	Generals:			***Results:***		***Application:***							***Data/database:***			***Miscellaneous:***							
Aspect/ criterion **Area of tool**	**Tool name**	**Software/ paperwork/ method**	**short description**	**outcomes from tool (evaluative/ descriptive/ creative)**	**description of result presentation/visualisation**	**intended users**	**applicable within design process – preferred one-indicator-solution**	**technical assessment**	**ecological assessment**	**economic assessment**	**social assessment**	**applicable to products and service system**	**quality of database/data gaps and uncertainties**	**documentation of data**	**specific focus on electronic products and industry**	**comments**	**pros - cons (e.g. user friendliness, easy-to-understand, intuitive handling, support by producer)**	**designation**	**Further Information available**	**price**	**date of last version**		
eco-design (relating to design and manufacture phase)																							
(focus on materials, processes, designs, functions etc.)																							
	GaBi 4 DfX	Software and DB management (additional function for GaBi 4 standard)	identical base function as GaBi 4 plus additions: - Material analysis and material tracking through the entire LCA model - EoL assessment based on variable material analyses - economic + ecological assessment of EoL within the LCA model - inclusion of compliance aspects for vehicle directive, WEEE, RoHS and EuP	evaluative	same as GaBi 4 plus: - disassembly process description - automated disassembly procedure - End of Life evaluation - report templates for compliance sheets	environmental departments in industry, environmental experts, LCA interested or related	yes (by help of process/plan/global parameters and parameter/scenario analyst), one indicator solution available	modelling of technical processes prerequisit	LCA, various impact methods, single point indicators	full integration of economic aspects (LCC) and End of Life disassembly costs	integration of social aspects related to functional unit (Life Cycle Working Time, LCWT)	yes	good quality, transparent data sets (documentation), wide range of data, relating to various industry and market fields (e.g. automotive, electronics, buildings, renewable resources, materials (plastic, metals, minerals), energies, End of Life/recycling, transports)	yes, linked html documentation (soon xml based)	extension DB "electronics" available	the extension for standard GaBi 4 relating to compliance assessment for vehicle diurective, WEEE, RoHS, EuP, material assessment and its traceability and End of Life/recycling assessment	flexible and well-structured DB manager; easy import/export; IKP/PE consortium supports GaBi since more than 10 years, LCA and software training on request; IKP and PE group is largest LCA group worldwide	PE Europe	http://www.gabi-software.de/ http://www.lbpgabi.uni-stuttgart.de/ http://www.pe-europe.com/	GaBi 4 DfX 15.000,- EURO (needs GaBi 4 professional)	GaBi4 + GaBi DfX: Sept. 2006		
	GaBi 4 i-report	software (additional to GaBi 4)	extension of GaBi 4 professional with: - parameter modelling (easy access on technical parameters) - automated report templates adapting LCA results without demand of LCA knowledge - easy distribution of ecodesign models, readable without LCA software - preparation for EuP learning - support in EPD reporting (envtl product declaration)	evaluative and descriptive (the model defines type of result provision)	same as GaBi 4 plus: - possibility to define diagrams and tables - selection of individual inventories or impact categories - individual text, which interactively (according to model parameter setting) adapts to model setting	environmental departments in industry, externals, stakeholders, marketing/reporting departments	yes, intentionally through provision of predefined models, variable by techniocal parameters (designers language), all environmental results in reporting possible (also single indicators)	modelling of technical processes prerequisit	support by interactive report template, LCA, various impact methods, single point indicators	support by interactive report template, full integration of economic aspects (LCC) and End of Life disassembly costs	support by interactive report template, integration of social aspects related to functional unit (Life Cycle Working Time, LCWT)	yes	based on GaBi 4	based on GaBi 4	extension DB "electronics" available	the ecodesign tool for OEM and SME through and automated support in communicating environmental results	how to handle can be defined through the model and the interactive report, thus all details and expert/beginner levels possible	PE Europe	http://www.gabi-software.de/ http://www.lbpgabi.uni-stuttgart.de/ http://www.pe-europe.com/	GaBi 4 publisher + i-report 12.000,- EURO (needs GaBi 4 professional)	GaBi4 + GaBi 4 publisher and GaBi 4 i report: Sept. 2006		
	EIME	software	it is aimed at helping designers to take account of environmental constraints as early as the product design. Environmental impacts of a product are assessed through its simplified description which is based on the use of elemental generic modules (components, materials, links, processes)	quantitative tendencies	spider diagramm, impact categories, modular product structure, warning and to do messages	designers/ marketing people	yes (no single indicator)	by modelling the product structure	yes	no	no	no PSS due to lack of available modules for services	fast modelling and result generation payed by high grade of uncertainty	?	electronics focus	project outcome based on industry developments, funded by French Environmental Agency (ADEME)	high user friendliness, easy to handle, lack of quality of information base, support is unknown, client server architecture	?	?	?	?		
	Eco-efficiency	Software also available as word document and acrobat files	A tool developed to assist Small & Medium Sized (SME) manufacturers to develop an eco-efficiency program that is custom tailored to their business needs.	Evaluative & Descriptive	**<u>1. Self Assessment:</u>** this enables you to determine the current level of eco-efficiency activities in your company. **<u>2. Strategic Planning:</u>** provides a framework to develop a customized eco-efficiency program. **<u>3. Benefit-Cost Analysis:</u>** helps you to get the biggest bang of your eco-efficiency buck. **<u>4. Graphical support</u>**	Experts & non experts. It is extremely user friendly. In a typical company, the user should have excellent knowledge of his/her organization including its	Yes, but more like a checklist. It is may also be useful in product re-design.	**<u>Production & Distribution</u>** It evaluates the efficiency of your inputs (energy and material) and outputs (products & waste) and provides a stimulus for creating innovative solutions and productivity improvements	Assessmentof company's efforts to improve resource, energy and material efficiency - through analysis of questionnaires	It optimizes total cost of goods and supplies (including use & disposal costs and Supply Chain Efficiency.	Examines management role in improving corporate financial performance & competitiveness through eco-efficiency	Yes, but there may be problems defining system boundaries	Good, mainly based on Canadian and North American database.	Yes	Yes	Can be downloaded or used on-line. The software developers welcome comments & suggestions that might improve the package. Information should be sent to vancamp.tom@ic.gc.ca	Available in both French & English.	Strategis Canada, Canada's Business & Consumer site.	http://strategis.ic.gc.ca/epic/internet/inee-ee.nsf/vwGeneratedInterE/ef00012e.html	Free	2003		
	Smart ecoDesign™ (Electronics) Strategy Wheel	simple software	simple evaluation tool developed and useable for training sessions			originally for manufacturers, training for supply chain actors	highlights lack of knowledge about key environmental impacts in the lifecycle						no DB available			outcome of EC funded project		cooperation of TU Delft and CFSD		free download			
	Eco-design strategy wheel															outcome of EC funded project		cooperation of TU Delft and CFSD		free download			
	Eco-design checklists (Version 2)	electronic paper work	primarily a product-related compliance checklist for electronics companies - incorporating key elements from WEEE + RohS			the tool was used as a starting point of working with companies							not data related		yes	outcome of EC funded project	many elements are not relavant to companies	cooperation of TU Delft and CFSD		free download			
	Eco-design and supply chain management	booklet	help companies identify key issues related to eco-design and supply management			supply chain actors							not data related			outcome of EC funded project		cooperation of TU Delft and CFSD		free download			
	Eco-design healthcheck	electronic paper work	helps SMEs to come into contact to life cycle thinking and eco-design			SMEs in the supply chain							not data related			outcome of EC funded project		cooperation of TU Delft and CFSD		free download			
	Eco Estimator (Philipps 1997)	Paperwork	Questionnaire in four parts: product life, energies and materials, recyclability, dangerous wastes. This approach is associated with a quantitative evaluation.	Evaluative	Enable to compare two projects and determine quantitative objectives	Designers, buyers and production non experts	Useful in design or redesign process																
	Fast Five (Philipps 1997)	Paperwork	Answers by yes or no at five questions : Energy consumption decrease ? Recyclability increase? Use of dangerous materials? Durability? Functionality optimal?	Evaluative	Enable to compare two projects and determine quantitative objectives	Designers non experts	Useful in design or redesign process																
	Design for recycling (Fraunhofer Institute (IPA, Deutch))	Paperwork	Evaluation of seven characteristics of the product: Materials' recyclability, Materials' variety, Materials' associability, use of dangerous substances, product structure, traceability of materials, end of life. These characteristics can be estimated as : ideal, acceptable, to increase.	Evaluative	Enable to compare two projects and determine quantitative objectives	Designers, buyers and production non experts	Useful in design or redesign process																
eco-design (relating to use and consumer phase)																							
(focus on energy consumption, life time expansion etc.)																							
	Energy Contains	paper work	Difference between amount of energies used and restitued at every step of the product life	evaluative	mégajoules/step of life	Eco Designers, Environmental Experts	For the comparaison between different solutions	Provides informations for decreasing consomation of energy	Human toxicity	no	no	Yes, it can be applicate to transport, media…	Depend of the information research. It can be use LCA data base or bibliography research.	?	no	Use of this type of method it's dangerous because only one impact it's take into account.	Easy to use and to understand the impact for designers	Contenu energétique	Norme ISO NFX 30-110	free			
eco-design (relating to End of Life)																							
(focus on recyclability, disassembly etc.)																							
	ATROID	Software and DB management	Tool for Eco-design and Dismantling Analysis	Evaluative	Graphical Support, Quantitative Description, Inventory, Export Function	Environmental experts, Eco-designers, Research institutes, Consultancies	Yes, especially for product re-design	Provides options for designing improved, eco-efficient products. Also for E-O-L Performance	Recycling Potential	Integration of economic aspects related to prevailing cost since the tool is flexible to permit user's own cost input. Provides information on E-O-L cost.	Integration of social aspects related to functional units (dismantling time, dismantling analysis). Sometimes there are problems relating to the accuracy of dismantling times provided by the sotware and that obtained in practice. Suggestion: there should be the possibility for the user to input his own timing in future updates of this software.	Yes, but there may be problems defining system boundaries	Good enough but there is still room for improvements especially 1.information on recycling technology options of materials. 2.Information on recycling plants responsible for electr(on)ic products in Europe.	Yes -	Yes	The software has incorporated information that helps in achieving conformity of current and future legislations such as the WEEE and RoHS.	Supported by LCE Consulting GmbH, they also offer training upon request.	LG Production Engineering Center, LCE Consulting GmbH, Technical University Braunschweig	http://www.atroid.com	8. 700 EURO	2003		
	GDA	software	analysis of product Demanufacturability	Evaluative	indicators for toxicity, energy use and resource use depending on kind of recycling processes regarding: the Number of Materials, Mass, Recycled Material Content, Recyclability, Toxicity, Energy Use, Time for Disassembly, and Dismantling Cost at its end-of-life; also some result description and some general design recommendations	environmental experts, designers and EoL actors	combination into a single score representing the environmental impact using Multi-Attribute Value Theory	product model (interconnections and links of parts) is base of the cost and environmental evaluation	on behalf of some indicators (i.e. indicators for toxicity, energy use and resource use depending on kind of recycling processes regarding)	costs of disassembly times (workload and processing) are content of evaluation (Costs for dismantling, revenues/cost for recycling, cost for disposal)	no	product focused	small database, but good to enlarge specifically	?	no	?	?	?	?	?	?		
	DEMAP (FORGIS)	software	descriptiv (graphical) product structure based on konstructive and material based criteria; offers solutions for disassembly and recycling routes	?	?	recycler/producer	?	modelling structure reflects technical aspects and EoL procedures	no	no	no	no	?	?	no			FORGIS		about 7.500 EURO			
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