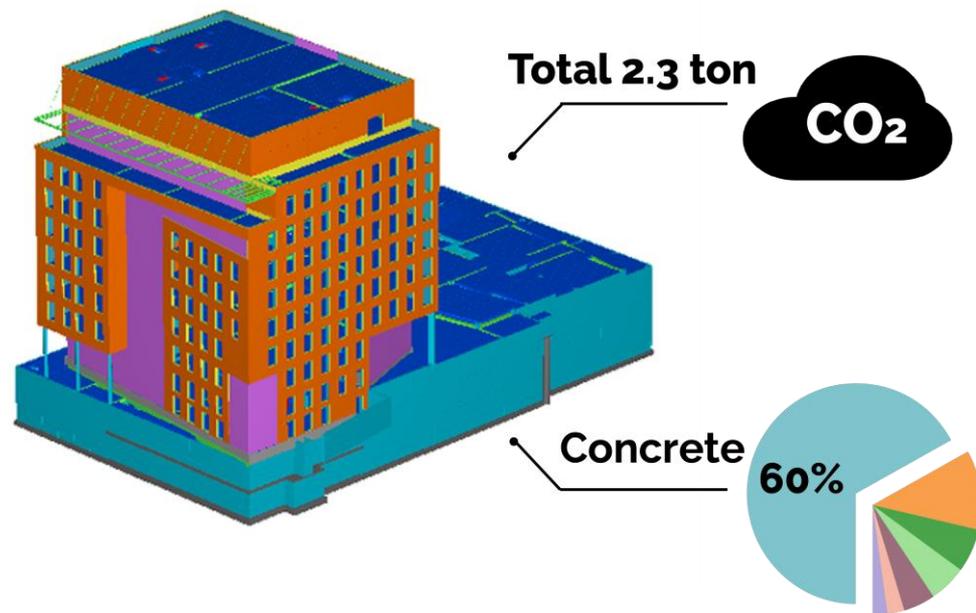


Automate LCA in minutes with One click LCA

14 May 2020

Johanna Jarvinen
Business Development Manager
Bionova Ltd - One Click LCA



INTRODUCING ONE CLICK LCA

LIFE CYCLE ASSESSMENT

DEMO

QUESTIONS & ANSWERS



One Click LCA is easy, fast and powerful LCA, LCC and circular design software



Global **#1** building LCA software

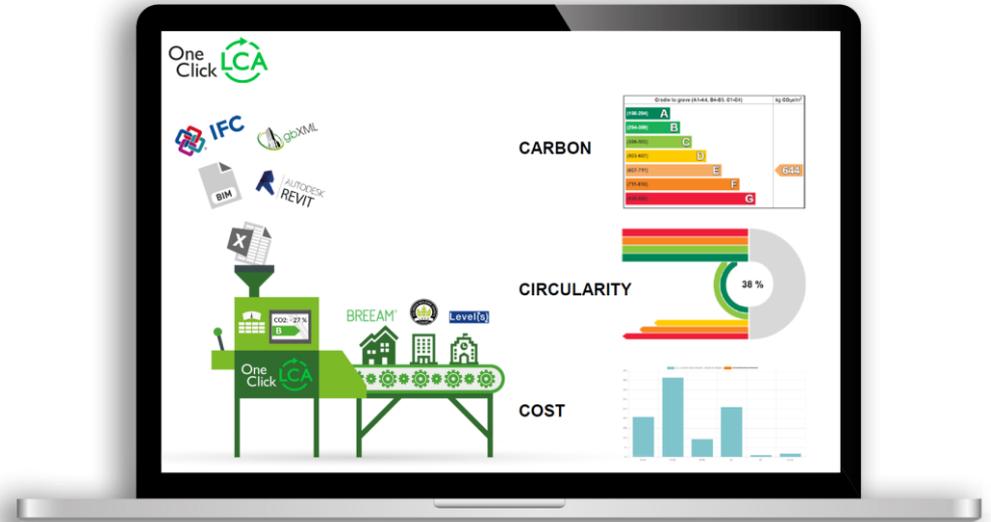
Used in **60+** countries

Supporting **40+** certifications

Includes **60 000+** LCA datasets

Plugs into **10+** design software

Backed by **30+** in-house experts



We work with the entire construction sector – with specific tools for different businesses



LEADING MANUFACTURERS



LEADING BUILDERS



LEADING DESIGNERS



LEADING INVESTORS



INSTITUTIONS & GOVERNMENTS



Packaged tools, custom solutions, services & APIs



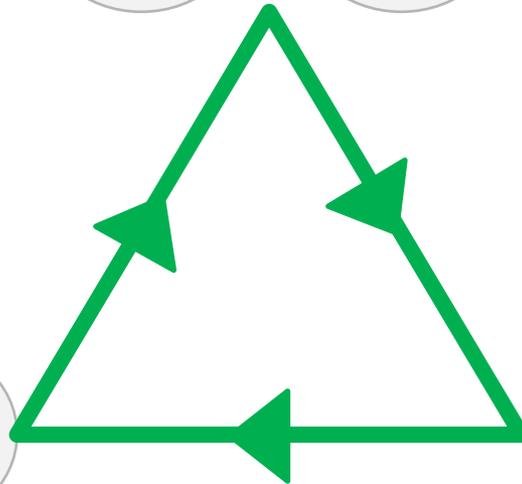
Tools for owners Data harvesting & analysis



Tools for designers & builders Carbon, LCA, LCC & Circularity



Tools for manufacturers EPD generation & footprinting



*upcoming

Supporting world's leading projects



YMCA Centre
Toronto, Canada



Bloomberg Europe
61594 m² BREEAM



Livvitenskap University, Norway



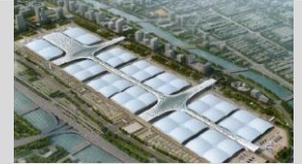
Zoo Atlanta Savanna Hall and Exhibit, USA



HS2 Euston Station
87000 m² BREEAM



POST Expo Kazakhstan



Shenzhen Exhibition Center, 911 000 m²



Hotel Punta Playuela, Cuba BREEAM Int'l



Westfield Milano
250 000 m²



IKEA Poznan
27 000 m² BREEAM

Verified LCA modules for LEED v4, BREEAM and 40+ other green certification systems



NORTH AMERICA

Logos for LEED USGBC, ZERO CARBON CARBONE ZERO, ZERO, GREEN GLOBES, and LIVING BUILDING CHALLENGE.

EUROPE (SELECTED)

Logos for BREEAM, DGNB, ÖGNI, HQE, E+C-, Level(s), BÂTIMENT BBCA BAS CARBONE, MILJÖ BYGGNAD, HOME QUALITY MARK, VERDE, and BREEAM NL, BREEAM SE, BREEAM NOR, BREEAM ES.

STANDARDS

Logos for ISO, BOUWKWALITEIT, cen, and standard norge.

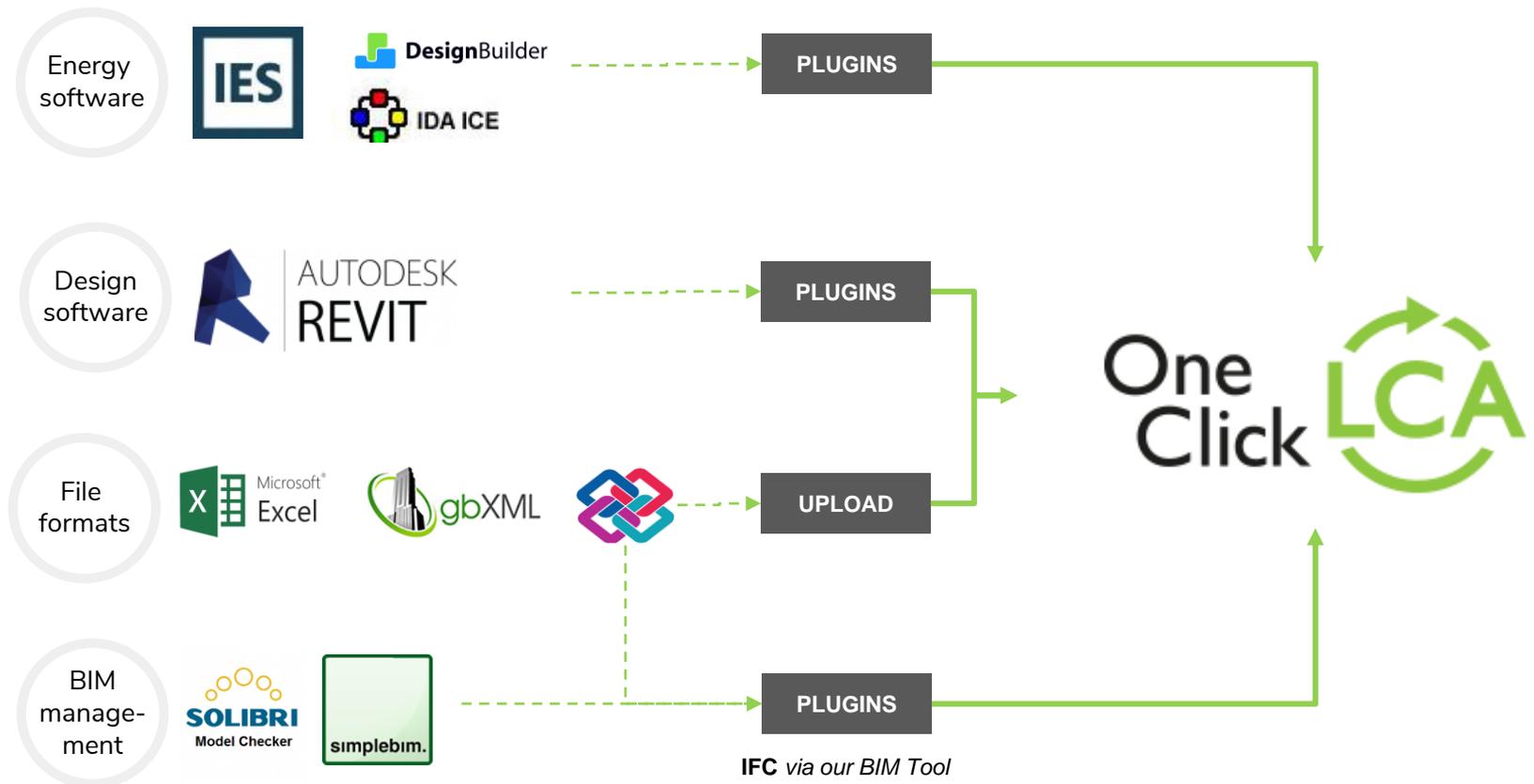
INFRASTRUCTURE

Logos for ENVISION, CEEQUAL, and PAS 2080.

ASIA PACIFIC

Logos for greenstar, BCA GREEN MARK, and enviro DEVELOPMENT.

Integrates with most common design tools



One Click LCA has a global materials LCA & carbon database – by far biggest globally



EPDs IN NORTH AMERICA



VERIFIED & UPDATED



QA process approved by BRE

EPDs IN EUROPE



**GENERIC DATA
LOCALIZED FOR
THE WHOLE WORLD**



DATA IN ASIA PACIFIC



European data coverage

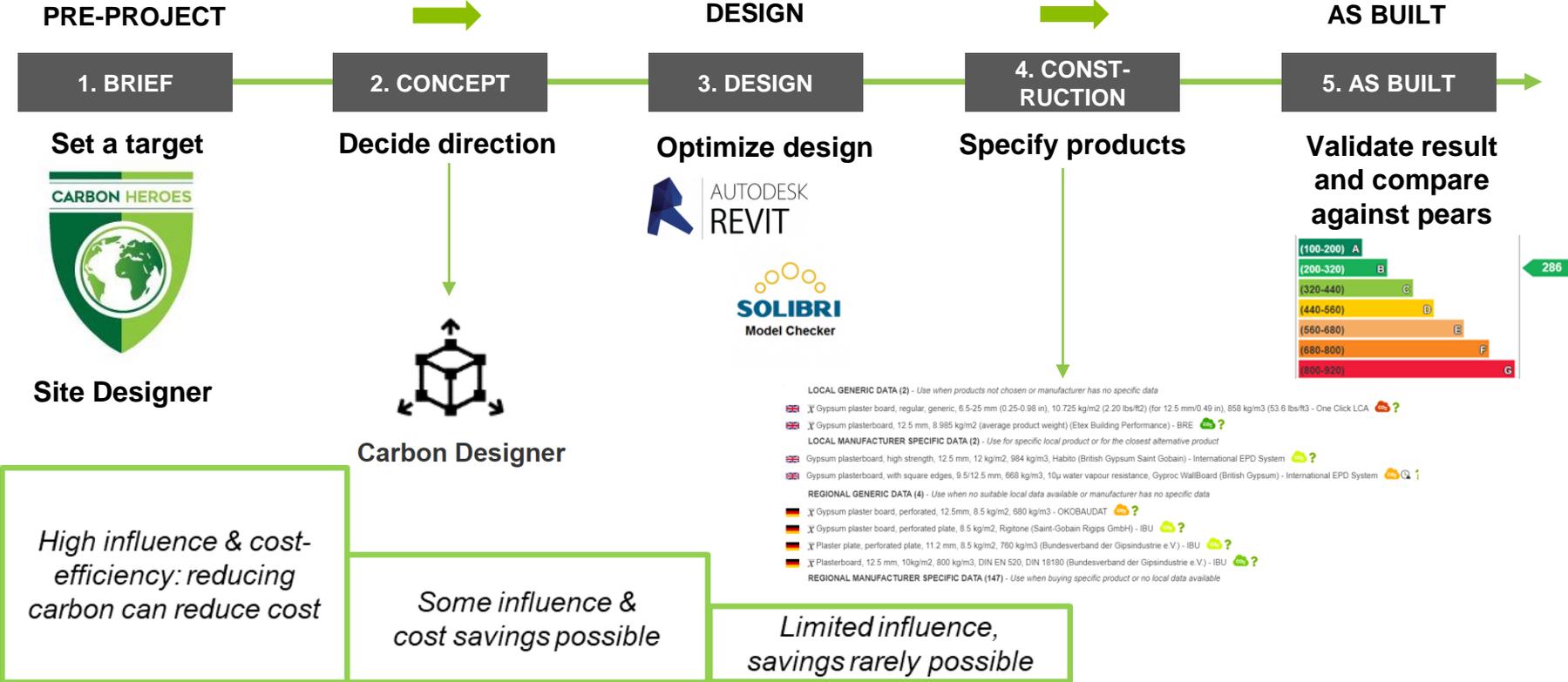
- One Click LCA generic construction materials database
- Environdec (The International EPD System)
- European Aluminium Association
- Spain: DAPconstrucción, GBC Espana, and AENOR
- Austria: BAU-EPD, Baubook
- Czech Republic: CENIA
- Portugal: DAP Habitat
- Denmark: EPD Danmark

North American data coverage

- One Click LCA generic construction materials database
- ASTM
- CSA Group
- ERE Earthsure
- FPInnovations
- NREL
- NRMCA

See all databases at: <https://www.oneclicklca.com/support/faq-and-guidance/documentation/database/>

One Click LCA helps to improve your project in every stage



INTRODUCING ONE CLICK LCA

LIFE CYCLE ASSESSMENT

DEMO

QUESTIONS & ANSWERS



UK tool is based on RICS but we have over 100 tools depending where you are and what you do for example LCA for BREEAM

Our UK tool is based on RICS Whole Life Carbon Vol 1 & RIBA Embodied Carbon and Whole Life Assessment

Workflow
Results
Guidance

Building materials Energy consumption, annual Water consumption, annual Construction site operations Calculation period Emissions and removals Building area

Clear Material Filter: Country Filter: Data source Filter: Type Filter: Upstream Filter: CO2e Filter: Unit Filter: Properties Filter: Save Results

Fill in the material consumptions by material type. You may fill in all materials lumped together, or on separate rows for example by type of structure. Unless instructed otherwise, use gross amounts (incl. losses). Materials can be added in any section. [Material selection help.](#)

Completeness (-) and plausibility checker (grade: D)

1. Foundations and substructure 13 Tons CO₂e - 6 %

Materials in the foundations will never be replaced, no matter assessment period length. For BREEAM UK Mat 1 IMPACT equivalent provide the data for site excavation fuel use here, choose resource Excavation works.

Foundation, sub-surface, basement and retaining walls Compare answers Create a group

Search by name, manufacturer, EPD nr

Resource	Quantity	CO ₂ e	Comment	RICS category	Transport, kilometers	Service life	Localisation	Repair/year % (B3)	
Ready-mix concrete, normal-strength	70000 kg	11t - 5%		1.1.1 Standard	250 Concrete mixer truck	Permanent	United Kingdom IEA2017	None	Change
Reinforcement steel (rebar), gener	4200 kg	2.1t - 1%		1.1.1 Standard	110 Trailer combination, 40	Permanent	United Kingdom IEA2017	None	Change

2. Vertical structures and facade 149 Tons CO₂e - 72 %

External walls and facade Compare answers Create a group

Search by name, manufacturer, EPD nr

Resource	Quantity	CO ₂ e	Comment	RICS category	Transport, kilometers	Service life	Localisation	Repair/year % (B3)	
Render mortar, normal render, high	1000 m ² x 20 mm	7.1t - 3%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None	Change
Lightweight concrete block, with ex	1000 m ² x 100 mm	21t - 10%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None	Change
Masonry mortar, light, 1000 kg/m ³	1000 m ² x 13 mm	7.3t - 4%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None	Change
Rock wool insulation panels, unface	1000 m ² x 170 mm	47t - 23%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None	Change
Lightweight concrete block, with ex	1000 m ² x 215 mm	46t - 22%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None	Change
Masonry mortar, light, 1000 kg/m ³	1000 m ² x 13 mm	7.3t - 4%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None	Change
Gypsum plaster board, regular, gene	1000 m ² x 12.5 mm	11t - 5%		2.5.1 External enclosing	60 Trailer combination, 40	30	United Kingdom IEA2017	2	Change
Gypsum plaster, 1100 kg/m ³ (Bundesv	1000 m ² x 3 mm	1.5t - 0.7%		2.5.1 External enclosing	60 Trailer combination, 40	30	United Kingdom IEA2017	2	Change

Includes all categories and is user adjustable

Material Localisation available

Our UK tool is based on RICS Whole Life Carbon Vol 1 & RIBA Embodied Carbon and Whole Life Assessment

Building materials
 Energy consumption, annual
 Water consumption, annual
 Construction site operations
 Calculation period
 Emissions and removals
 Building area

Material
 Country
 Data source
 Type
 Upstream
 CO2e
 Unit
 Properties

1. Foundations and substructure 13 Tons CO₂e - 6 %

Materials in the foundations will never be replaced, no matter assessment period length. For BREEM UK Mat 1 IMPACT equivalent provide the data for site excavation fuel use here, choose resource Excavation works.

Foundation, sub-surface, basement and retaining walls

Search by name, manufacturer, EPD nr

Resource	Quantity	CO ₂ e	Comment	RICS category	Transport, kilometers	Service life	Localisation	Repair/year % (B3)
Ready-mix concrete, normal-strength	70000 kg	11t - 5%		1.1.1 Standard	250 Concrete mixer truck	Permanent	United Kingdom IEA2017	None
Reinforcement steel (rebar), general	4200 kg	2.1t - 1%		1.1.1 Standard	110 Trailer combination, 40	Permanent	United Kingdom IEA2017	None

2. Vertical structures and facade 149 Tons CO₂e - 72 %

External walls and facade

Search by name, manufacturer, EPD nr

Resource	Quantity	CO ₂ e	Comment	RICS category	Transport, kilometers	Service life	Localisation	Repair/year % (B3)
Render mortar, normal render, high-strength	1000 m ² x 20 mm	7.1t - 3%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None
Lightweight concrete block, with ex	1000 m ² x 100 mm	21t - 10%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None
Masonry mortar, light, 1000 kg/m ³	1000 m ² x 13 mm	7.3t - 4%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None
Rock wool insulation panels, unfaced	1000 m ² x 170 mm	47t - 23%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None
Lightweight concrete block, with ex	1000 m ² x 215 mm	46t - 22%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None
Masonry mortar, light, 1000 kg/m ³	1000 m ² x 13 mm	7.3t - 4%		2.5.1 External enclosing	60 Trailer combination, 40	As building	United Kingdom IEA2017	None
Gypsum plaster board, regular, general	1000 m ² x 12.5 mm	11t - 5%		2.5.1 External enclosing	60 Trailer combination, 40	30	United Kingdom IEA2017	2
Gypsum plaster, 1100 kg/m ³ (Bundesv)	1000 m ² x 3 mm	1.5t - 0.7%		2.5.1 External enclosing	60 Trailer combination, 40	30	United Kingdom IEA2017	2

Note! B1 and B3 are not automated. B2 can be reported separately if B3 known as per RICS guide.

Settings must be enabled in LCA Parameters before they can be used in any calculations



Technical notes:

Materials manufacturing localisation method v1 is current recommended version. V2 beta will be more precise – but not yet.

End of life calculation method has three options:

Material-locked: as before.
Available on all tools.

For global carbon tool and North American carbon tool only:

Market scenarios, user adjustable (beta). Uses EOL energy choice.

Use EPD scenario, user adjustable (beta).

Other options are Commercial Service life & Product specific service life (may vary by manufacturer)

1. LCA default values for materials calculation

Choose suitable default values for your LCA. If unsure, leave default settings unchanged. You can come back to edit the data later. [See GUIDE here](#)

Service life values for materials (mandatory)

The default replacement period source for material. Technical service life represents how long a type of material lasts in good condition and is recommended default. Commercial service life represents how often they are changed in commercial construction and is shorter for many materials. Product specific values vary by manufacturer (choose this for DGNB, MPG and E+C-). You can see and edit the final values

Technical service life (same for same material) ▼

Transportation distance default values for materials

Choose most appropriate region. This will propose typical transportation distance defaults for materials. Leave empty to set all distances manually.

UK ▼

Material manufacturing localisation method

This adjusts the material manufacturing process emissions for grid electricity and energy efficiency of the project location. This does not affect any materials manufactured in the same country. Local compensation model v1 is the current recommended version. Changing the model changes results. The model v2 is in beta version, and it is more sensitive to the differences between material types. Leave empty to leave all data as-is.

v1.0 Recommended ▼

Material manufacturing localisation target

Choose project country, state or province. This adjusts manufacturing electricity emissions to represent manufacturing in chosen location using energy grid and other data. If you do not wish to use this, leave empty. Recommended for BREEAM. You can choose the electricity profile used if you use the model v2. Be mindful that this can have major impacts for some material types.

United Kingdom ▼

Electricity profile

IEA2015 ▼

End of life calculation method

The default end of life calculation method. This has no impact on tools that mandate EOL method (e.g. IMPACT, E+C-, MPG, DGNB). If EPD-based end of life method is chosen, it is applied only if a datapoint has one defined. If Use market scenario is selected, it will apply as default end of life scenario the one that is most typical for that material in that market. Use can adjust these choices for each row.

Market scenarios, user adjustable (beta) ▼

End of life energy recovery (module D) substituted energy mix (only for Market scenarios)

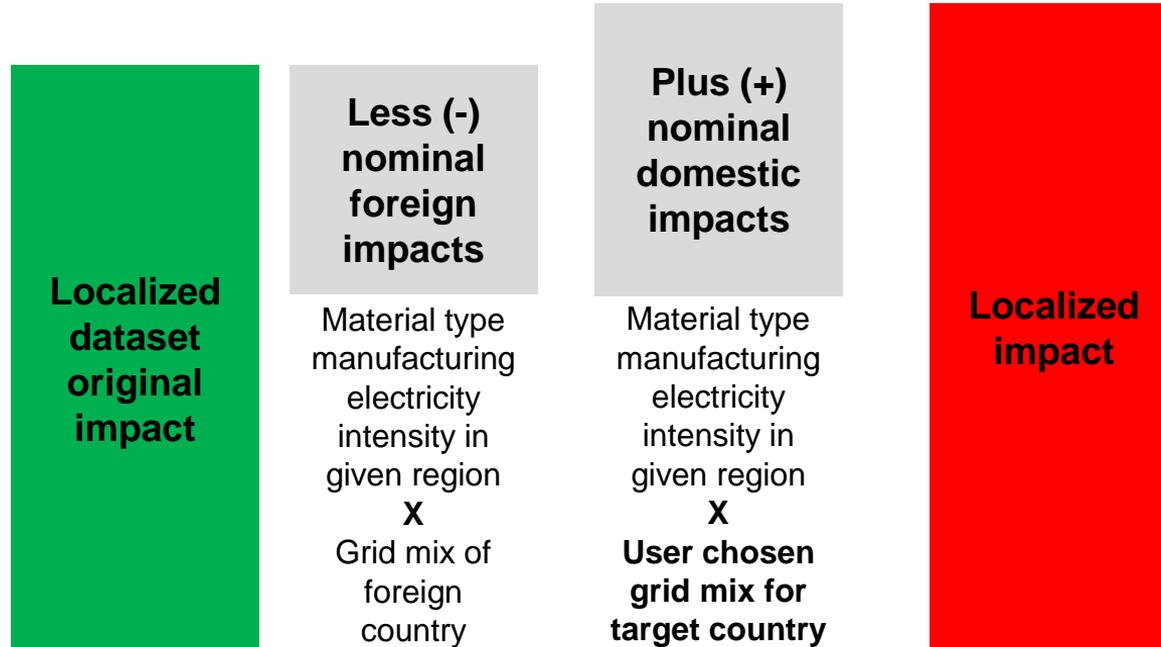
Energy mix substituted by energy recovered from end of life incineration of products in module D. This is generally locally most common heating fuel or mix.

Average district heating Norway (years 2013-2015) ▼

Profile

IEA2013 ▼

Materials manufacturing localisation method allows localising electricity use to anywhere



One Click LCA
for RICS tool
is using the
RICS template
for reporting

Results are organised as per RICS template so they can be easily transferred to for submission (Excel results are also available)

 RICS - Whole life carbon assessment, RICS [Project basic information](#)

> Carbon Heroes Benchmark

▼ Results

Whole life carbon assessment, RICS

This is the project whole life carbon assessment according to RICS methodology and EN 15978. To see the detailed results report, please click [More actions > Detailed report](#)

	A1-A3 Product Stage	A4 Transportation to site	A5 Site operations	B1 Use Phase	B3 Repair	B4 Replacement	B6 Operational Energy use	B7 Operational Water use	C1-C4 End of Life stage	Module D (not included in totals)	TOTAL kg CO2e
1 Substructure	1,505,071	29,037			0				124,265	-289,296	1,658,372
2.1-2.4 Superstructure	1,505,180	22,379			32,615	31,064			21,889	-166,962	1,613,127
2.5-2.6 Superstructure	141,911	233			63,968	53,115			196	-3,881	259,424
2.7-2.8 Superstructure	242,538	3,410			107,767	16,117			1,836	-20,494	371,669
3 Finishes											
4 Fittings, furnishings & equipments											
5 Services (MEP)											
8 External works											
Other materials - TOTAL					350,627						350,627
Site, energy and water			229,687				122,400	108			352,195
TOTAL kg CO2e	3,394,700	55,060	229,687	350,627	204,351	100,297	122,400	108	148,185	-480,632	4,605,414

+ Project reporting information

Assessment of biogenic carbon and mass of materials, RICS

This table shows the impacts of construction materials for the biogenic carbon and mass categories

INTRODUCING ONE CLICK LCA

ONE CLICK LCA DATABASE – WHAT & HOW

LIFE CYCLE ASSESMENT

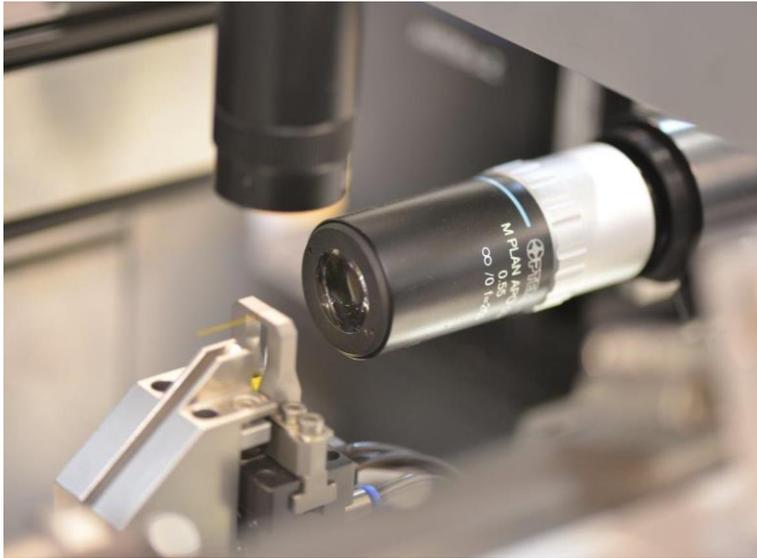
DEMO

QUESTIONS & ANSWERS



Keep the end goal in sight – aim for decisions reducing impact and a low carbon building

BEST POSSIBLE PRECISION?



BEST POSSIBLE DECISION?



INTRODUCING ONE CLICK LCA

ONE CLICK LCA DATABASE – WHAT & HOW

LIFE CYCLE ASSESMENT

DEMO

QUESTIONS & ANSWERS



<https://www.oneclicklca.com/upcoming-free-lca-webinars/>

SUSTAINABLE PERFORMANCE

DESIGN DATA

One Click LCA for global businesses

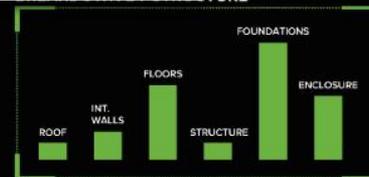
#1 Works globally –for any certification

#2 Integrated to your tools - automation

#3 Easy & fast to use – great productivity



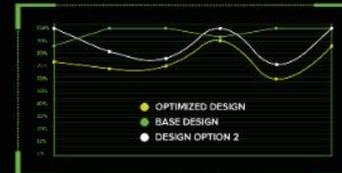
STRUCTURE



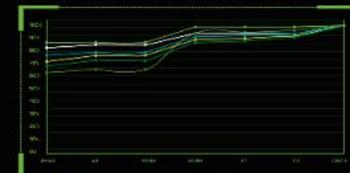
CREDIT ANALYSIS



DESIGN OPTIONS



LIFE-CYCLE IMPACTS



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