Greendelta

sustainability consulting + software

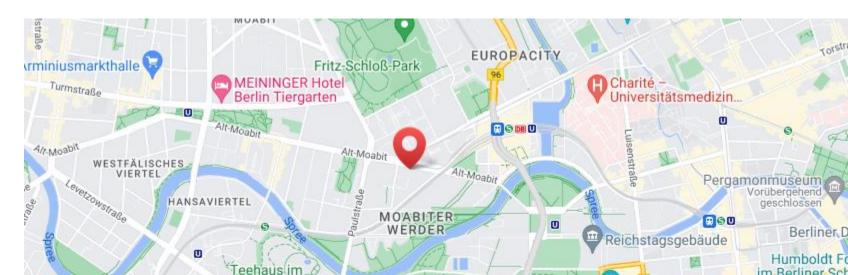


How to develop EPDs with openLCA

Dr. Andreas Ciroth CEO, GreenDelta GmbH

GreenDelta GmbH

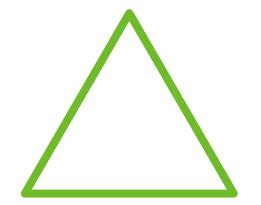
- Founded by Dr. Andreas Ciroth in 2004
- Developers of the openLCA software
- Recognised experts in LCA & sustainability, worldwide
- Located in Berlin
- Global partners worldwide (11 countries)
- Worldwide projects and clients
- Around 30 employees



GreenDelta, main activities

Sustainability consultancy and research

environmental LCAs, resource criticality, social LCAs, Life Cycle Costing, Circular Economy, SSbD, EPDs



Database development and distribution

Software development, especially open source

GreenDelta, team (photo from the openLCA conference, April 2024)

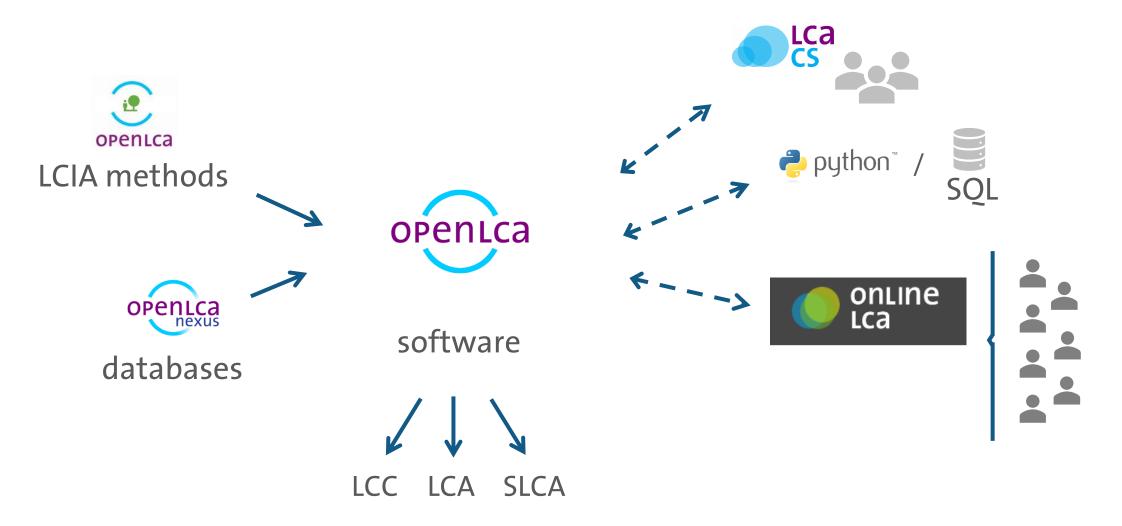


openLCA

- World's most widely used tool for LCA and sustainability assessment. Thousands of users worldwide.
- Powerful, versatile, transparent, free.
- Developed since 2007, by GreenDelta.
- Supported by US EPA, US DA, JRC, ...
- Widest selection of databases, including ecoinvent, prepared and developed by GreenDelta

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Elimate change Elimate change: biogenic	ecoinvent 3.10 LCIA Methods/EF v3.1 ecoinvent 3.10 LCIA Methods/EF v3.1		247.21489 kg CO2-8 0.57786 kg CO2-8
> 🗄 Climate change: fossil	ecoinvent 3.10 LCIA Methods/EF v3.1		246.25421 kg CO2-I
✓ E Climate change: land use and land use change ✓ ③ Carbon dioxide, from soil or biomass stock	ecoinvent 3.10 LCIA Methods/EF v3.1 Elementary flows/Emission to air/low population density	0.38068 kg 1.00000 kg (0.38282 kg CO2- CO2-Eq/kg = 0.38068 kg CO2-
soy-based resin production polyester resin, unsaturated Cutoff, S - Rol	W C:Manufacturing/20:Manufacture of chemicals and chemical products	0.04192 kg	1 0.04192 kg CO2-
	gh › D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas, … gh › D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas, …	0.02544 kg 0.02311 kg	0.02544 kg CO2- 0.02311 kg CO2-
electricity production, hydro, reservoir, non-alpine region electricity, high	gh 🗅 D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas,		0.02155 kg CO2-I
 electricity production, hydro, reservoir, non-alpine region electricity, high electricity production, hydro, reservoir, non-alpine region electricity, high 	gh > D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas, gh > D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas,	0.01762 kg 0.01632 kg	0.01762 kg CO2-1 0.01632 kg CO2-1
🔄 electricity production, hydro, reservoir, non-alpine region electricity, hig	gh D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas,	0.01508 kg	0.01508 kg CO2-
 electricity production, hydro, reservoir, non-alpine region electricity, hig electricity production, hydro, reservoir, non-alpine region electricity, hig 	gh > D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas,	0.01486 kg 0.01477 kg	0.01486 kg CO2-1 0.01477 kg CO2-1
soy-based resin production polyester resin, unsaturated Cutoff, S - US	gh D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas, C:Manufacturing/20:Manufacture of chemicals and chemical products	0.01455 kg	0.01455 kg CO2-1
😓 electricity production, hydro, reservoir, tropical region electricity, high v	volt D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas, sble A:Agriculture, forestry and fishing/01:Crop and animal production, hu	0.01270 kg 0.01056 kg	0.01270 kg CO2-l 0.01056 kg CO2-l
electricity production, hydro, reservoir, non-alpine region electricity, high	gh D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas,	0.00903 kg	0.00903 kg CO2-
 electricity production, hydro, reservoir, tropical region electricity, high v soybean production soybean Cutoff, U - RoW 	volt D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas, A:Agriculture, forestry and fishing/01:Crop and animal production, hu	0.00731 kg 0.00585 kg	0.00731 kg CO2- 0.00585 kg CO2-
Si soybean production i soybean i cuton, o - Kow	surginearcare, rorestry and risining/onerop and animal production, nu		0.00565 kg CO2-1 0.00578 kg CO2-1
electricity production, hydro, reservoir, non-alpine region electricity, high	gh D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas,		
 electricity production, hydro, reservoir, non-alpine region electricity, hig electricity production, hydro, reservoir, tropical region electricity, high v 	olt D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas,	0.00426 kg	
electricity production, hydro, reservoir, non-alpine region electricity, hig electricity production, hydro, reservoir, tropical region electricity, high clar-cutting, secondary forest to arable land, annual crop land tenure; electricity production, hydro, reservoir, non-alpine region electricity, hig	rolt D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas, ara A:Agriculture, forestry and fishing/01:Crop and animal production, hu gh \ D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas,		0.00425 kg CO2- 0.00394 kg CO2-
 electricity production, hydro, reservoir, non-alpine region electricity, hig electricity production, hydro, reservoir, tropical region electricity, high y clear-cutting, secondary forest to arable land, annual crop land tenure; electricity production, hydro, reservoir, non-alpine region electricity, high 	rolt D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas, ara A:Agriculture, forestry and fishing/01:Crop and animal production, hu	0.00426 kg 0.00425 kg	0.00425 kg CO2-1 0.00394 kg CO2-1
C) electricity production, fydio, reservoli, non-alpine region electricity, high C) electricity production, fydio, reservoli, topical region electricity, high C) clear-auting secondary forest to anable land, annual copy land seruer, C) electricity production, hydro, reservoli, anable region electricity, high C) clear-auting secondary forest to anable land, annual copy land seruer, C) electricity production, hydro, reservoli, non-alpine region electricity, high C) electricity and clear (land server).	rolt D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas, ara A:Agriculture, forestry and fishing/01:Crop and animal production, hu gh \ D:Electricity, gas, steam and air conditioning supply/35:Electricity, gas,	0.00426 kg 0.00425 kg 0.0034 kg 0.00384 kg	0.00426 kg CO2-6 0.00425 kg CO2-6 0.00394 kg CO2-6 0.00394 kg CO2-6 -
 §) electricity production, hydro, reservoir, non-alpine region electricity, hig	volt DEflectricky, gas, steam and air conditioning supply/35flectricky, gas, as: Adapticulture cheerst and fishing/supply/35flectricky, gas, gh: DEflectricky, gas, steam and air conditioning supply/35flectricky, gas, gh: DEflectricky, cases and air conditioning supply/35flectricky, gas, gesult - market for invester, 25WU [Cotoff, U - GLO, 100 Item(c); E Impact category	0.00426 kg 0.00426 kg 0.00394 kg 0.00394 kg 0.00394 kg 5 v <u>3.1; default allioc. ×</u> Min. contribution share - 0.000%	0.00425 kg CO2-8 0.00394 kg CO2-8 0.00384 kg CO2-6 0.00384 kg CO2-6
 Settiritiy production, hydro, reservoi, non-sipine region detritity, hydro, reservoi, trophal region detritity, hydro, servoi, trophal region detritity, hydro, S. detricity production, hydro, reservoi, non-sipine region detritity, hydro, fee detricity activitation hydro, reservoi, non-sipine region detritity, hydro, fee detricity, hadro, servoi, non-sipine region detritity, hydro, reservoi, non-sipine region detrity, hydro, reservoi, non-sipine region detrity, hydro, reservoi, non-sipine region detrity, hydro, reservoi,	cell D:Bectricky, gas, steam and air conditioning supply/3581ectricky, gas, ara ArAgniculture, forestry and fishing/01:Crop and animal production, hu dhy D:Bectricky, gas, steam and air conditioning supply/3581ectricky, gas, ah ¹ D:Bectricky, ass, steam and air conditioning supply/3581ectricky, gas, Result - market for inverter, 25WU [cutoff, U - GLO; 100 Rem(q); E	0.00426 kg 0.00425 kg 0.00394 kg 0.00384 kg	0.00425 kg CO2-8 0.00394 kg CO2-8 0.00384 kg CO2-6 0.00384 kg CO2-6
 Gettiricky production, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, tropical region electricky, high Gettiricky, high Gettiricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Mextone → market for inverter, 25WU inverter, 25WU Cutoff, U - GLO 	volt DEflectricky, gas, steam and air conditioning supply/35flectricky, gas, as: Adapticulture cheerst and fishing/supply/35flectricky, gas, gh: DEflectricky, gas, steam and air conditioning supply/35flectricky, gas, gh: DEflectricky, cases and air conditioning supply/35flectricky, gas, gesult - market for invester, 25WU [Cotoff, U - GLO, 100 Item(c); E Impact category	0.00426 kg 0.00426 kg 0.00394 kg 0.00394 kg 0.00394 kg 5 v <u>3.1; default allioc. ×</u> Min. contribution share - 0.000%	0.00425 kg CO2-1 0.00394 kg CO2-1 0.00384 ka CO2-1
 §) electricity production, hydro, reservoir, non-alpine region electricity, hig	olt D.B.Entindo, gas, steam and air conditioning supply/35flettindo, gas, … as Adapiciluting cheerst und fishing/optic/pa and animg paroducton, hu… gh D.B.Entindo, gas, steam and air conditioning supply/35flettindo, gas, … ah D.B.Entindo, as ateam and air conditioning supply/35flettindo, gas, … Result - market for inveter, 23kW (invoter, 25kW (Cutoff, U - GLO, 100 html(c); E impact category 且: Acidification	0.00226 kg 0.00025 kg 0.00394 kg 0.00394 kg 0.00394 kg Min. contribution share - 0.000% Mis. number of processe - 23	0.00425 kg CO2- 0.00394 kg CO2- 0.00384 ka CO2-
 Gettiricky production, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, tropical region electricky, high Gettiricky, high Gettiricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Mextone → market for inverter, 25WU inverter, 25WU Cutoff, U - GLO 	olt D.B.Entindo, gas, steam and air conditioning supply/35flettindo, gas, … as Adapiciluting cheerst und fishing/optic/pa and animg paroducton, hu… gh D.B.Entindo, gas, steam and air conditioning supply/35flettindo, gas, … ah D.B.Entindo, as ateam and air conditioning supply/35flettindo, gas, … Result - market for inveter, 23kW (invoter, 25kW (Cutoff, U - GLO, 100 html(c); E impact category 且: Acidification	0.00256 kg 0.00236 kg 0.00334 kg 0.00334 kg 0.00334 kg 0.00334 kg 0.00334 kg 0.00334 kg 0.00334 kg 0.00334 kg Min. contribution share - 0.000% Max. number of processes - 23 tfor inverter, 2.5kW	0.00425 kg CO2- 0.00394 kg CO2- 0.00384 ka CO2-
 G electricky production, hydro, reservoir, non-alpine region electricky, high G electricky production, hydro, reservoir, tropical region electricky, high G electricky, high G electricky, high G electricky and hydro, reservoir, non-alpine region electricky, high G electricky production, hydro, reservoir, non-alpine region electricky, high M Weckome	ontb DEfectivity, gas, steam and ar conditioning supply/351Ectricity, gas, as: Adapticultur, derethy and fibring/or Stock Cop and animal production, hu ph: DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Ar DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Result - market for inverter, 25WI jinverter, 25WI [Cutoff, U - GLO, 100 hem(c); E Impact category ‡≣ Acidification	0.00426 kg 0.00426 kg 0.00436 kg 0.00344 kg 0.00344 kg 0.00344 kg Min. contribution share - 0.000% Max. number of processes - 25 for inverter, 2.5WU inverter, 2.5WU Direct (0.0096) 0.000 mpi H + 6g	0.00425 kg CO2- 0.00394 kg CO2- 0.00384 kg CO2-
 §) electricity production, hydra, reservoir, non-alpine region electricity, hig	ontb DEfectivity, gas, steam and ar conditioning supply/351Ectricity, gas, as: Adapticultur, derethy and fibring/or Stock Cop and animal production, hu ph: DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Ar DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Result - market for inverter, 25WI jinverter, 25WI [Cutoff, U - GLO, 100 hem(c); E Impact category ‡≣ Acidification	0.00256 kg 0.00236 kg 0.00334 kg 0.00334 kg 0.00334 kg 0.00334 kg 0.00334 kg 0.00334 kg 0.00334 kg 0.00334 kg Min. contribution share - 0.000% Max. number of processes - 23 tfor inverter, 2.5kW	0.00425 kg CO2- 0.00394 kg CO2- 0.00384 ka CO2-
 §) electricity production, hydro, reservoir, non-alpine region electricity, hig	ontb DEfectivity, gas, steam and ar conditioning supply/351Ectricity, gas, as: Adapticultur, derethy and fibring/or Stock Cop and animal production, hu ph: DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Ar DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Result - market for inverter, 25WI jinverter, 25WI [Cutoff, U - GLO, 100 hem(c); E Impact category ‡≣ Acidification	0.00256 kg 0.00236 kg 0.00384 kg	0.00425 kg CO2- 0.00394 kg CO2- 0.00384 ka CO2-
 Gettiricky production, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, tropical region electricky, high Gettiricky, high Gettiricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Mextone → market for inverter, 25WU inverter, 25WU Cutoff, U - GLO 	ontb DEfectivity, gas, steam and ar conditioning supply/351Ectricity, gas, as: Adapticultur, derethy and fibring/or Stock Cop and animal production, hu ph: DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Ar DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Result - market for inverter, 25WI jinverter, 25WI [Cutoff, U - GLO, 100 hem(c); E Impact category ‡≣ Acidification	0.00256 kg 0.00236 kg 0.00384 kg	0.00425 kg CO2- 0.00394 kg CO2- 0.00384 kg CO2-
 G electricky production, hydro, reservoir, non-alpine region electricky, high G electricky production, hydro, reservoir, tropical region electricky, high G electricky, high G electricky, high G electricky and hydro, reservoir, non-alpine region electricky, high G electricky production, hydro, reservoir, non-alpine region electricky, high M Weckome	ontb DEfectivity, gas, steam and ar conditioning supply/351Ectricity, gas, as: Adapticultur, derethy and fibring/or Stock Cop and animal production, hu ph: DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Ar DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Result - market for inverter, 25WI jinverter, 25WI [Cutoff, U - GLO, 100 hem(c); E Impact category ‡≣ Acidification	0.00256 kg 0.00236 kg 0.00384 kg	0.00425 kg CO2- 0.00394 kg CO2- 0.00384 kg CO2-
 Gettiricky production, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, tropical region electricky, high Gettiricky, high Gettiricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Gettiricky reduction, hydro, reservoir, non-alpine region electricky, high Mextone → market for inverter, 25WU inverter, 25WU Cutoff, U - GLO 	ontb DEfectivity, gas, steam and ar conditioning supply/351Ectricity, gas, as: Adapticultur, derethy and fibring/or Stock Cop and animal production, hu ph: DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Ar DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Result - market for inverter, 25WI jinverter, 25WI [Cutoff, U - GLO, 100 hem(c); E Impact category ‡≣ Acidification	0.00256 kg 0.00236 kg 0.00384 kg	0.00425 kg CO2 0.00394 kg CO2 0.00384 ka CO2
 G electricky production, hydro, reservoir, non-alpine region electricky, high G electricky production, hydro, reservoir, tropical region electricky, high G electricky, high G electricky, high G electricky and hydro, reservoir, non-alpine region electricky, high G electricky production, hydro, reservoir, non-alpine region electricky, high M Weckome	ontb DEfectivity, gas, steam and ar conditioning supply/351Ectricity, gas, as: Adapticultur, derethy and fibring/or Stock Cop and animal production, hu ph: DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Ar DEfectivity, ass, steam and ar conditioning supply/351Ectricity, gas, Result - market for inverter, 25WI jinverter, 25WI [Cutoff, U - GLO, 100 hem(c); E Impact category ‡≣ Acidification	0.00256 kg 0.00236 kg 0.00384 kg	0.00425 kg CO2 0.00394 kg CO2
 electricity production, hydro, reservoit, pro-lipine region electricity, hydro, reservoit, prolatel region electricity, hydro, electricity production, hydro, reservoit, prolatel region electricity, hydro, electricity, prolatence, and hydro, reservoit, non-steine region electricity, hidro, electricity, production, hydro, reservoit, non-steine region electricity, hidro, electricity, production, hydro, reservoit, non-steine region electricity, hidro, reservoit, non-steine region electri	oki D.Electricky, ass, steam and ar conditioning supply/351Ectricky, ass, as: Adapticulture foreity and finiting/supply/351Ectricky, ass, gh: D.Electricky, ass, steam and ar conditioning supply/351Ectricky, ass, h: D.Electricky, ass, steam and ar conditioning supply/351Ectricky, ass, Result - market for inventer, 25WI [cutoff, U - GLO, 100 hem(s): E Impact category 1: Acidification	0.00256 kg 0.00236 kg 0.00384 kg	0.00425 kg CO 0.00384 kg CO 0.00384 kg CO 1.00384 kg CO
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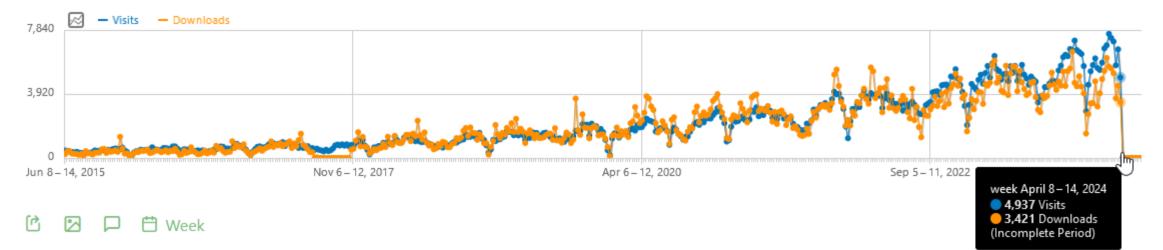
openLCA, now: a growing ecosystem



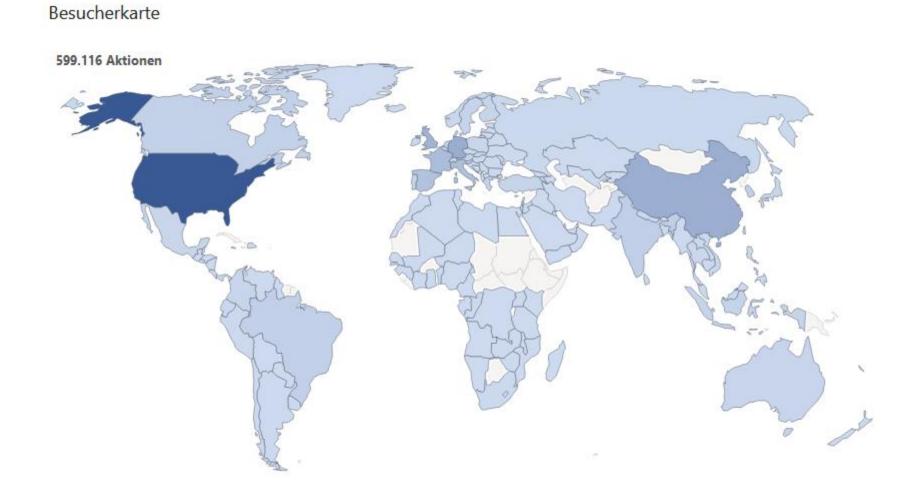
openLCA, now: openLCA Nexus

- > 110,000 Nexus users
- ~ 500 downloads per day

Visits Over Time



openLCA, now: openLCA.org, unique actions



Weltweit	~	Aktionen	~



1, develop LCA models, compliant with PCR as needed.

Use openLCA as powerful LCA software for creating the LCA models.

Distinguish LCA model by life cycle stages, as required.

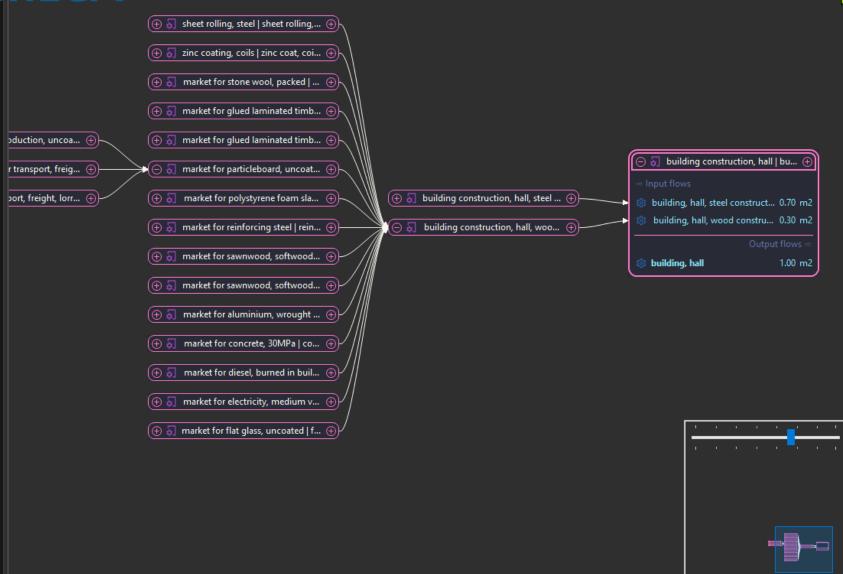
Calculate LCA and other indicator results for the EPD as needed.

Export in ILCD+EPD format or in JSON-LD format.

Get detailed results, use EN 158094 or other available impact methods (Traci, e.g. in the US).

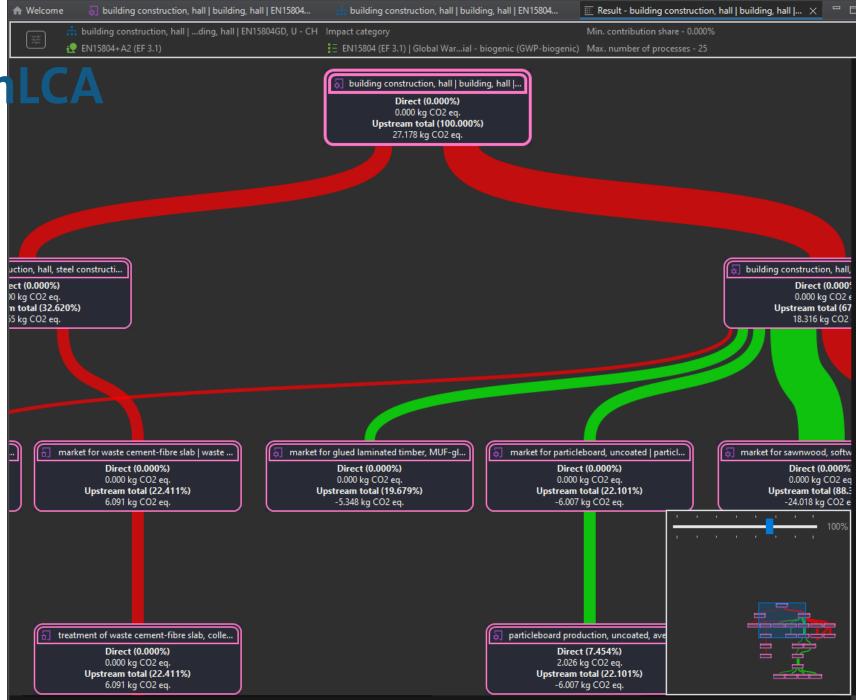
1, develop LCA models, compliant with PCR as needed.

Use openLCA as powerful LCA software for creating the LCA models.



1, develop LCA models, compliant with PCR as needed.

Use openLCA as powerful LCA software for creating the LCA models.



eneral information Inventory results Impact analysis Process results Contribution tree Grouping Locations Sankey diagram LCIA Checks Tags

1, develop LCA models, compliant with PCR as needed
Several useful background databases available
e.g. ecoinvent + EN15804 add-on for modelling according to EN15804 A2.







EN15804 add-on

The EN15804 add-on for ecoinvent is a database for Environmental Product Declarations (EPDs) developed by GreenDelta GmbH according to the EN15804 standard. Verified to be compliant with EN15804 (see also documents).

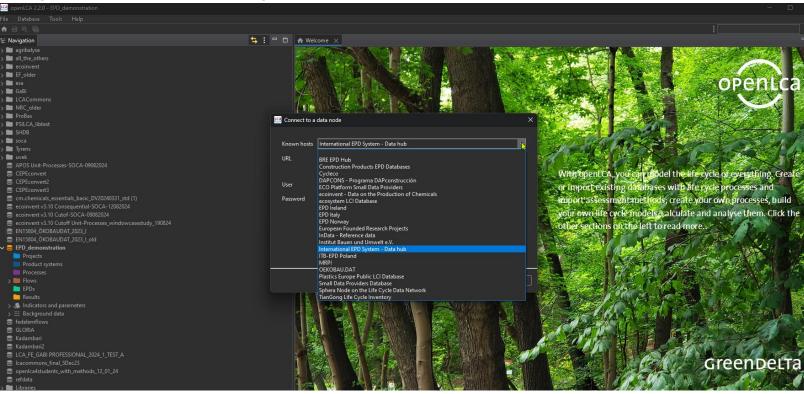
EN 15804 Add-on for ecoinvent in openLCA

Review Report

October 2022



1, develop LCA models, compliant with PCR as needed Using EPDs as input into LCA models



1, develop LCA models, compliant with PCR as needed

using EPDs as input into LCA models

Known hosts	International EPD System - Data hub	×
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User	ECO Platform Small Data Providers	
	econvent - Data on the Production of Chemicals	
Password	ecosystem LCI Database	
	EPD Ireland	
	EPD Italy	
	EPD Norway	
	European Founded Research Projects	
	InData - Reference data	
	Institut Bauen und Umwelt e.V.	
	International EPD System - Data hub	
	ITB-EPD Poland	
	MRPI	
	OEKOBAU.DAT	

1, develop LCA models, compliant with PCR as needed

Using EPDs as input into LCA models

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🥝 Connect to a	data node	×	
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soda4LCA

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🗏 12.5 mm Plasterboard Knauf GKI	216d9f68-712d-41ba-98de-53406bb	01.00.001		
🗐 12.5 mm Plasterboard Knauf KASA	7b111864-4e13-467e-a9b7-fa57565e	01.00.001		
🗐 12.5 mm, 15 mm Plasterboard Knauf F-ZERO	35995db8-d754-41bb-97ec-dfbb010	01.00.001		
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🗏 1km track assembly procedure in the Cáceres - Mérida High-Sp	3390d34a-4999-4aaf-be4f-05cc1735	01.00.001		
🗏 3M™ Flexible Air Sealing Tape 8067E FAST-F	f479b66e-30cb-4c34-8d1c-2c68c9b	01.00.001		
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🗏 3M™ Flexible Air Sealing Tape Ultra-Conformable 8045	f7b9a37e-01d2-488e-a436-8b145e65	01.00.001		
🗏 4200 Sidewalk and 4400 Broadway	53a96a52-d404-48ba-ae5d-d9c5abf	01.00.001		
🗏 5500 Luxury	cd6f5f18-87fc-4646-9435-3978d915	01.00.001		
🗏 7700 Grimebuster and 7800 Chevrolay	f92be911-7ee2-44d3-ba2b-4a7c763	01.00.001		
🗏 9.5 mm, 12.5 mm, 15 mm Plasterboard Knauf GKB®	9a91b378-1206-40a4-987d-7ee78b2	01.00.001		
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Acoustic insulation product	a3b402e8-8ece-4c78-a043-861c303f	01.00.001		
🗏 Acoustic membranes M.A.D.	388ec3ee-22b0-45cd-b0ff-068f00e0	01.00.001		
🗏 Acoustic sheet IMPACTODAN	daf458f0-3ca8-45ae-b6ad-b2bf3b52	03.00.001		

endelta

1, develop LCA models, compliant with PCR as needed

using EPDs as input into LCA models

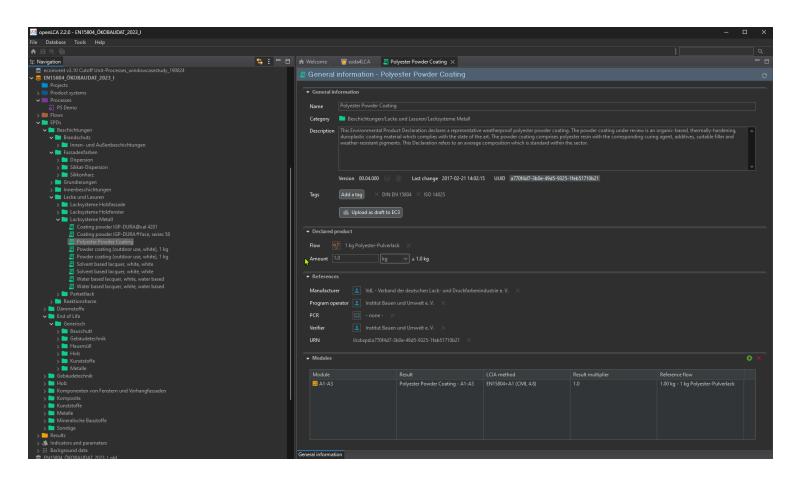
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🥝 openLCA 2.2.0 - EN15804_ÖKOBAUDAT_2023_I File Database Tools Help 🛧 🖬 🔍 🐚 🔄 🗄 🗖 🔒 Welcome 🧑 soda4LCA 📃 Polyester Powder Coating 🗙 🗄 Navigation ecoinvent v3.10 Cutoff Unit-Processes_windowcasestudy_190824 General information - Polyester Powder Coating Projects General information ✓ ■ Processes Name > E Flows Beschichtungen/Lacke und Lasuren/Lacksysteme Metall Category 🗸 📄 EPDs 🗸 📄 Beschichtungen Description 🗸 📄 Brandschutz duroplastic coating material which complies with the state of the art. The powder coating comprises polyester resin with the corresponding curing agent, additives, suitable filler and Innen- und Außenbeschichtungen ✓ I Fassadenfarben > 📄 Dispersion > 📄 Silikat-Dispersion > 📄 Silikonharz Last change 2017-02-21 14:02:15 UUID a770f4d7-3b0e-49d5-9325-1feb51710b21 Version 00.04.000 > 📄 Grundierungen > 📄 Innenbeschichtungen Add a tag Tags ✓ I Lacke und Lasuren > 🔁 Lacksysteme Holzfassade > 📄 Lacksysteme Holzfenster 🖷 Upload as draft to EC3 🗸 📄 Lacksysteme Metall Coating powder IGP-DURA@xal 4201 Declared product Coating powder IGP-DURA® face, series 58 Flow 🗏 Powder coating (outdoor use, white), 1 kg 🗏 Powder coating (outdoor use, white), 1 kg Amount 1.0 ✓ ≜ 1.0 kg Solvent based lacquer, white, white Solvent based lacquer, white, white References 🔄 Water based lacquer, white, water based 🗏 Water based lacquer, white, water based Manufacturer VdL - Verband der deutschen Lack- und Druckfarbenindustrie e. V. > Parkettlack > Reaktionsharze Program operator 🙎 Institut Bauen und Umwelt e. V. 🛛 🛛 🛛 📄 Dämmstoffe PCR End of Life 🗸 📄 Generisch Verifier > 📄 Bauschutt 🔉 📄 Gebäudetechnik URN ilcd:epd:a770f4d7-3b0e-49d5-9325-1feb51710b21 > 📄 Hausmüll > 📄 Holz Modules 0 > 📄 Kunststoffe > 📄 Metalle Module Result LCIA method Result multiplier Reference flow 📄 Gebäudetechnik > 📄 Holz 👬 A1-A3 Polyester Powder Coating - A1-A3 EN15804+A1 (CML 4.8) 1.00 kg - 1 kg Polyester-Pulverlack > 📄 Komponenten von Fenstern und Vorhangfassaden > 📄 Komposite > Kunststoffe > 📄 Metalle > Dineralische Baustoffe > Sonstige > 🦲 Results > 🛝 Indicators and parameters > 🔡 Background data General information EN15804 ÖKOBAUDAT 2023 Lold

1, develop LCA models, compliant with PCR as needed

using EPDs as input into LCA models

- a) Import EPDs into openLCA
- → Very powerful, lots of EPDs available, specific data



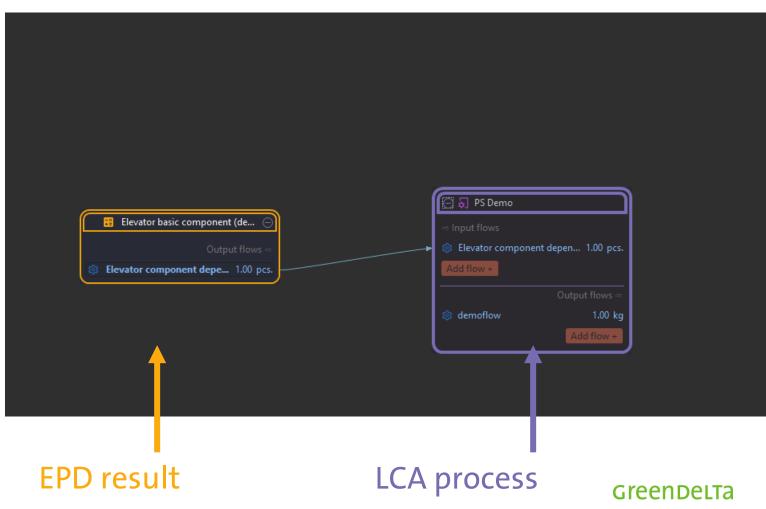
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> ::: background data S EN15804 ÖKOBAUDAT 2023 Lold	General inf	ormation					

1, develop LCA models, compliant with PCR as needed

using EPDs as input into LCA models

b) Use EPDs in own models

→ Allows to make specific models with background data (select the producer for the product that you use)



(however, some issues: openLCA is the first tool to import these EPDs -> this has not been done before, many existing digital EPDs incorrect, technically)

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2, use openLCA in EPD verification

openLCA allows export and import of entire LCA models, software is free -> entire models can be shared in verification.

This increases quality of the verification, verifier can check the entirety of the model, not only what is documented in the background report.

 \rightarrow This is already quite broadly used.

ITE I

THE REAL PART AND

Templates

Developed by GreenDelta in the course of the EU Horizon research project for sustainability assessment of hydrogen (SH2E), templates in openLCA can help to steer modelling.

-> define what is permitted, setting of system boundaries, impact methods, ...

SUSTAINABILITY ASSE OF HARMONISED HYD ENERGY SYSTEMS

🥝 FCH-LCA tool

Select a template

Please select a matching template and a top-category under which the template should be stored

Category

Select a template:

7 - System using hydrogen (generic)
7.1 - System using hydrogen - for transportation
7.2 - System using hydrogen - for fuels and chemicals
7.3 - System using hydrogen - for electricity generation
7.4 - System using hydrogen - case of multifunctionality (generic)
7.4.1 - System using hydrogen - for electricity and heat generation - system expansion
7.4.2 - System using hydrogen - for electricity and heat generation - physical allocation
7.4.3 - System using hydrogen - for electricity and heat generation - physical allocation
7.4.4 - System using hydrogen - for electricity and heat generation - economic allocation
7.4.5 - System using hydrogen - for electricity and heat generation - heat as an emission
7.5 - System using hydrogen and CO2-based product from different systems
7.6 - System using hydrogen and CO2-based product from the same system

< Back

Next >

Finish

Cancel

ers, the FCH-LCA to social LCA, and Life juidelines. Our object ensuring the product d across various hy iation of projects, w ilored to their spect the sustainability ractices and establ

pf pre-set templat ios and application e SH2E guidelines, iods, and end-of-lif mbinations and a d by users. <u>Click here</u>



LCA Collaboration Server

A unique tool for sustainability data management, developed by GreenDelta for the US LCA Digital Commons since ~ 8 years. -> Similar to a software code repository, trace changes in LCA data (processes, models, LCIA methods)

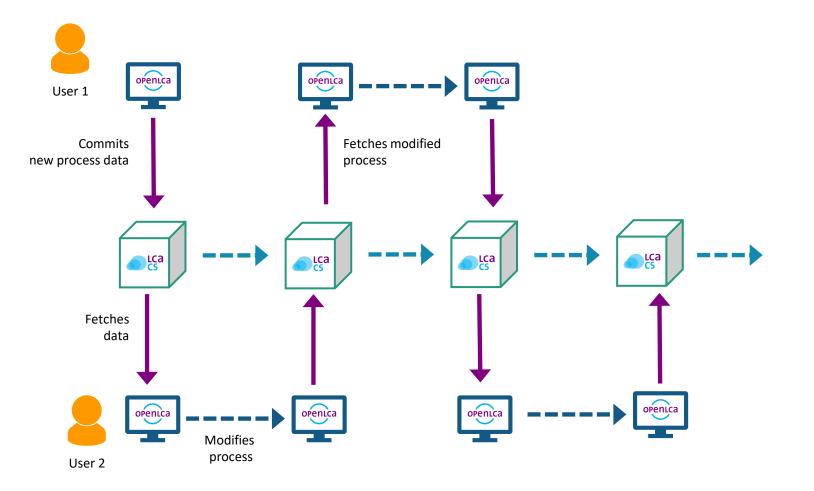
Version 2 built using git, most widely used software code management software.

Public websites e.g. lcacommons.gov.

LCA Collaboration Server,

Use cases

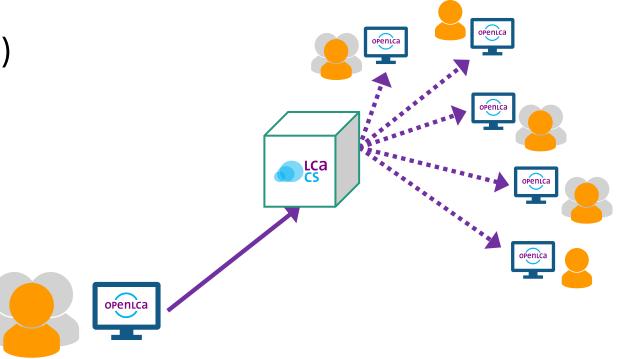
1, co-development of LCA models



LCA Collaboration Server,

Use cases

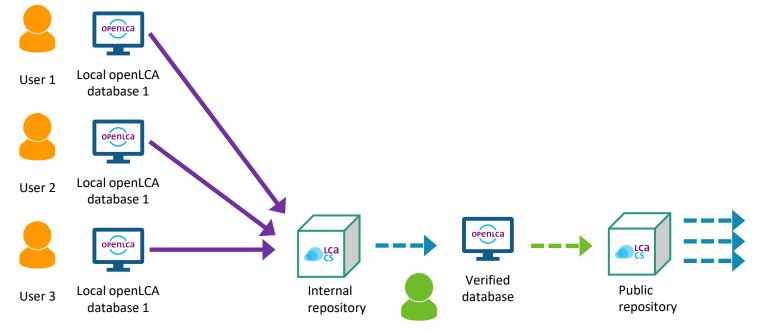
2, Distribution of models (and EPDs)



LCA Collaboration Server,

Use cases

3, moderation and review (and publication)



Moderator

Conclusions



Conclusions

- openLCA is a powerful, user-friendly and broadly used tool for creating LCA models and EPDs
- There are more and more useful background data available specifically for EPDs (EN15804 add-ons, EPDs) that can be used in openLCA
- There are quite some interesting potential next steps for further improving EPD creation, EPD quality, and EPD distribution

Greendelta

sustainability consulting + software



Thank-you very much!

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