

## Classification and evaluation criteria for assessing LCA software and data for buildings – draft 1.0

Parameter	Software tools	Databases
Comprehensiveness		
1) Building-specificity	I) Building-specific (e.g. BEES, ATHENA, ELODIE and SB Tool) II) Generic (e.g. GaBi, SimaPro)	I) Building-specific (e.g. Bauteil katalog, EPDs) II) Generic (e.g. Ecoinvent, GaBi)
2) System boundaries	Allowing the assessment I) Cradle-to-grave + benefits II) Cradle-to-grave III) Cradle-to-gate Extra: IV) Separate reporting [Y/N]	Allowing the assessment I) Cradle-to-grave + benefits II) Cradle-to-grave III) Cradle-to-gate Extra: IV) Separate reporting [Y/N]
3) Indicators	I) Full coverage of indicators set in EN 15978 + additional indicators II) Full coverage of indicators set in EN 15978 III) Partial coverage of indicators set in EN 15978 IV) GHG emissions only (e.g. Carbon Footprint Ltd, CarbonScopeData™)	I) Full coverage of indicators set in EN 15804 + additional indicators II) Full coverage of indicators set in EN 15804 III) Partial coverage of indicators set in EN 15804 IV) GHG emissions only (e.g. Carbon Footprint Ltd, CarbonScopeData™)
4) Modelling	The highest possible level of assessment is: I) Specific elements of the product (e.g. Athena) II) Whole product with enough flexibility to adapt to specificities of the product III) Whole product (e.g. OneClickLCA, Tally)	The highest possible level of assessment is: I) Specific elements of the product II) Whole product with enough flexibility to adapt to specificities of the product III) Whole product
Robustness		
5) Levels and EN standards adherence	I) Aligned with Levels methodological guidance II) Aligned with EN 15978 – either based on self-declaration or external evaluation III) Not aligned for specific aspects	I) Aligned with Levels methodological guidance II) Aligned with EN 15804 – either based on self-declaration or external evaluation III) Not aligned for specific aspects
6) Quality	I) Supporting the reliability assessment of information II) Not supporting the reliability	Enabling data quality assessment: a) Geography (e.g. local vs. EU/global)

	assessment of information	b) Time (e.g. actual vs. outdated) c) Technology (e.g. building-specific vs. generic) e) Uncertainty
7) Transparency and verification	I) Sources of information and key modelling assumptions are systematically trackable and verifiable II) Sources of information and key modelling assumptions are generically described III) Sources of information and key modelling assumptions are generally not reported	I) Sources of information and key assumptions are systematically tracked and third-party verified II) Sources of information and key assumptions are described III) Sources of information and key assumptions are generally not reported
Barriers		
8) Accessibility	I) Easy-to-use web interface II) Excel-based tools III) Software tools to install and requiring some learning (e.g. GaBi, OpenLCA, Simapro)	I) EPDs II) Easy-to-access, -modify and -transfer data III) Complex management of data (e.g. only possible within a specific software tool)
9) Cost	I) Freely available (e.g. <i>OpenLCA</i> ) II) Available at a commercial price (e.g. Carbon Footprint Ltd, CarbonScopeData™, <i>GaBi</i> , <i>SimaPro</i> )	I) Freely available (e.g. ELCD) II) Available at a commercial price (e.g. Bauteil katalog, Ecoinvent, GaBi)
10) Training	I) Training available or not needed II) Training not available	I) Training available or not needed II) Training not available
Additional information	"Background information about the development, management and update of the tool"	"Background information about the development, management and update of the database"

**Table 1: Non-exhaustive list of LCA tools for buildings**

Region	Tool	Link	Building-specific	Generic	Note
North America					
Canada	Athena Impact Estimator	<a href="http://www.athenasmi.org/our-software-data/impact-estimator/">http://www.athenasmi.org/our-software-data/impact-estimator/</a>	x		
Canada	Athena EcoCalculator	<a href="http://www.athenasmi.org/tools/ecoCalculator/">http://www.athenasmi.org/tools/ecoCalculator/</a>	x		
USA	BEES	<a href="http://www.nist.gov/el/economics/BEESSoftware.cfm/">http://www.nist.gov/el/economics/BEESSoftware.cfm/</a>	x		
USA	Tally	<a href="https://choosetally.com">https://choosetally.com</a>	x		
Europe					
Austria	ECOSOFT	<a href="http://www.ibo.at/en/ecosoft.htm">http://www.ibo.at/en/ecosoft.htm</a>	x		
Finland	One Click LCA	<a href="http://www.oneclicklca.com/green-building-software/">http://www.oneclicklca.com/green-building-software/</a>	x		Data for more regions
France	COCON	<a href="http://eosphere.fr/COCON-comparaison-solutions-constructives-confort.html">http://eosphere.fr/COCON-comparaison-solutions-constructives-confort.html</a>	x		
France	ELODIE	<a href="http://www.elodie-cstb.f/default.aspx">http://www.elodie-cstb.f/default.aspx</a>	x		
France	EQUER	<a href="http://www.izuba.fr/logiciel/equer">http://www.izuba.fr/logiciel/equer</a>	x		
Germany	GaBi-Build-IT	<a href="http://www.pe-international.com/sweden/services-solutions/green-building/building-lca/">http://www.pe-international.com/sweden/services-solutions/green-building/building-lca/</a>	x		
Germany	LEGEP	<a href="http://www.legep-software.de/">http://www.legep-software.de/</a>	x		
Germany	SBS	<a href="http://www.sbs-onlinetool.com">http://www.sbs-onlinetool.com</a>	x		
Germany	LEGEP Software GmbH	<a href="https://legep.de">https://legep.de</a>	x		To check if still used
Norway	Klimagassregnskap	<a href="http://www.klimagassregnskap.no/">http://www.klimagassregnskap.no/</a>	x		
Spain	Arquimedes	<a href="http://arquimedes.cype.es/">http://arquimedes.cype.es/</a>	x		
Sweden	EcoEffect	<a href="http://www.ecoeffect.se/">http://www.ecoeffect.se/</a>	x		
Switzerland	Eco-bat	<a href="http://www.eco-bat.ch/index.php?option=com_content&amp;task=blogcategory&amp;id=14&amp;Itemid=30">http://www.eco-bat.ch/index.php?option=com_content&amp;task=blogcategory&amp;id=14&amp;Itemid=30</a>	X		
The Netherlands	GreenCalc+	<a href="http://www.greencalc.com/">http://www.greencalc.com/</a>	x		
UK	envest 2	<a href="http://envestv2.bre.co.uk/">http://envestv2.bre.co.uk/</a>	x		
France	Bilan Produit ADEME	<a href="http://www.base-impacts.ademe.fr/bilan-produit">http://www.base-impacts.ademe.fr/bilan-produit</a>		x	
France	EIME	<a href="http://codde.fr/en/our-software/eime-en/eime-presentation">http://codde.fr/en/our-software/eime-en/eime-presentation</a>		x	
France	TEAM	<a href="http://ecobilan.pwc.fr/en/team.html">http://ecobilan.pwc.fr/en/team.html</a>		x	
France	Qantis suite	<a href="https://qantis-suite.com/free_product.html">https://qantis-suite.com/free_product.html</a>		x	To check if still used
Germany	GaBi	<a href="http://www.gabi-software.com">http://www.gabi-software.com</a>		x	
Germany	OpenLCA	<a href="http://www.openlca.org/">http://www.openlca.org/</a>		x	
Germany	SULCA	<a href="http://www.simulationstore.com/sulca">http://www.simulationstore.com/sulca</a>		x	
Germany	Umberto	<a href="http://www.umberto.de/en/">http://www.umberto.de/en/</a>		x	
Germany	GEMIS	<a href="https://ghgprotocol.org/Third-Party-Databases/GEMIS">https://ghgprotocol.org/Third-Party-Databases/GEMIS</a>		x	To check if still used
The Netherlands	SimaPro	<a href="http://www.pre-sustainability.com">http://www.pre-sustainability.com</a>		x	
UK	Carbon Footprint	<a href="https://www.carbonfootprint.com/">https://www.carbonfootprint.com/</a>		x	

UK	CCaLC Tool			
UK	Bousted Model			
UK, Germany	eToolLCD	<a href="http://etoolglobal.com/">http://etoolglobal.com/</a>	x	Data for Australia, Brazil, UK / Europe
Australia/Oceania				
Australia	eToolLCD	<a href="http://etoolglobal.com/">http://etoolglobal.com/</a>	x	Data for other regions (see above)

**Table 2: Non-exhaustive list of LCA databases for buildings**

Region	Database	Link	EN compliance
	GEDNet Global Environmental Declarations Network (Global)	<a href="http://gednet.org/">http://gednet.org/</a>	
North America			
North America	CarbonScopeDataTM	<a href="http://www.cleanmetrics.com/html/database.htm">http://www.cleanmetrics.com/html/database.htm</a>	
Canada	CSA EPD	<a href="http://www.csaregistry.ca/epd/about_epd_pcrs_e.cfm">http://www.csaregistry.ca/epd/about_epd_pcrs_e.cfm</a>	Not compliant with EN 15804
Canada	CRMD	<a href="http://uwaterloo.ca/canadian-raw-materials-database/">http://uwaterloo.ca/canadian-raw-materials-database/</a>	
USA	ACLCA Product Category Rules	<a href="http://www.aclca.org/">http://www.aclca.org/</a>	
USA	ASTM EPD	<a href="https://www.astm.org/CERTIFICATION/EpdAndPCRs.html">https://www.astm.org/CERTIFICATION/EpdAndPCRs.html</a>	Not compliant with EN 15804
USA	IERE Earthsure EPD	<a href="https://iere.org/programs/earthsure/">https://iere.org/programs/earthsure/</a>	Not compliant with EN 15804
USA	Minnesota Building Materials Database	<a href="http://www.buildingmaterials.umn.edu/materials.html">http://www.buildingmaterials.umn.edu/materials.html</a>	
USA	US LCI	<a href="https://www.nrel.gov/lci/">https://www.nrel.gov/lci/</a>	
USA	Quartz	<a href="http://www.quartzproject.org/p/CP168-a00/q/concrete">http://www.quartzproject.org/p/CP168-a00/q/concrete</a>	
Europe			
Europe	ESUCO	<a href="http://www.dgnb-system.de/en/system/international/">http://www.dgnb-system.de/en/system/international/</a>	
Europe	European Aluminium EPD Programme	<a href="http://european-aluminium.eu/resource-hub/building-products-epd-programme/">http://european-aluminium.eu/resource-hub/building-products-epd-programme/</a>	EN 15804 verified
Europe	ELCD	<a href="http://eplca.jrc.ec.europa.eu/ELCD3/index.xhtml?stock=default">http://eplca.jrc.ec.europa.eu/ELCD3/index.xhtml?stock=default</a>	
Austria	Bau EPD	<a href="http://www.bau-epd.at/en/building-materials-with-transparency/">http://www.bau-epd.at/en/building-materials-with-transparency/</a>	EN 15804 verified
Austria	IBO LCA database	<a href="http://www.ibo.at/en/index.htm">http://www.ibo.at/en/index.htm</a>	
Belgium	BBRI	<a href="http://www.health.belgium.be/en/database-environmental-product-declarations-epd">http://www.health.belgium.be/en/database-environmental-product-declarations-epd</a>	
Denmark	EPD Danmark	<a href="http://www.epddanmark.dk/site/index.html">http://www.epddanmark.dk/site/index.html</a>	EN 15804 verified
France	Base carbone ADEME	<a href="http://www.basecarbone.fr/">http://www.basecarbone.fr/</a>	
France	DIOPEN	<a href="http://www.diopen.fr">www.diopen.fr</a>	

France	FDES	<a href="http://www.fdes-eco-construction.com/ensavoirplus/fdes/quest-ce-quune-fdes">http://www.fdes-eco-construction.com/ensavoirplus/fdes/quest-ce-quune-fdes</a>	Not compliant with EN 15804
France	INIES FDES	<a href="http://www.inies.fr/home/">http://www.inies.fr/home/</a>	EN 15804 verified
Germany	Oekobaodat	<a href="http://www.oekobaodat.de">http://www.oekobaodat.de</a>	
Germany	Gabi Database	<a href="http://www.gabi-software.com/international/databases/gabi-databases/">http://www.gabi-software.com/international/databases/gabi-databases/</a>	
Germany	IBU	<a href="http://bau-umwelt.de/hp474/Umwelt-Produktdeklarationen-EPD.htm">http://bau-umwelt.de/hp474/Umwelt-Produktdeklarationen-EPD.htm</a>	EN 15804 verified
Italy	EPD Italy	<a href="http://www.epditaly.it/">http://www.epditaly.it/</a>	EN 15804 verified
Luxembourg	Leitfaden database	<a href="http://www.crtib.lu/de/leitfaden-fuer-nachhaltiges-bauen">http://www.crtib.lu/de/leitfaden-fuer-nachhaltiges-bauen</a>	
The Netherlands	Milieudatabase	<a href="http://www.milieudatabase.nl">www.milieudatabase.nl</a>	
The Netherlands	IVAM	<a href="http://www.buildingecology.com/sustainability/life-cycle-assessment/life-cycle-assessment-software/ivam-lca-data-4.0">http://www.buildingecology.com/sustainability/life-cycle-assessment/life-cycle-assessment-software/ivam-lca-data-4.0</a>	
Norway	EPD Norge	<a href="http://epd-norge.no/pcr/">http://epd-norge.no/pcr/</a>	EN 15804 verified
Poland	ITB-EPD	<a href="http://www.itb.pl/">http://www.itb.pl/</a>	EN 15804 verified
Portugal	DAP Habitat	<a href="http://daphabitat.pt/?page_id=461">http://daphabitat.pt/?page_id=461</a>	EN 15804 verified
Spain	DAP construcción	<a href="http://www.csostenible.net/index.php/es/sistema_dapc">http://www.csostenible.net/index.php/es/sistema_dapc</a>	EN 15804 verified
Spain	Global EPD	<a href="https://www.en.aenor.es/aenor/certificacion/mambiente/globalepd.asp">https://www.en.aenor.es/aenor/certificacion/mambiente/globalepd.asp</a>	EN 15804 verified
Spain	BEDEC	<a href="https://itec.es/metabase/productos-sostenibles/m/m/m/">https://itec.es/metabase/productos-sostenibles/m/m/m/</a>	
Sweden	International EPD	<a href="http://environdec.com/Epd-Search/?search_type=simple&amp;Category=7764">http://environdec.com/Epd-Search/?search_type=simple&amp;Category=7764</a>	EN 15804 verified
Sweden	IVL Swedish Environmental Research Institute	<a href="http://www.ivl.se/engelska/">http://www.ivl.se/engelska/</a>	
Switzerland	Bauteil Katalog	<a href="http://www.bauteilkatalog.ch/ch/fr/catalogueconstruction.asp">http://www.bauteilkatalog.ch/ch/fr/catalogueconstruction.asp</a>	
Switzerland	Ecoinvent	<a href="http://www.ecoinvent.org/database/database.html">http://www.ecoinvent.org/database/database.html</a>	
UK	BRE Environmental Profiles	<a href="https://www.bre.co.uk/Environmental_Profiles.html">https://www.bre.co.uk/Environmental_Profiles.html</a>	Not compliant with EN 15804
UK	BRE Verified EN 15804 EPD	<a href="http://www.bre.co.uk/greenguide/page.jsp?id=558">http://www.bre.co.uk/greenguide/page.jsp?id=558</a>	EN 15804 verified
UK	Green Book Live: Environmental Profiles	<a href="http://www.greenbooklive.com/search/scheme.jsp?id=9">http://www.greenbooklive.com/search/scheme.jsp?id=9</a>	
UK	ICE Carbon & Price book	<a href="http://www.icevirtuallibrary.com/isbn/9780727758125">http://www.icevirtuallibrary.com/isbn/9780727758125</a>	
UK	ICE database	<a href="http://www.circularecology.com/embodied-energy-and-carbon-footprint-database.html#.WfBs_5IKUk">http://www.circularecology.com/embodied-energy-and-carbon-footprint-database.html#.WfBs_5IKUk</a>	
<b>Asia</b>			
Turkey	EPD Turkey	<a href="http://www.epdturkey.org/">http://www.epdturkey.org/</a>	EN 15804 verified
Japan	JEMAI, 3EID	<a href="http://www.jemai.or.jp/english/">http://www.jemai.or.jp/english/</a>	
China	CLCD	<a href="http://www.itke.com.cn">http://www.itke.com.cn</a>	
<b>Australia/Oceania</b>			
Australia, New Zealand	Australasian EPD	<a href="http://www.epd-australasia.com/">http://www.epd-australasia.com/</a>	EN 15804 verified
Australia	Building Products LCI	<a href="http://www.bpic.asn.au/lci/">http://www.bpic.asn.au/lci/</a>	
Australia	AusLCI	<a href="http://www.auslci.com.au">http://www.auslci.com.au</a>	
<b>South America</b>			

Latin America

EPD Latin America

<https://www.epd-americalatina.com/>

EN 15804 verified