs
- Ecodesign approach would involve planning/ preparatory costs
- Under a voluntary or labelling approach, these costs would be passed onto industry

➤ Feasibility of Implementation

- Development of new monitoring and enforcement capacities
- Medium feasibility- would involve significant coordination due to fragmented markets
- High aggregate administrative burden due to volume of imports and distribution chain

➤ Impact on Ecodesign

- Difficulties of accounting for bio-based materials under current Ecodesign approach – need for changes in methodology

Case study 4 - Preliminary Conclusions

Floor Coverings

- **Ecodesign does not appear appropriate for bio-based products**
 - little processing between the raw material and the final use.
 - Impact categories are related to pre-design stages; i.e. before raw resources are transformed into the inputs
 - level of impact from setting requirement most probably limited
- **Need for more standardized and stronger LCA**
- **System performance approach**
 - Building rating systems already influence use of materials in design, construction, and in some cases when considering renovations and retrofits to existing buildings
- **Regulate according to material, not product**
 - Issues with linseed, wool, and wood-based products would be more appropriately regulated using standards that are specific to natural fibers

Case study 5 – Means of Transport

Passenger cars



Case study 5: Passenger cars

➤ Definition

- Category M1 : Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat. (Directive 2007/46/EC)

➤ Market data

- Number of registrations of new passenger cars : 13,360,599 (2010)
- Production of passenger cars in Europe : 13,948,124 (2009)
- Total car fleet in EU23 (excluding BG, RO, MT, CY) close to 223 million (2008)
- Average car age : 8.2 years

Case study 5: Passenger cars

Industry Profile	Environmental Impact Profile Most Significant	Eco-design and other requirements considered
<ul style="list-style-type: none"> ➤ Moderate level of concentration (10 manufacturers close to 94% of market) ➤ Advanced and integrated supply chain ➤ Impact of manufacturers design on suppliers 	<p><u>Main environmental impacts</u></p> <ul style="list-style-type: none"> ➤ Almost all environmental aspects affected ➤ Most important : greenhouse and other air emissions ➤ Resources depletion <p><u>Main life cycle stages</u></p> <ul style="list-style-type: none"> ➤ Well to tank stage (fuel production) key in most environmental aspects ➤ Tank to wheel (driving) key for global warming and energy consumption ➤ Car production important for resources use and waste 	<ul style="list-style-type: none"> ➤ Reduction of weight of cars ➤ Increase fuel efficiency (cars and air condition) ➤ Requirements on the capacity to run on high level of biofuels ➤ Higher level of recyclability ➤ Mandatory systems for driver behavior ➤ Mandatory labeling for emissions and other environmental aspects

Cast study 5: Assessment of Ecodesign

➤ Effectiveness

- Ecodesign requirements on passenger cars can be effective
- But most aspects already covered under existing legislation; possible area to consider weight of cars
- Voluntary agreement not effective (based on past experience) although possibly more effective within Ecodesign framework
- Limited experience so far on the role of labelling

➤ Costs

- Not particular costs for development and enforcement
- Costs for compliance not known but industry already working on a number of aspects

➤ Feasibility of Implementation

- No important issues: Most standards already exist
- No expected difficulty on monitoring and enforcement

➤ Impact on Ecodesign

- Need for change of MEEuP to fully cover passenger car issues

Case study 5 - Preliminary Conclusions

- Eco-design requirements for passenger cars feasible and potentially effective
- But, most of the important issues already within the scope of existing legislation
- Requirement on car weight one possible option
- Issue-specific regulation on remaining issues may be more effective
- Conclusions on passenger cars appear applicable to other means of transport such as vans, motorcycles, trucks, rail vehicles, possibly less so in the case of boats and ships or airplanes
- Presence of relevant legislation covering important aspects key criterion

Appropriateness of extension of the Directive – stakeholders' input

- Certain level of support on extension to Means of Transport and certain non-Energy related products due to the important environmental impacts
- But, a number of arguments against :
 - **Extension considered premature** by a large number of stakeholders; more experience on the effectiveness and efficiency of the Directive considered necessary.
 - **Risk of negative impact on implementation of the ErP Directive:** loss of momentum/ delay to a process that is long, resource intensive with an important backlog of IMs.
 - Possible **additional administrative costs for Member States**. Extension to non-ErPs may require involvement of additional national authorities and pose even greater burden on authorities.
 - **Impacts associated with the production phase and the relevant processes used are already regulated** through the IED and other production related instruments.
 - **Material use and resources efficiency** is considered as the main area where the Ecodesign Directive can have a role; but **clear political goals and priorities are missing**.
- Separate legislation focusing on non-Energy related products often proposed as more appropriate

Initial conclusions (I)

- For products with limited level of processing - like agricultural/food products, clothing - doubts that product design can affect the key environmental impacts associated with these products
- Tools focusing on relevant processes appear more effective
- Practical issues of enforcement of certain requirements
- For other groups of products - means of transport, certain categories of chemicals or housing products – there is scope for using of eco-design requirements from effectiveness/impacts perspective
 - But in certain areas policy tools already exist –danger of duplication
- Voluntary agreements (as in the case of all-purpose cleaners) can be an alternative route within or, even better, outside Ecodesign
- Changes to the MEEuP or possibly the development of different methodologies appear necessary
 - This is possible within the context of Ecodesign - cannot be considered a reason for no extension

Initial conclusions (II)

- Given that there are still many issues with the operation of the current Directive, including ensuring effective compliance, a wide ranging extension appears can be seen as premature.
- Issue of resources: Unless additional resources are dedicated, extension may work against the operation of the existing Directive.
- But, an extension of the Directive does not necessary mean that implementing measures will be developed for all products covered – work plan development and update of methodology will have to come first.

Step 3 – Assessment of extension for the broader product groups

- Use results from the 5 case studies to assess feasibility of developing Ecodesign requirements for the broader product groups.
- Process :
 1. Rank product categories inside each product group in terms of market sales and environmental impacts (use of EIPRO study and other sources of information including stakeholders input)
 2. Identification of characteristics of the products that may differentiate them from the products in the case studies.
 3. General assessment the feasibility appropriateness of developing Ecodesign requirements for each of the product categories examined.
 4. Development of a final list of product categories indicating appropriateness, feasibility and level of priority for developing Ecodesign requirements.
 5. Validate the list of products during the third stakeholder meeting.

Step 4 - Conclusions on the appropriateness of extending the Directive - proposals for modifications

- Draw conclusions on the appropriateness of extending the Directive to different categories of non-energy related products.
- Make recommendations for necessary changes to provisions and mechanisms of the Directive
- Key consideration: avoid negative impacts on the effectiveness and efficiency of the current Directive for EuPs and ErPs products

Questions

- Are there any mistakes omissions in the analysis of the environmental aspects and lifecycle stages in any of the case studies? Are there any other studies leading to different conclusions?
- Are there mistakes or omissions in the analysis of the existing policy tools? Is there additional information on the effectiveness of any of these tools?
- Are there other eco-design requirements not considered?
- Are there other alternative policy tools besides those considered?
- Are there mistakes or omissions in relation to overall conclusions on the appropriateness of the different policy options? Is there evidence supporting or challenging the conclusions?
- To what extent do the conclusions on the specific product categories apply to products in the broader product groups considered?
- What other product categories inside each product group should be considered as priority for a possible extension or adoption of alternative tools?

Thank you for your attention

