

GreenDelta

sustainability consulting + software



Making LCA easier: onlineLCA as a tool to bring LCA expertise into enterprise workflows

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Agenda

- Introduction to onlineLCA
 - The requirements
 - Our solution
- The new form editor
 - Objectives
 - User view
 - Results
 - Report
 - Admin view
- Outlook
- Conclusion

Introduction to onlineLCA – The requirements

Increasing regulatory requirements and standards involving LCA:

- EPDs
- CBAM
- ESPR
- CPR
- EF

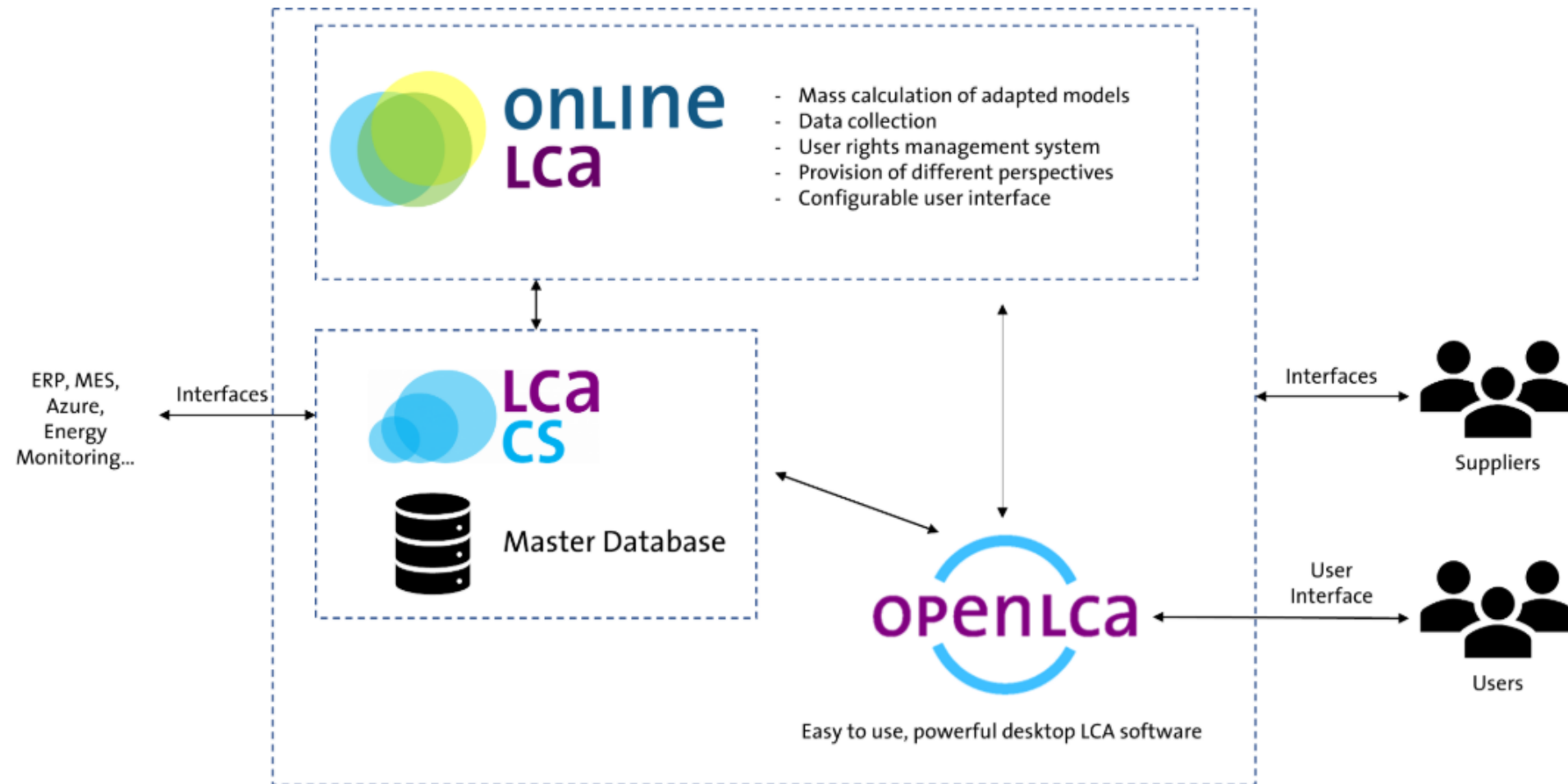
→ Need for tools that allow compliant and consistent calculations.
...But a lot of LCA tools are difficult to use for non-experts.

Introduction to onlineLCA – Our solution



- About three years ago: webtool to allow non-LCA-experts to perform mass-calculations of LCAs through an intuitive interface.
- Many people in an organization, independent of their level of expertise, can explore different variants and options securely, fast, and correctly.

Introduction to onlineLCA – Our solution



- New calculation
- Setups
- Comparisons
- LCA Forms
- Admin

New calculation

Create a new calculation setup from scratch

Create a new setup by selecting a product system and configuring your calculation.

Start



Analyze a product system

Setup name

Form_electric bike

Setup settings

Amount: 1

Use default allocation

Select an impact method: EF 3.1 Method (adapted)

Select a normalization and weighting set: EF 3.1 normalization and weighting set

Regionalized calculation (off) Include cost calculation (off)

Product system details

Reference process	electric bicycle production_global parameters
Unit	Item(s)
Version	00.00.000
Description	First created: 2026-04-07T12:15:38 Linking approach during creation: Prefer default providers; Preferred process type: Unit process

PROVIDER MAP GRAPH

Parameters

Search parameter name or context

Show global parameters RESET

Name	Value	Context
glo_e_Al_amount	5.1221	global
glo_e_LiFePo_battery	0	global
glo_e_LiFePo_battery_amount	2.6	global
glo_e_Liion_battery	1	global
glo_e_Liion_battery_amount	2.6	global

CALCULATE SAVE

The new form editor - Objectives

- Two main objectives:
 1. Offering users an even simpler, questionnaire-style form to fill-in the required information
 - easier to interact with the model and modify info such as quantities of materials, transportation distances or country of production.
 2. Giving greater flexibility to Admins
 - possible to hide certain entries from the end-user view or make them read-only depending on the level of expertise of the user.

The new form editor – User view

online LCA
Theme ▾ English ▾ Profile Log out

Form Electric bike_form

Test form for electric bike

Calculation name

1. How many bikes do you want to calculate the impacts of?

2. Please select an impact method

Select an impact method

3. Please select a normalization and weighting set

Select a normalization and weighting set

4. Select allocation method

5. How many kg of aluminium are used to produce 1 electric bike?

6. How many kg of chromium steel are used to produce 1 electric bike?

7. Do you want to include transportation in the calculation of impacts?

Yes No


8. Where is the electric bike produced?

9. Which type of battery is mounted on the electric bike?

10. Please select which other resources or processes are used to produce 1 electric bike

Calculation setup

quickly create and run a



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The new form editor – User view

Form Electric_bike_form
Test form for electric bike

Calculation name

1. How many bikes do you want to calculate the impacts of?

2. Please select an impact method
Select an impact method

3. Please select a normalization and weighting set
Select a normalization and weighting set

4. Select allocation method

5. How many kg of aluminium are used to produce 1 electric bike?

6. How many kg of chromium steel are used to produce 1 electric bike?

7. Do you want to include transportation in the calculation of impacts?
 Yes No

8. Where is the electric bike produced?

9. Which type of battery is mounted on the electric bike?

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Select an impact method

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The new form editor – User view

Form Electric bike_form
 Test form for electric bike

Calculation name

1. How many bikes do you want to calculate the impacts of?

2. Please select an impact method
 Select an impact method

3. Please select a normalization and weighting set
 Select a normalization and weighting set

4. Select allocation method

5. How many kg of aluminium are used to produce 1 electric bike?

6. How many kg of chromium steel are used to produce 1 electric bike?

7. Do you want to include transportation in the calculation of impacts?
 Yes No

8. Where is the electric bike produced?

9. Which type of battery is mounted on the electric bike?

10. Please select which other resources or processes are used to produce 1 electric bike

5. How many kg of aluminium are used to produce 1 electric bike?

6. How many kg of chromium steel are used to produce 1 electric bike?

7. Do you want to include transportation in the calculation of impacts?
 Yes No

The new form editor – User view

Form Electric_bike_form
Test form for electric bike

Calculation name
Electric_bike_form

1. How many bikes do you want to calculate the impacts of?
1

2. Please select an impact method
Select an impact method
EF 3.1 Method (adapted)

3. Please select a normalization and weighting set
Select a normalization and weighting set
EF 3.1 normalization and weighting set

4. Select allocation method
Use default allocation

5. How many kg of aluminium are used to produce 1 electric bike?
5.1221

6. How many kg of chromium steel are used to produce 1 electric bike?
1.59

7. Do you want to include transportation in the calculation of impacts?
 Yes No

8. Where is the electric bike produced?
China

9. Which type of battery is mounted on the electric bike?
Liion battery

10. Please select which other resources or processes are used to produce 1 electric bike
Water, Synthetic rubber

8. Where is the electric bike produced?
China

9. Which type of battery is mounted on the electric bike?
Liion battery
LiFePo battery
Liion battery

10. Please select which other resources or processes are used to produce 1 electric bike
Water, Synthetic rubber
 Water
 Injection moulding
 Synthetic rubber

COPY FORM TO CLIPBOARD (FOR BUG REPORTING)

The new form editor – Results

Calculation result

Form_electric bike (global parameters)

TOTAL IMPACTS IMPACT CONTRIBUTION INVENTORY CONTRIBUTION TREE ANALYSIS MODEL GRAPH SANKEY REPORT

Impact name ↑	Category
Acidification	openLCA LCIA Categories 2.7.5/EF
Climate change	openLCA LCIA Categories 2.7.5/EF
Climate change (biogenic)	openLCA LCIA Categories 2.7.5/EF
Climate change (fossil)	openLCA LCIA Categories 2.7.5/EF
Climate change (land use)	openLCA LCIA Categories 2.7.5/EF
Ecotoxicity freshwater	openLCA LCIA Categories 2.7.5/EF
Ecotoxicity freshwater (inorganics)	openLCA LCIA Categories 2.7.5/EF
Ecotoxicity freshwater (organics)	openLCA LCIA Categories 2.7.5/EF
Eutrophication freshwater	openLCA LCIA Categories 2.7.5/EF
Eutrophication marine	openLCA LCIA Categories 2.7.5/EF
Eutrophication terrestrial	openLCA LCIA Categories 2.7.5/EF
Human toxicity cancer	openLCA LCIA Categories 2.7.5/EF
Human toxicity cancer (inorganics)	openLCA LCIA Categories 2.7.5/EF
Human toxicity cancer (organics)	openLCA LCIA Categories 2.7.5/EF
Human toxicity non-cancer	openLCA LCIA Categories 2.7.5/EF
Human toxicity non-cancer (inorganics)	openLCA LCIA Categories 2.7.5/EF
Human toxicity non-cancer (organics)	openLCA LCIA Categories 2.7.5/EF
Ionising radiation (human health)	openLCA LCIA Categories 2.7.5/EF
Land use	openLCA LCIA Categories 2.7.5/EF
Ozone depletion	openLCA LCIA Categories 2.7.5/EF
Particulate matter	openLCA LCIA Categories 2.7.5/EF
Photochemical ozone formation (human health)	openLCA LCIA Categories 2.7.5/EF

Calculation result

Form_electric bike (global parameters)


INVENTORY CONTRIBUTION TREE ANALYSIS MODEL GRAPH SANKEY REPORT

Calculation result

Form_electric bike (global parameters)























TOTAL IMPACTS IMPACT CONTRIBUTION INVENTORY CONTRIBUTION TREE ANALYSIS MODEL GRAPH SANKEY REPORT

Flow Impact category

Select an impact category 

Climate change 

Tree Sunburst

Process	Required amount	Unit	Total result [kg CO2 eq]	Contribution
  100.00% - electric bicycle production_global parameters	1	Item(s)	82.9	100.00%
  35.96% - Battery, Li-Ion, NMC111, rechargeable, prismatic	2.6	kg	29.81	35.96%
  29.61% - Aluminium, production mix, at plant	5.122	kg	24.55	29.61%
  15.15% - Electric motor, electric vehicle, at plant	4.4	kg	12.56	15.15%
  8.47% - Chromium steel 18/8, at plant	1.59	kg	7.025	8.47%
  5.95% - Electricity, medium voltage, at grid	24.8	MJ	4.936	5.95%
  2.40% - Injection moulding	1.958	kg	1.993	2.40%
  1.94% - Synthetic rubber, at plant	0.5625	kg	1.612	1.94%
  0.27% - Road vehicle plant	1.32e-9	Item(s)	0.2264	0.27%
  0.23% - Transport, freight, lorry, fleet average	1	t*km	0.1886	0.23%
  0.00% - Tap water, at user	0.744	kg	1.51e-4	0.00%

The new form editor – Report

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4/16/2026

Calculation name : Electric bike_form

Product system : electric bicycle production_global parameters

Product description : First created: 2026-04-07T12:15:38

Linking approach during creation: Prefer default providers; Preferred process type: Unit process

Impact method : EF 3.1 Method (adapted)

Reference process : electric bicycle production_global parameters

Total impacts table:

Impact name	Category	Amount	Unit
Ecotoxicity freshwater (organics)	openLCA LCIA Categories 2.7.5/EF 3.1 Method (adapted)	17.91171337730351	CTUe
Ecotoxicity freshwater (inorganics)	openLCA LCIA Categories 2.7.5/EF 3.1 Method (adapted)	373.3631199421141	CTUe
Ionising radiation (human health)	openLCA LCIA Categories 2.7.5/EF 3.1 Method (adapted)	28.868322476438333	kBq U235 eq
Ozone depletion	openLCA LCIA Categories 2.7.5/EF 3.1 Method (adapted)	0.00000272413181019 56984	kg CFC11 eq
Eutrophication marine	openLCA LCIA Categories 2.7.5/EF 3.1 Method (adapted)	0.09810858960753915	kg N eq

Parameter table:

Parameter name	Value
glo_e_Al_amount@global	5.1221
glo_e_chromium_steel_amount@global	1.59
glo_e_transport_lorry_tkm@global	17




glo_e_electricity_CN@global	0
glo_e_electricity_NL@global	1
glo_e_electricity_DE@global	0
glo_e_LiFePo_battery@global	0
glo_e_Liion_battery@global	1
glo_e_water_amount@global	0.744
glo_e_injection_moulding_amount@global	1.9575
glo_e_synthetic_rubber_amount@global	0.5625

The new form editor – Admin view

Admin view to set questions

Entry type: 7 Input value

Question title: How many kg of aluminium are used to produce 1 electric bik

End-user view:   

Target parameter: glo_e_AL_amount

Default value: 5.1221

Allow decimals: OFF

Input boundaries: ON OFF




Min value:

Max value:

Enforce limit: ON OFF

Entry type: 8 Input value

Question title: How many kg of chromium steel are used to produce 1 electr

End-user view:   

Target parameter: glo_e_chromium_steel_amount

Default value: 1.59

Allow decimals: ON OFF

Input boundaries: ON OFF




Min value:

Max value:

Enforce limit: ON OFF

Entry type: 9 Yes/no question

Question title: Do you want to include transportation in the calculation of im

End-user view:   


Target parameter: glo_e_transport_lorry_tkm

Default answer: TRUE FALSE

Value if "Yes": 17

How many kg of aluminium are used to produce 1 electric bike?

5.1221



End-user won't see the result of this entry

Do you want to include transportation in the calculation of impacts?

Yes No

Rendering / user view

Outlook

- The same as openLCA, onlineLCA is a live tool that will be continuously developed to meet users' needs and expectations.
- Next release: direct upload of databases.

Conclusion

- onlineLCA, especially with the addition of the new form editor feature, allows easier interaction with the LCA model for non-experts.

→ Making LCA easier: onlineLCA as a tool to bring LCA expertise into enterprise workflows

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Thank you!

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