Project no.
513673 (SSPI)

Project acronym
EPIC-ICT

Project title
Development of Environmental Performance Indicators for ICT Products on the example of Personal Computers

Instrument: STREP

Thematic Priority: 8.1.B.1.5, task 6

Deliverable 9
Report on Workshop #2

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Lead contractor for this deliverable: Motorola

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Dissemination Level		
PU	Public	x
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

EPIC-ICT WORKSHOP No. 2

07 February 2006

Brussels, CDMA, rue Champ de Mars 21

Start	9:30 p.m. CET
End	15:30 p.m. CET

Content

1 Introduction

Within the scope of the upcoming EuP directive on energy using products ('Directive for setting eco-design requirements for energy-using products'), eco-design in product development plays a major role. The development of the environmental profile of a specific product is efficiently supported by applying product-group specific environmental performance indicators. Against this background, the project consortium of EPIC-ICT (Development of Environmental Performance Indicators for ICT products on the example of Personal Computer) is developing a method to define environmental performance indicators for ICT products. These indicators will relate to easy to define technical product properties. Based on Life Cycle Assessment (LCA), relevant environmental indicators are defined to support and enhance eco-design requirements for the respective decision-makers.

In order to include external stakeholders' views and concerns, a second expert workshop was organized. The workshop was held at the European Commission in Brussels, Belgium. At this final workshop of the project the methodological framework and its background (LCA studies, design considerations etc.), created jointly by science, environmental experts and industry, was demonstrated and findings for the product group personal computers were presented.

Goal of the workshop was to:

- present the goal and the expected impacts of the project
- introduce the scientific method to define the environmental performance indicators
- provide and present stakeholders' participation
- present / discuss status of the project
- get feedback from stakeholders on the project
- provide a discussion platform

1.1. Workshop program

The workshop was divided into three sections (see also Appendix 1). First, an introduction to the EPIC-ICT project was given. Secondly, the developed EPIC-ICT method was presented and explained in detail: "Defining of Environmental Performance Indicators and the respective background studies". Within the third part, the industry perspective on the EPIC-ICT method was expressed and an outline on possible envisaged application of Environmental Performance Indicators in the respective companies was given.

After each round the participants were encouraged to discuss the respective topics. A final platform discussion gave the opportunity to express opinions, clarify open issues and to discuss with the EPIC-ICT consortium and Commission representatives.

1.2. List of participants

Participant	Organization
Katja Biedenkopf	AeA Europe
Patrick Dubots	ALCATEL
Paolo Frankl	Ambiente Italia
Emanuela Menichetti	Ambiente Italia
Silke Hermanns	AMD Saxony
Shailendra Mudgal	BIO Intelligence Service
Stephen Kimber	Brother International Europe
Margaretha Neudecker	Bundesministerium für Wirtschaft und Technologie
Benedicte Delloye	CEN – European Committee for Standardization
Martin Charter	Centre for Sustainable Design
Linda Lescuyer	CODDE
Peter Nielsen	Danish Energy Authority
Markus Stutz	Dell
Anton Klassert	Deutsches Kupfer Institut e.V.
Bengt Davidsson	EU DG Environment
Michele Galatola	EU DG Research
Andras Toth	EU DG TREN
Seiichi Kuribara	Fujitsu Limited
Hellmut Böttner	Fujitsu Siemens Computers
Pierre Sicsic	Hewlett Packard
Anna Braune	IKP, University of Stuttgart
Niels Warburg	IKP, University of Stuttgart
Witold Kornacki	Industrial Institute of Electronics
Mats Zackrisson	IVF Industrie Research & Dev. Corporation
Anna Karin Jönbrink	IVF Industrie Research & Dev. Corporation
Ioan Revnic	KERP Engineering
Marek Stachura	KERP Research
Siegfried Pongratz	Motorola
Lars Brückner	NEC
Dietlinde Quack	Öko-Institut e.V.
Sigrid Linher	Orgalime
Pascale Moreau	Orgalime
Constantin Herrmann	PE Europe GmbH
Nicole Gallon	PE Europe GmbH
Hans van der Wel	Philips Applied Technologies
Maarten ten Houten	Philips Consumer Electronics

Jacques Mohr	Philips Semiconductors
Steffen Schöll	Philips Applied Technologies
Anthea Carter	Samsung Electronics
Wolfgang Hahn	Sanyo
Sharon Heymann	SHARP Electronics (Europe) GmbH
Katrin Melzer	Siemens AG
Andreas Schneider	Sony Deutschland
Daniel Zenou	Sony VOE
Anke Strangfeld	Toshiba Europe GmbH
King Kwok	Unisys Belgium

2. Welcome and opening remarks

Speaker: Michele Galatola (DG Research) / Andras Toth (DG Tren)

Mr Galatola gave some introducing words first on the intention of DG Research to initiate the EPIC-ICT project. Then he specified the expected outputs from the project, where he underlined the scientific reference and user-friendly methodology. As general remarks Mr Galatola emphasized the significance to base EcoDesign on Life Cycle Assessment studies. In this respect, he expressed the need for high quality data.

After this introduction, Mr Toth gave a very short overview on the planned next steps within the EuP directive, the preparative studies and other, finished projects. Mr Toth mentioned the actual "Call for applications to the Eco-design Consultation Forum" (http://europa.eu.int/comm/enterprise/eco_design/consforum.htm)

(see also file "EPIC workshop2 #1 Introduction DG Research.pdf")

3. Topic 1: Introduction to the EPIC-ICT project: Goals and findings

Speaker: Markus Stutz (Dell) / Anna Braune (IKP, University of Stuttgart)

Mr Stutz first gave an overview of the starting point for the EPIC-ICT project including the framework of the EuP directive. Then he emphasized the overarching goals of the project which include the reduction of the environmental impacts of ICT products, the development of a method to provide Environmental Performance Indicators for these products and to support policy and industry to realize EuP goals quickly and efficiently. Following, Ms Braune introduced the project's basics and its participating partners. Next subject was an overview of the developed EPIC-ICT method. Ms Braune introduced shortly each of the four major steps of the method on the example of a personal computer. She pointed out the differences of a streamlined analysis and a detailed analysis with respect to efficient and meaningful Design for Environment.

Mr Stutz afterwards presented the benefits of the project, the next steps, some key EcoDesign principles and gave a few words on the EcoDesign principles for EuP.

(see also file "EPIC workshop2 #2 Goals and findings.pdf")

4. Topic 2: The EPIC-ICT method: Defining Environmental Performance Indicators and background studies

4.1. EPIC-ICT method step 1 / step 2

Speaker: Constantin Herrmann (PE Europe GmbH)

Mr Herrmann started his presentation with a brief overview of the EPIC-ICT method. In the next steps he explained in detail the steps one (product definition phase) and a part of step two (product system modelling). The product system modelling within the EPIC-ICT project was made by using Generic Modules. Mr Herrmann presented the motivation, the structure and the adaptation of the Generic Modules for this project on the example of a PC.

He underlined that the usage of Generic Modules set the pathway for LCA to allow EcoDesign. Generic Modules have not been developed within EPIC-ICT, but the applicability of this approach is a vital point in the modelling structure in order to be able to allow parameter variations and detection of environmental improvement potentials[1].

Core of Generic Modelling is the trade off between hierarchical structure of pre-set modules (ensuring efficiency in LCA modelling, not to start at the very basic process modelling for all modules) and the introduction of parameters (allowance of variation in order to adapt pre-set modules to the respective situation by covering the most significant variability in a model).

Feedback: Some attendees (Alcatel and Philips) expressed the existence of similar approaches in LCA modelling in their companies, mostly supported with own software tools. This gives evidence of the need to apply a kind of LCA modelling, which provides the balance between simplification and comprehensiveness, such as the Generic Module approach provides. Only this allows deriving sufficient conclusions from the LCA modelling of complex technologies, such as populated printed wiring boards or entire electronic products. Otherwise it is too inefficient to apply LCA or in case of too much simplification no conclusion can be derived.

(see also file “EPIC workshop2 #3a Method in detail.pdf”)

4.2. EPIC-ICT method step 2 / step 3

Speaker: Paolo Frankl (Ambiente Italia)

Mr Frankl presented the steps 2 and 3 of the EPIC-ICT method. These steps describe the procedure getting from LCIA results to Ecological profile indicators. Mr Frankl started his presentation with an overview of the scope of the detailed LCA study and the reference configuration chosen. The latter is an office PC with a CRT monitor, but other variations of a PC and monitor have been considered as well. He explained how in step 3 the list of life cycle impact categories is chosen. He highlighted the results of a sensitivity analysis showing that the choice of a different characterization method does not significantly affect the results. After presenting the relevant impact categories chosen, he showed how the ecological profile indicators derive from the environmental evaluation. Mr Frankl presented the procedure to determine ecological profile indicators step-by-step at the example of the motherboard of a PC and of the use phase. At the end of his presentation he referred to the importance of a detailed LCA study.

Feedback: Several participants (e.g. HP and Philips) hinted to the importance of the use phase and to the fact that a different use pattern can significantly change the results. Moreover, Philips observed that the use pattern might be influenced by software. Mr. Frankl acknowledged these observations. He pointed out that the number of hours in min-mode is definitively an ecological performance indicator.

[1] References for Generic Modules:
Herrmann C., Betz M., Warburg N. “Generic LCA Based DfE – A Case Study of Different PWB Systems”, EcoDesign, Tokyo, December 2001
Herrmann C., Betz M., Kreißig J. (IKP), Dr. Itsubo N. (JEMAI): „Generic Modules Based LCA In Electronics Industry - A Case Study”, IEEE/ISEE, San Francisco, May 2000
Herrmann C., Betz M., Eyerer P.: „Generic Modules as Environmental Decision Support in Electronics Industry“ 6th LCA Case Studies Symposium SETAC-Europe, Brussels, Dez. 2nd and 3rd 1998

Moreover, he answered that the possibility to influence this indicator by design will duly be taken into account in future sensitivity analyses and in step 4.

(see also file “EPIC workshop2 #3b Method in detail.pdf”)

4.3. EPIC-ICT method step 4

Speaker: Nicole Gallon (PE Europe GmbH)

Ms Gallon started her presentation by reverting to step 3 ‘Deriving the Ecological Profile Indicators’ of the EPIC-ICT method. She then described - on practical examples - how to get from these “Ecological Profile Indicators” to “EcoDesign Indicators”, both representing Environmental Performance Indicators. The EcoDesign Indicators combine the information from product design (technical specifications and improvement design parameters) and environmental evaluation results from step 3 with an adapted QFD approach (Quality Function Deployment). Ms Gallon explained, why the QfD method is used as basis for the EPIC-ICT method and how the QfD method has been adapted. She presented as result of the EPIC-ICT method some exemplary EcoDesign Indicators for PCs which are based on the Ecological Profile Indicators and consider the change potential and the major known dependencies of those indicators.

Feedback: It was discussed if the reduction of indicators from all detected ecological profile indicators to a certain list of influencable EcoDesign indicators would reduce the design freedom too much. As a conclusion, step 4 of the EPIC-ICT method can be seen as an optional step, depending on the intended application field. EPIC-ICT provides both results: The full list of ecological profile indicators and a suggested list of EcoDesign indicators.

(see also file “EPIC workshop2 #3c Method in detail.pdf”)

5. Topic 3: The industry perspective: Application of Environmental Performance Indicators

5.1. Philips

Speaker: Hans van der Wel (Philips)

Mr van der Wel presented a summary of the current EcoDesign practice at Philips. With 15 years EcoDesign experience Philips uses simple indicators, the so-called Green Focal Areas, such as product and packaging weight, weight of environmentally relevant substances in the product, energy consumption, recyclability and life time for EcoDesign. These indicators have proven to be an effective and flexible manner of translating complex environmental knowledge and assessments into practical tools in our organisation. They are used in environmental target setting, product benchmarks and assessments and EcoDesign brainstorm meetings. Although Philips has its own simple screening life cycle assessment (LCA) with the Eco Indicator 99 impact assessment method and the Ecoscan software tool and database with modules for all important materials and processes it is only used in special cases as the main environmental characteristics of our products evolve gradually over the years. For verification of certain decisions and designs a total life cycle environmental check could be advantageous. This LCA validation is only used for special internal purposes in Philips. The Green Focal Area results are the usual way for measuring and adjusting environmental impact and are also used for external reporting.

This current EcoDesign practice at Philips can be used for the upcoming EuP directive. However, Philips shares several concerns of wider industry groups on EuP:

- Potential 3rd-party verification may lead to significant market introduction delays and costs. There does not appear to be a valid reasoning for introducing this for e.g. consumer electronics products when even safety requirements are satisfactorily covered by manufacturer self-declaration.
- Both voluntary Industry Agreements and implementing measures are needed; the latter to move the remainder of the market. Participants of voluntary initiatives should also receive appropriate recognition and support from EU and national authorities.
- Keep the administrative burden (standard EcoDesign reporting forms, national reporting structures, necessity to perform detailed environmental analysis, etc.) to a minimum. As explained above, there is no added value of detailed environmental life-cycle analysis while products are only going gradual design changes.
- Need to create implementing measure requirements that are straightforward and therefore easy to implement for companies, and easy to enforce for Member State authorities.

The proposed EPIC-ICT method would not lead to another approach within Philips, as our approach with Green Focal Areas is proven sufficiently flexible for the product portfolio Philips carries. Furthermore this very extensive study confirms scientifically the general ideas on environmental issues related to computers. Philips sees no added value in performing LCAs on all of its products. Only in some specific product cases, it could prove beneficiary to verify the environmental indicators with a more detailed analysis. For performing such LCAs a common EU or world life cycle inventory database is needed and a well accepted life cycle impact assessment method is needed. Philips prefers a single score method like the currently used Eco Indicator 99 method.

(see also file “EPIC workshop2 #4a Industry perspective Philips.pdf”)

5.2. Dell

Speaker: Markus Stutz (Dell)

Mr. Stutz presented some parameter variations on hardware options and some sensitivity analysis to understand influence on overall environmental performance. For this two options were discussed:

- Monitor type: CRT vs. FPD
- PC type: office vs. gamer

The environmental benefit deriving from using FPD monitor instead of traditional CRT monitor is obvious. By comparing a 15’’ FPD to a 17’’ CRT with equivalent performance / viewing size the GWP comparison showed that for the manufacturing phase the FPT has 18% less emission than the CRT. The savings are even bigger in the usage phase, where the FPT emits 67% less CO_2 than the CRT.

In conclusion it was stated that the technology shift from CRT to FPD has significant environmental effects. Such kind of technology shift forces to review the environmental performance indicators. In any case it was concluded that when doing EcoDesign the effects of technology shifts need to be understood before implementation on a broad level.

In another analysis the impacts and indicators for an Office PC vs. a Gamers PC was studied. While the Gamer PC is equipped with more and highly sophisticated subassemblies and components (e.g. graphics card, sound module) there is a significant difference also in the use pattern. The Gamers PCs is in Max mode more often and also has a longer use time in min mode. Additionally the energy consumption is higher. This shows that the indicators chosen are valid and are also robust.

5.3. Motorola

Speaker: Siegfried Pongratz (Motorola)

Mr. Pongratz made a presentation to demonstrate the correlation between the EPIC-ICT and the IPP targets. The benefit of the Life Cycle Impact Indicators developed in both cases are that the method can be used instead of carrying out a full Ecological Profile or an LCA for every new product put on the market with the goal to leverage efforts to impact upcoming EuP regulations. From Motorola’s point of view there is an urgent need to standardize environmental assessment methods and tools. Potentially all producers of ICT equipment covered under the forthcoming EU regulations are eager to get a standardized method to be used to comply with the requirements.

He emphasized that EPIC-ICT and IPP have shown several synergies to accomplish that target.

6. Discussion

The participating stakeholders and consortium members discussed very different issues, focussing on the application possibilities of the method, the background information and studies and its use in general. Topics included the following questions and remarks *(followed by the consortium’s positions)*:

Use phase:

Remark: Assumptions on the use patterns are very important.

Remark: The use of power management software should be considered for PCs.

> *EPIC-ICT: The method already identifies the number of hours in min-mode as a high-priority ecological profile indicator. To what extent it may be influenced by design (e.g. by the use of power management software) will be analysed in future sensitivity analysis and considered, if relevant.*

Question: What are the results of sensitivity analysis of different assumed use patterns?

> *EPIC-ICT:*

With regards to this and the two former questions: The EPIC-ICT consortium is perfectly aware of the importance of the use phase and of different use patterns. We wish to reaffirm and highlight several aspects with this specific respect:

- *The strength of the model relies in its detailed level and flexibility, which allows to identify eight Ecological Profile Indicators, i.e. the power demand (kW) and the number of hours respectively in max-; min-; sleep; and off-mode. Any use pattern is influenced by these indicators and EPIC-ICT covers them all.*

- *What changes (or may change) from one use pattern to another is the priority of the specific indicator, i.e. its relative importance among the list of 8 indicators. In our reference case the min-mode indicators are identified as the high-priority Ecological Profile Indicators. This has to be considered just as a (reasonable) example. Sensitivity analyses show that with other use patterns, the max-mode operation might become highly relevant as well.*

- *Of course, overall life cycle impacts in absolute values (e.g. in terms of greenhouse gas emissions, primary energy consumption, etc.) do change in function of the chosen use pattern. But making this assessment in absolute values, although being a useful intermediate step to identify the Ecological Profile Indicators, is not the objective of EPIC-ICT.*

- *It is very difficult to find a consensus on a general reference use pattern for PC's. This is clearly out of the scope of the EPIC-ICT project. The important thing is that the method can be easily adapted by the user to any pattern chosen.*

EcoDesign Indicators:

Questions: Who decides on the EcoDesign parameters (change potential, major known dependencies)? Are trade-offs between different parameters considered in the method?

EPIC-ICT: The responsible designer in the production phase is asked to integrate these parameters. Trade-offs are considered in the method by taking the major known dependencies between product specifics into account by means of an adapted QFD methodology.

Question: EPIC first calculates the ecological profiles indicators and afterwards checks the change potential and dependencies. Wouldn't it be better the other way around?

EPIC-ICT: No, this order ensures a drastical reduction of data that has to be supplied by designers, only steps that really have a considerable improvement potential are analysed.

EPIC-ICT Method:

Remarks: A similar method was applied in a company already in the late 90s. The Generic Modules approach sounds reliable and practical and data availability is an issue for industry. It was underlined that indicators for EcoDesign need to be based on high quality LCA data.

Question: What is the data background in EPIC?

> *EPIC-ICT: Database is GaBi data, harmonized with Motorola, Philips and Dell data. Public available data are not available actually.*

Question: Is the 80 % rule as applied in the method a cut-off rule?

> *EPIC-ICT: The rule as proposed in EPIC-ICT is not a cut-off rule in the LCA modelling phase but a help to interpret the results efficiently by focussing on the relevant product specifics.*

Question: Are Eco-Efficiency considerations implemented?

> *EPIC-ICT: Economic constraints of designers are taken into account in the "change potential" parameter. Life Cycle Costs are not integrated, but guidelines can be provided how to link economic information with the technical information.*

Question: What to do with innovations that change the entire system?

> *EPIC-ICT: A new assessment has to be carried out in case of major changes in product design. For these new product parts, the Environmental Performance Indicators have to be derived again.*

Remark: The designer's freedom has to be taken into account. The method should respect this.

> *EPIC-ICT: The EPIC-ICT method indicates the environmental most relevant product parts and life cycle aspects. It does not give advice how to enhance the product's environmental performance in detail. Decisions on new product design stay within the designer's degree of freedom.*

Question: In the project only one configuration is considered. What if this configuration changes?

EPIC-ICT: Exemplarily the method was carried out for a Dell PC. The flexibility of the system model allows to easily consider changes and to check whether the former indicators change or to derive new indicators. Carrying out sensitivity analyses for different configurations of the product reflect the application and validity area of the indicators. This allows broadening the application area from specific products to whole product groups.

Question: The good thing about EPIC is, that it delivers “public EcoDesign indicators” also to those who are not able to conduct comprehensive own LCA studies. Anyway, how detailed will the results be?

EPIC-ICT: According to 80% rule the most relevant parts

…. but then e.g. a sub-component supplier still does not know where to improve, e.g. a power supply manufacturer offers simply 5 different models

EPIC-ICT: In case this is relevant the method can also be applied to power supplies – as base data are already included in the main model of the PC

Question: Looking at a computer supplier like Dell – here the customer can compose the computer according to his wishes – so the LCA result would be different for every sold PC….

EPIC-ICT: Yes, but the conducted sensitivity analyses have shown that the Environmental profile indicators have been comparable in any case.

What do the Environmental profile indicators include? Only energy?

EPIC-ICT: No, all relevant impact categories have been included.

Question: Has a comparison to the EuP Methodology study been carried out yet?

EPIC-ICT: According to the workplan, a comparison has not been carried out yet.

Remark: Horizontal methodologies as the Kemna study will be taken for EuP. EPIC-ICT and the EuP Methodology (MEEUP) have different scopes and intentions. This has to be taken into account.

Question: How will the different approaches of MEEUP and EPIC-ICT be used? According to the calls, MEEUP should define which product (groups) shall be considered for implementing measures and EPIC-ICT should analyse one product group in detail. How will the commission use these tools?

> *Mr Toth: According to his opinion, MEEUP will be used at a first glance, other approaches like EPIC-ICT might be considered*

> *Mr Galatola: very hard timeframe, but research is ongoing and possibly for complex products other methods have to be applied*

> *Mr Toth: To give an answer what exactly will be used to define implementing measures it is to early actually.*

Question: Are the needs of SMEs reflected accordingly in the methodology?

Remark: Within the EuP directive SMEs and their specific needs are taken into account.

> *Mr Toth: Finally, measures have to be implemented by each member state, they have to define how SME's are handled.*

Remark 1: At least in the UK national authorities are not aware of this situation…

Remark 2: Old background documents on this thematic (concerning EcoDesign in SME's) should not be forgotten

Question: EPIC-ICT method is an interesting approach for standardisation in understanding environmental issues. Is the method in principle also applicable for non-ICT products?

> *EPIC-ICT: Yes, and additionally Generic Modules are available for many branches, e.g.building/construction and are feasible to all sort of products – of course the indicator list will look different compared to ICT products, but method is very well applicable*

Question: How will be ensured that manufacturers/retailers outside Europe comply?

> *Mr Toth: This is regarded in paragraph 4: "Retailers have to ensure …"*

Remark: Providing LCA data enhances the reliability of the study. Discussion on data provider with high quality data has to be continued.

Question: Is there a link to EPDs (Environmental Product Declaration) schemes?

> *EPIC-ICT: This topic has been discussed in the consortium. The considered impact categories in EPIC-ICT are generally in line with several EPD schemes (e.g. German AUB system). LCA is useful tool for both, EuP and EPD. Anyway, different wording in EuP and EPD causes sometimes confusion.*

Remark: Fulfilment of EuP might become a very crucial point for SMEs

Remark: The people to address concerning EcoDesign are more the “product planners” than the designers

Remark: EcoDesign must be backuped by the management system, addressing only the designers/product planners without this backup will hardly work

Outcome:

Generally, the discussion rounds showed that the participants mainly agree with the proposed method to develop Environmental Performance Indicators for EuP.

- There has been a positively interest on the results and the method itself
- The data availability has to be discussed, the EPIC-ICT project provides applicable indicators for the PCs
- Very clearly the application field of calculated results must be stated, in order to avoid misleading interpretations of the ecological profile indicators and the EcoDesign Indicators. This issue was also somehow a question to the COM, how they intend to apply EPIC in the future and in respect to the upcoming EuP tenders lot 3, 4 and 5

7. Appendix

Appendix 1: Invitation and program

2nd EPIC-ICT Workshop

Brussels, 7th February 2006

Environmental Performance Indicators – Eco-design requirements for PCs and other ICT products against the background of the planned EuP directive

Within the scope of the upcoming EuP directive on energy using products, eco-design in product development plays a major role. The development of the environmental profile of a specific product is efficiently supported by applying product-group specific environmental performance indicators. Goal of the EPIC-ICT project (www.epic-ict.org), initiated by the European Commission, is to develop a method to define environmental performance indicators for ICT products.

At the second workshop of the project the methodological framework and its background (LCA studies, design considerations etc.), created jointly by science, environmental experts and industry, will be demonstrated and findings for the product group personal computers will be presented.

Additionally there will be room to discuss the method and its applicability to industry needs.

Be part of the discussion – start preparing for the EuP directive – attend the meeting!

Program

09:30	**Welcome and opening remarks by Mr Galatola (DG Research)**
09.40 – 10.45	**Introduction to the EPIC-ICT project: Goals and findings**
	Anna Braune (University of Stuttgart) and Markus Stutz (Dell)

What is the objective - Who are the partners - How can the environmental performance simply be measured - What are the key indicators for the ecological profile of a PC

Coffee Break

11.00 – 12.30	**The EPIC-ICT method: Defining Environmental Performance Indicators and background studies**
	Constantin Herrmann (PE Europe), Paolo Frankl (Ambiente Italia) and Nicole Gallon (PE Europe)

How is the method set up - What are the results of a Life Cycle Assessment of a PC - What are the finding of ecological performance indicators - How can the EPIC-ICT method be applied on other ICT products

Lunch Break

13.30 – 14.30 **The industry perspective on the EPIC-ICT method: Application of Environmental Performance Indicators**

Hans van der Wel (Philips), Siegfried Pongratz (Motorola) and Markus Stutz (Dell)

What have Philips, Dell and Motorola to say about the EPIC-ICT method and how do they plan to implement it to be ready for EuP

14.30 – 15.30 **Discussion**

How can you contribute to the method and how can you use the findings