

Frequently Asked Questions

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❖ General Compass questions

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1. What is CAP'EM COMPASS?

CAP'EM COMPASS is an online tool for comparing building products by their environmental performance; CAP'EM COMPASS is based on Life Cycle Analysis results from the CAP'EM project. It enables the user to:

- Find construction products suited to any building application
 - Filter those construction products based on the user's preferences
 - Compare them against each other and against conventional materials
 - Filter the products based on the user's country or project's site location
 - Add the 'delivery to site' impacts to the 'to factory gate' impacts
 - See tabulated numbers or graphic displays of all or selected impacts of products side by side for ease of understanding.
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2. How do you use CAP'EM COMPASS?

There are a few basic ways to use the tool:

1. Free text search, find and print Product Data Sheets and LCA data on equivalent and similar products that are included in the tool
 2. Compare the environmental impacts of shortlisted Products or generic materials for specific applications and project sites;
 3. Generate Product Data Sheets for the project site with additional transport impacts added
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3. Who are the CAP'EM COMPASS's target group?

- The target group for the CAP'EM Compass is the architect and building designer who would like to use the product with the lowest environmental impact on their project.
- The other target group is the building product manufacturer, through the Compass they would be able to find the environmental performance of their product and even compare it with other products.
- And in a broader scope all the actors in the building construction sector. As all the information exists in the Compass can be useful to have technical information from certain building materials or to see the environmental impact of the chosen product.

4. Has CAP'EM COMPASS been tested by industry and LCA-experts?

CAP'EM ran beta version testing of CAP'EM COMPASS tool from the 23rd of May 2013 to the 12th of June 2013. We asked the industrial and LCA-experts about:

- Users expectation and needs
- Educational aspects of the tool
- User friendly searching steps
- Product data sheet
- Environmental impacts
- Visual aspect of the tool

CAP'EM has received feedback from 36 individuals or organizations from Belgium, France, Netherlands, United Kingdom and Portugal during this period.

List of testers:

Belgium

- Els Van de moortel-VIBE
- Kristof Descheemaeker-Eco2logic
- Marcel van Dijken-VIBE
- Peter Thoelen-VIBE

France

- Guillaume GEORGETON-UTT Troyes
- Viviane TILLIEUX-Tillieux Menuiseries

- Marie DARUL-CD2E
- Marc NOËL-AERAULEC
- Anne DECROMBECQUE-CD2E
- Céline OHNENSTETTER-Vertuoze
- Alexandra LEBERT-CSTB
- Agathe COMBELLES-ISA Lille
- Anne-Laure DESIDERI-CD2E
- Hadjira SCHMITT-MEDDE/DHUP
- Francky PARENT-Architect
- Naeem ADIBI-CD2E
- Jean-François PLOTEAU-JFP Consult
- Delphine PETAROSCIA
- Franck MAC FARLANE-SIA Habitat
- Meidhi GODART-BET AGATHE
- Christine SUN-NORPAC
- Grégoire BOUCE-les 7 vents du Cotentin
- Alexia PESTRE-CD2E

The Netherlands

- Rick SCHOLTES-NIBE
- Fred VAN DER BURGH-Stichting Agrodome
- Moniek CROMBACH-Crombach communicatie
- Geert MANTINGH- Stichting Agrodome
- Anne UBBELS- Q.Ubbels consultancy
- Kristel van de Westelake- Saint Gobain-Raab Karcher

The United Kingdom

- Brian MURPHY-NGS National Green Specification
- Erica RUSSEL-BSK-CIC
- Alisa YINGLING-BSK-CIC
- Peter MAYER-BLP Insurance
- Pierre BOCCON-SGS

Portugal

- Marisa ALMEIDA-CTCV

5. Where can users find a list of products and manufacturers, from which countries, that are included in CAP'EM COMPASS?

CAP'EM publishes a list of manufactures by country and include contact information as well as a small introduction about each product in a document which is accessible in the CAP'EM website, from the COMPASS tab or through this link:

<http://www.capem.eu/capem/uploads/Manufact.pdf>

❖ Searching and user preferences:

- 1. How can you start searching for a product in CAP'EM COMPASS?**
 - 2. What is the "building element" in the SEARCH page?**
 - 3. What is a "functional unit" on the SEARCH page?**
 - 4. What is the "Available/Made in which countries/regions" filter?**
 - 5. What are the definition and category of different raw materials?**
 - 6. What is a third party assessment?**
 - 7. What is the meaning of DIY?**
 - 8. How users can export products datasheet and environmental impact?**
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1. How can you start searching for a product in CAP'EM COMPASS?

1. Users choose from drop down menus to select the element of the building and the function of the product; CAP'EM COMPASS lists products suitable for these applications.
2. Then users can define their preferences by choosing from drop down lists, in order for CAP'EM COMPASS to filter and suggest a shortlist of product meeting those preferences.

Note: Searches can be carried out by typing into the search bar, product names or keywords related to the product application. This generates a list of products which match the search terms.

- By clicking on the title of each shortlisted product a CAP'EM Product Data Sheet will appear in a new window, including all the technical specifications and environmental impacts assessed by the CAP'EM team. This can be saved or printed.

4. What is the "building element" in the SEARCH page?

In order to only find suitable products for particular applications CAP'EM COMPASS requires the user to choose from drop down menus in the SEARCH tab page; the first item to define is "Building element". The "Building element" describes the parts of the building e.g. foundations, floors, walls, roof, etc. where the product will be used, in the following building section you can see the names of the 'Building elements':

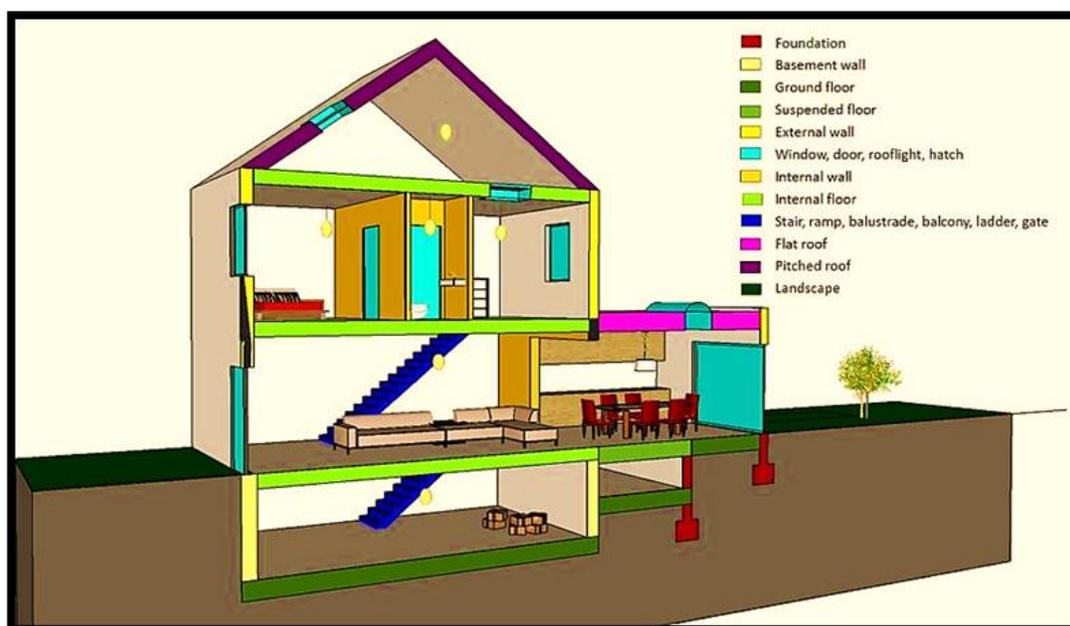


Figure 1: Building Elements
Source: CAP'EM team

5. What is a “functional unit” on the SEARCH page?

Product’s impacts should be showed based on the same functional unit, (for instance 1m² of a certain material showed will be compared with 1m² of the other materials.)

CAP’EM COMPASS users are encouraged to read a comprehensive explanation of the definition of “Functional units” in a document made by the CAP’EM team. This document is accessible through the link below:

<http://46.105.145.91/capem/documents/COMPASS%20Functional%20Units%20Guidelines.pdf>

6. What is the “Available/Made in which countries/regions” filter?

Users can choose local products or search for countries or regions, by choosing from drop down menus in “Available in which country/regions”. CAP’EM COMPASS can then provide a list of products which are available in the chosen market(s). Choosing a product by knowing the country of manufacture enables avoiding the environmental impact of transportation from one country to another, which could be significant.

CAP’EM COMPASS will calculate the impact of transport of each product on the COMPARE tab page. (For more information about the transport impact please visit the “Compare and Comparison” frequently asked questions)

The “Made in which countries/regions” is also important from the point of view of mains electricity mix where high and low carbon fuel, nuclear and renewable energy mix varies considerably from country to country. CAP’EM LCA enables the user to compare the overall impacts of each product which is influenced by the fuel mix, carbon and nuclear waste associated with the country of manufacture unless the manufacturer uses renewable energy avoiding the grid mix.

- North west Europe countries: Belgium, France, Germany, Ireland, Luxembourg, United Kingdom, the Netherlands
- Other European countries are classified in 3 areas : Northern Europe, Central Europe and Southern Europe according to the following table

Northern Europe		Central Europe		Southern Europe	
Danmark	DK	Austria	AT	Albania	AL
Estonia	EE	Belarus	BY	Andorra	AD
Finland	FI	Bosnia&Herzegovina	BA	Croatia	HR
Iceland	IS	Bulgaria	BG	Cyprus	CY
Latvia	LV	Czech republic	CZ	Greece	GR
Lituania	LT	Hungary	HU	Italia	I
Norway	NO	Poland	PL	Monténégro	MT
Sweden	SE	Serbia	RS	Portugal	PT
		Slovaquia	SK	Spain	ES
		Slovenia	SI		
		Switzerland	CH		
		Ukraine	UA		

7. What are the definitions of different raw materials in COMPASS?

Users can select their material preferences by choosing from drop down menus.

For this preference criteria CAP'EM COMPASS uses a cut-off of 80%. That means that a product will appear in shortlists if it consists of 80% or more of a selected raw materials category.

CAP'EM set the following definitions of raw materials with examples:

- Fossil based synthetic material

Definition: derived from crude oil, synthetic = refined/cracked molecules = 'plastic'

Examples: PVC, PU, PUR, PS, EPS, XPS, ABS, EPS, PC, PE, PP, PVAC, etc.

Words in full:

PVC PolyVinylChloride 'Vinyl' (flooring, wall linings, pipes, Rainwater Goods,

PU Polyuréthane (Thermal insulation and adhesives)

EPS Expanded Polystyrene (Thermal insulation)

XPS Extruded Polystyrene (Thermal insulation)

PS Polystyrene (Thermal insulation and packaging)

ABS Poly(Acrylonitrile Butadiene Styrene) (Pipes and sheet)

PC Polycarbonate (Glazing)

PE Polyethylene 'Polythene' (DPM, VCL, pipes, joint filler, roofing membrane)

PP Polypropylene (Pipes, mouldings)

- Other fossil based

Definition: Naturally occurring, non-renewable, prehistoric fossil material

Examples: Bitumen, Asphalt,

- Bio-synthetic material

Definition: refined/cracked plant-based molecules used as basic molecule for building blocks in biorefineries.

Examples: PLA = polylactic acid; PUR from PLA from soy; EPS from PLA

- Natural renewable : plant based material

Examples: Straw, bamboo, wood fiber, timber

- Natural renewable: animal based material

Examples: Wool, hair, leather

- Mineral based material

Definition: Prehistoric, often inert, naturally occurring, often abundant, strong materials

Examples: Loadbearing stone, floor and landscape wearing surface, decorative wall and floor surface, virgin or secondary aggregates

- Recycled content material

Choosing recycled content helps to divert waste from landfill towards recycling. Recycling can mean use of bonding or binding media that can raise the impacts unless they are based on natural ingredients.

8. What is the third party assessment?

An assessment of a product by a third party other than the manufacturer or the purchaser. These assessments are in health, environment, energy, social, technical or other issues. CAP'EM Product Data Sheet lists the certification and labels achieved by the product.

Users choosing this preference may be obliged to use labeled products under national rules or regulations or funding obligations.

Exemples: FSC, PEFC, Nature Plus

9. What is the meaning of DIY?

DIY stands for "Do it yourself" If a product must be applied by a specialist, skilled, trained or manufacturer approved, applicator for guarantee integrity, then it is not suitable for DIY.

10. How can I keep records of products found on CAP'EM COMPASS? Or export a products datasheet and environmental impact?

CAP'EM COMPASS contains CAP'EM Product Data Sheets including all the technical information and environmental performance of the product seen when the listed product name is double clicked, they appear in new windows and the site specific transport impacts can automatically be added to them.

This information can be exported from CAP'EM COMPASS to the users computer or printer which enables the users to keep the information for further use.

At the top of the Product Data Sheet window there is a PDF icon, by clicking it the users can choose to print or save the project specific CAP'EM Product Data Sheet in PDF format.

When using this information please consider the copyright of CAP'EM & CAP'EM COMPASS. Information related to data usage policy is available through this link: <http://46.105.145.91/capem/documents/Copyright-Disclaimer.pdf>

❖ Life Cycle Assessment Method:

- 1. Where can you find information on the CAP'EM method?**
 - 2. What are the impact categories in CAP'EM COMPASS?**
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1. Where can you find information on the CAP'EM method?

The CAP'EM team prepared a document explaining all aspects of the CAP'EM method. All the assessment methods are transparent and accessible for all the users. This document is available on the CAP'EM website, on the COMPASS tab. You can also use the link below to access this document:

<http://www.capem.eu/capem/uploads/capemmethod.pdf>

2. What are the impact categories in CAP'EM COMPASS?

In CAP'EM COMPASS there are 2 types of view possible: Environmental Indicators and Specific Impacts. Specific impacts are a calculation of a products' direct impact in one

category, such as climate change (often referred to as a carbon footprint). By looking at an indicator you are presented with a general overview based on many impact categories that have been lumped together to give one figure. While these indicators provide a simple overview, less confidence can be placed on these results, as the impacts they are based on have to be multiplied by factors in order to "normalise" the results. This normalisation will introduce a bias towards some impacts that may not be expected or required. As such it is recommended that only specific impacts are reported and the calculations and consequences are understood.

A description of how the impact categories are calculated is provided here:
<http://lct.jrc.ec.europa.eu/pdf-directory/ILCD%20Handbook%20Recommendations%20for%20Life%20Cycle%20Impact%20Assessment%20in%20the%20European%20context.pdf>

A description of how the endpoint indicators are calculated is provided here:
http://www.pre-sustainability.com/download/misc/ReCiPe_main_report_final_27-02-2009_web.pdf

In CAP'EM COMPASS, the normalization* formulas and weighting** choices are generated by the internationally available assessment methods and are not based on choices made by the CAP'EM team. The methodologies used to convert the original impact data into these cross category results can be disputed from a scientific point of view: they are much less than the individual impact categories based on quantitative certainties. As such it is strongly recommended that users familiarize themselves with the importance of the results from individual impact categories, as only these can be used in a scientifically correct way for the comparisons of materials and products.

* Normalisation is the calculation of the magnitude of the category indicator results relative to some reference information (From ISO 14044).

** Weighting steps are based on value-choices and are not scientifically based. Different individuals, organizations and societies may have different preferences; therefore it is possible that different parties will reach different weighting results based on the same indicator results or normalized indicator results (From ISO 14044)

Impact categories description from the pop-up is coming from the following sources:

¹ European Commission, Glossary
<http://lca.jrc.ec.europa.eu/lcainfohub/glossary.vm>

² The Hitch Hiker's Guide to LCA

³ United States Environmental Protection Agency, <http://www.epa.gov/pm/>

❖ Compare and Comparison:

- 1. How do you compare products in CAP'EM COMPASS?**
 - 2. What are the "Generic materials" in CAP'EM COMPASS?**
 - 3. Why users have to add transportation impacts to the product impacts?**
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1. How do you compare products in CAP'EM COMPASS?

Users can compare products in CAP'EM COMPASS by clicking on the COMPARE Tab. If you have not visited the SEARCH tab first you will have no products shortlisted to compare. So you need to select product(s) and then press the COMPARE tab to see the differences.

The COMPARE tab allows you to compare the previously short-listed products or materials on several environmental indicators and specific impacts of your choice. The results can be displayed in either charts or tables to assist you in making a decision.

By default the results are shown in two graphs one above the other, the top chart appears automatically, the bottom chart appears when you select the other impact categories you wish to be shown.

The top chart including three environmental indicators: Climate Change, Ozone depletion and cumulative energy demand. The bottom chart can be called up by ticking the 'all' box, or it is possible to be more selective by choosing i.e. ticking, specific impacts to be shown, such as climate change and ozone depletion.

Impact category selection can be done simply by ticking or unticking the all box or by ticking or unticking the individual impacts the user wish to see.

It is possible to add a generic material to the comparison to see how the impact of the selected products compares with a commonly used material with the same function.

It is also possible to add the transport impacts of the products from factory gate to site and from regional centres to site for materials. A dialogue box will appear were a country is chosen and into which a postcode can be entered.

2. What are the “Generic materials” in CAP’EM COMPASS?

Generic materials are the commonly used materials in the current built environment including cement, concrete, steel, timber, etc. CAP’EM COMPASS gives the users the possibility of observing and comparing the environmental impact of shortlisted products with commonly used generic materials in the same function.

The generic materials being developed within the scope of the CAP’EM project are derived from ecoinvent v2.2 data (the Swiss Centre for Life Cycle Inventories, 2010)*. The energy mixes have been adapted for the five countries involved in the project.

*The the Swiss Centre for Life Cycle Inventories (www.ecoinvent.org) is the supplier of one of the largest Life Cycle Inventory (LCI) data worldwide.

3. Why are transportation impacts added to product impacts?

Each product is manufactured in a specific location or locations, we need to be aware of the additional impacts due to transportation from the factory gate to the construction site. Being aware of transport impacts can encourage specifiers to reconsider distant manufacturers and consider local manufacturer in their place. Buying from local suppliers may mean the product has already been transported significant distances to be sold locally.

The transportation assessment method is based on the environmental impact of means of transportation and the distance which the product has been transported.

❖ Data usage policy and rights:

- 1. How do you use the CAP'EM COMPASS data?**
 - 2. What is the Copyright and publication of the CAP'EM COMPASS data policy?**
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1. How do you use the CAP'EM COMPASS data?

Building project users can export the information from CAP'EM COMPASS anytime for further building project use but the users has to consider the Copyright-Disclaimer of the CAP'EM project which is mentioned on the bottom of this PDF file as well as on this link:

<http://46.105.145.91/capem/documents/Copyright-Disclaimer.pdf>

2. What is the Copyright and publication of CAP'EM COMPASS data policy?

The CAP'EM team asks the users to read the copyright disclaimer which is available through the link below:

<http://46.105.145.91/capem/documents/Copyright-Disclaimer.pdf>