

Webinar: The EF3.1 database in openLCA

Dr. Andreas Ciroth & Dr. Jonas Hoffmann

Points for today

- Environmental Footprint (EF) 3.1 database, background
- EF 3.1 database, license conditions and use advice
- Preparing the EF3.1 database for openLCA
 - Our approach
 - About the errors we fixed
- A closer look at the database
- How to get the database, the DAL
- Q&A Session



Environmental Footprint (EF) 3.1 database, background

The Environmental Footprint database is the database for the Environmental Footprint LCA methodology of the EC

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Environmental Footprint



What is the Environmental Footprint?

A company wishing to market its product as environmentally friendly in several Member State markets faces a confusing range of choices of methods and initiatives. Sometimes they have to use different ones for different markets. This results in costs for companies and confusion for consumers

The European Commission proposed the Product Environmental Footprint (PEF) and Organisation Environmental Footprint (EF) methods as a common way of measuring environmental performance (EU Commission Recommendation 2021/2279). The PEF and OEF are the EU recommended Life Cycle Assessment (LCA) based methods to quantify the environmental impacts of products (goods or services) and organisations.

The overarching purpose of PEF and OEF information is to enable to reduce the environmental impacts of goods. services and organisations taking into account supply chain activities (from extraction of raw materials, through production and use to final waste management). This purpose is achieved through the provision of detailed requirements for modelling the environmental impacts of the flows of material/energy and the emissions and waste streams associated with a product or an organisation throughout the life cycle.

Policy related information on the Environmental Footprint is available on the dedicated page hosted by DG ENV which contains the scheduled PEF/OEF trainings and the archive of past trainings including recordings and slides.

JRC Support to EF development

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The JRC plays a key role in the context of the Environmental Footprint. The JRC has been leading the technical and scientific development of the EF methods, defining the methodological requirements to be followed to perform EF studies and being responsible for many activities related to data development and provision.

A non-exhaustive list of JRC activities in support to EF development is

- · Publication of technical reports including suggestions on how to update the PEF and OEF Guides.
- Update and development of characterization models, normalization factors, and weighting factors for the life cycle impact assessment phase.
- Facilitate the alignment between PEF and relevant European standards (e.g. EN 15804).
- · Publication of guidance documents to develop EF-compliant datasets
- Maintenance of the Life Cycle Data Network for data provision to be used in an EF context
- Release and update of the EF reference-packages to be used for the development of EF-compliant data sets (EF reference packages includes all the "fixed"
- items (XML files) of the ILCD-formatted package that cannot be generated or modified by third parties)
- Development of software (e.g. Look@LCI, Validator) for checking and validating EF-compliant datasets
- Chairing working groups to further advance on data and methodological requirements
- Ensuring interoperability at global level (UNEP:GLAD and GLAM collaboration)

The Environmental Footprint database is the database for the Environmental Footprint LCA methodology of the EC

- Own inventory modeling rules
- Own nomenclature
- Own Life Cycle Impact Assessment methods

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So, where can you get the datasets from?



English

This page will allow the access to all the EF compliant datasets, from different third party nodes. Currently some nodes are not capable to

connect to the central network, you can browse the datasets through the list of available nodes and data stocks in the dedicated section.

This site is managed by the Directorate-General for

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EF data	network
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Developer common (ILCD/EF)

How to participate

Startseite

Developer - ILCD Format

Developer - ILCD Entry Level

Developer - Environmental Footprint

Browse ILCD

Dataset registered ILCD

Nodes registered ILCD

Browse PEF/OEF

Dataset registered PEF/OEF

Nodes registered PEF/OEF

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https://eplca.jrc.ec.europa.eu/LCDN/datasetListEF.xhtml

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Startseite

(ILCD/EF)

Level

Footprint

Browse ILCD

How to participate Developer common

Developer - ILCD Format

Developer - ILCD Entry

Developer - Environmental

Nodes containing EF data (last update: June 2023)

The following table includes a list of nodes that provides PEF/OEF compliant data. The access to nodes and data stocks (i.e. specific stocks of homogeneous data within the nodes) is regulated by the decision of the node owner, thus, some of the data might be accessible for free, for some other a registration (for free or for fee) might be required. Within the nodes a "login/register" link is available, and the user's conditions are specified within the nodes. For the nodes owned by the European Commission, the access is always free. The access to EF compliant data is granted for free (with or without registration) for users that develops PEF/OEF studies within the existing PEFCRs/OEFSRs.

Mapping file containing suggested correspondences between Environmental Footprint 2.0 process datasets (developed within the EF Pilot Phase) and the EF 3.1 datasets (delivered to the European Commission during the EF Transition Phase until June 2023).

The mapping file (<u>download excel</u> updated until June 2023) has been defined by the Joint Research Centre, taking into account the inputs and feedback received from the data developers involved in providing the datasets listed in the workseets. The mapping file should be considered as a utility for users to identify the best fitting EF 3.1 process datasets to replace the EF 2.0 within the scope of their study.

Detect of sistered II OD				
Dataset registered ILCD Nodes registered ILCD Browse PEF/OEF	Node	Description of the lot(s) present in the node and compliance system	Owner	Link
Dataset registered PEF/OEF Nodes registered PEF/OEF	European Solvents Industry Group	• Solvents (EF 3.1)	ESIG	<u>https://data.esig.org/</u>
	CEPE	 Chemicals for paint (EF 2.0) (tendered, EF pilot phase) Chemicals for paint (EF 3.1. Level-1 disaggregated in elLCD) (updated from EF pilot phase) 	CEPE/ecoinvent	http://icdn-cepe.org/
	ecoinvent	 Chemicals (EF 2.0) (tendered, EF pilot phase) Chemicals part 1 (EF 3.1. Level-1 disaggregated in elLCD) (updated from EF pilot phase) Chemicals part 2 (EF 3.1) (tendered, EF transition phase) Apparel parts 1-2-3 (EF 3.1) (tendered, EF transition phase) Plastics (EF 3.1) (tendered, EF transition phase) Other (EF 3.1) (tendered, EF transition phase) 	ecoinvent	http://ecoinvent.lca-data.com/
//eplca.jrc.ec.eur	EF RPs opa.eu/LCDN/	• EF representative products (EF 2.0) contactListEF.xhtml	European Commission	<u>http://epica.jrc.ec.europa.eu /EF-node/</u>
• •	FEFAC/Blonk	 Feed (EF 2.0) (tendered, EF pilot phase) Feed (EF 3.1. Level-1 disaggregated in elLCD) (updated from EF pilot phase) Agrofood (EF 3.1) (tendered, EF transition phase) 	FEFAC	<u>http://icdn.bionkconsultants.nl</u> / <u>Node/</u>

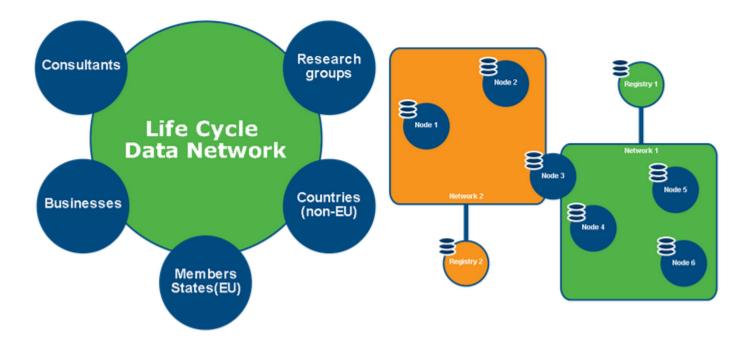
	Quantis	 Agrofood, "others" (EF 2.0) (tendered, EF pilot phase) 	Quantis	https://icdn.quantis- software.com/PEF/ (Down, March 2023)
	RDC	• Glass recycling (EF 2.0)	RDC	<u>http://soda.rdc.yp5.be</u> /login.xhtml (Down, March 2023)
	Small Data Providers Database	Node operated by the European Commission, for small data providers (less than 10 process datasets per provider allowed) (EF 2.0)	European Commission	<u>https://epica.jrc.ec.europa.eu</u> /EF-SDP/
	Sphera (former Thinkstep)	 Core datasets official ETPE (includes Energy, <u>Transport, Packaging, End-of-life</u>) (EF 2.0) (tendered, EF pilot phase) Core datasets official ETPE part 1 (EF 3.1) (updated from EF pilot phase) Core datasets official ETPE part 2 (includes non- packaging plastics, electric and electronics, metals and minerals) (EF 3.1) (tendered, EF transition phase) 	Sphera	http://lcdn.thinkstep.com/
European Commission website This site is managed by the Directorate-General for Communication		Strategy About the European Commission Business, Economy, Euro Live, work, travel in the EU Law	Food, Farming, F	ırban development

https://eplca.jrc.ec.europa.eu/LCDN/contactListEF.xhtml

The LCDN is a non-centralised web-based infrastructure composed by Nodes (i.e. the repository of a developer/owner dateset), and it also called **Registry**.

Main features of the LCDN are:

- . The datasets in the LCDN are published by the developer/owner through their own Node.
- · Datasets registered can be searched and then browsed directly from the relative Node in the network.
- All datasets registered and published are compliant with quality requirements aimed at guarantee datasets quality and coherence in terms
 of Methodology, Documentation, and Nomenclature, for the two compliance systems allowed (ILCD entry level and PEF/OEF)
- Look at the nodes registered for ILCD entry level and PEF/OEF



The LCDN datasets support Policy development and application, Environmental Footprint activities and European Commission Life-Cycle based projects.

Originally meant to host data compliant with ILCD entry level requirements, since April 2018 a new registry has been added, to host and share data packages in line with the Product and Organisation Environmental Footprint (PEF and OEF) framework ... The European Commission hosts the node for the Environmental Footprint's of the representative products (click here to go directly to the node)



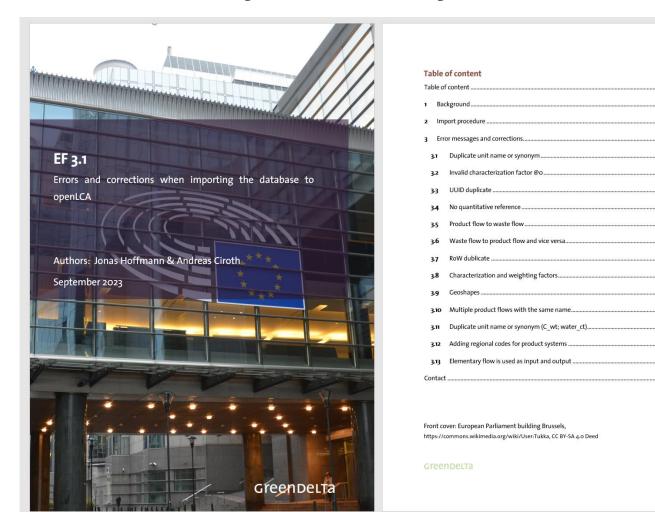
EF 3.1 database, license conditions and use advice

EF 3.1, license conditions and use advice

- Somewhat tricky, but in roughly:
- For users, allowed to be used, for free, in the context of EF
- For data providers (-> nodes), possibility to sell for other contexts
- For redistributors (i.e., LCA software providers), not permitted to sell the database
- "Free" integration into a tool that costs a license fee is fine.
 (this is of course not so nice for open source tools, unless the integration of the database is really not much effort)
- Use advice for the version in openLCA: use in the context of EF



• It was not exactly nice and easy



• It was not exactly nice and easy

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In total, 1275 rows where updated.

Characterization and weighting factors

Sourced from the EF 3.1 reference package (https://eplca.jrc.ec.europa.eu/permalink/EF3_1/EFv3.1.zip) normalization and weighting factors were added:

Impact categories	WF [%]
Acidification	6.20%
Climate change	21.06%
Ecotoxicity, freshwater	1.92%
EF-particulate matter	8.96%
Eutrophication, freshwater	2.80%
Eutrophication, marine	2.96%
Eutrophication, terrestrial	3.71%
Human toxicity, cancer	2.13%
Human toxicity, non-cancer	1.84%

Flow name	N	Final UUID (also for several flow properties)		
[thio]carbamate-compounds	2	ad9ead4e-18a1-5864-82cb-df04a520cf0c		
acetamide-anillide-compounds	2	fb2b13eb-afc0-5c9f-95b6-dce23b6299f2		
alfalfa	6	d93a6413-cae0-56bf-b292-170d936777fa		
ammonium nitrate, per kg n,	2			
production mix, at plant		effc0451-421c-5640-9e40-134fda5c12f1		
Aramid fiber	2	a1f86c36-c2d3-5af6-8f3a-4b00ed684b23		
bamboo fibre	9	fadf657e-3c3d-56cc-81e4-29850624a255		
bark chips, composted in close	12			
system, for growing media,				
production mix, at plant		d4a4b20f-2a18-5933-b38b-aebf9c353d77		

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bark chips, composted in open air	15	
system, for growing media,		
production mix, at plant		fe56393a-2f06-56e5-8ae5-07f503cb8be2
bark chips, for growing media,	18	
production mix, at plant		fd6207f8-fe40-5be9-bc79-84873ec30849
beef cattle	33	f72830c3-33e9-5677-91d8-bfb97e362da9
beef, fresh hides	12	ecd6dd8f-574d-5300-b114-7008b94fc2f2
benzo[thia]diazole-compound	2	6fde12fe-a9ee-49e1-8615-4ec1ea4e9b69
bipyridylium-compounds	2	8e8a4309-9beb-59d6-b5d1-2671d5e458db
bis(2-Hydroxyethyl) terephthalate	2	acbc5038-7eae-508f-a9a2-45e99c707436
black peat, for growing media,	18	
production mix, at plant		e8d50110-0747-580b-83da-995ac47c6e68
bleached kraft pulp, eucalyptus	6	8494c059-32ae-5332-b052-6ad8f9f94787
bleached kraft pulp, hardwood	9	a02b7e22-b236-52b3-873a-51ff1cc42ae2
bleached kraft pulp, softwood	15	da2a15d4-8b34-5ae8-b1bb-de391b78fecb
bleached sulphite pulp, hardwood	9	e62e7272-9240-572c-83bf-3db59e583e2d
bleached sulphite pulp, softwood	15	f1fa54c9-264a-5e70-b285-d98cb7577fcd
broiler	9	f6116cde-0c3f-53ba-905c-0807e223cb3c
calcium ammonium nitrate, per kg	2	
substance, production mix, at plant		b14b5c6b-3c85-58a1-a37c-e5ef808d6d2e
cashmere fiber (raw), at farm	6	f3288681-2e30-5071-9b35-e76e583e6d40
chemi-thermomechanical pulp	6	f7055408-21bf-572e-812c-7824c9f095e1
coconut coir, for growing media,	12	
production mix, at plant		bf54cc43-48b7-5761-b3cc-88eace210935
coconut fibre, virgin	15	fbd599dd-7007-5457-8814-ec20af78f23d
compost (green <u>waste)as</u> fertilizer,	12	
in closed system, per kg compost		
produced, production mix, at plant		6f7e5d80-70bf-579f-a2bd-7c629add1438
compost (green waste)as fertilizer,	12	

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ethyl acetate	2	b396ef27-5da5-599e-a13a-2af098c2b33a
eucalyptus forestry	6	cbd02235-eeb8-5d8d-9c91-8a72cddf16a0
fabric	37	facf6496-ef8c-56fd-83a1-0119eb854992
fine bark fraction, for growing	30	
media, production mix, at plant		ff36c332-e521-5380-9d28-caaffbc76782
folpet	2	d07c611b-22f3-5438-a71f-770fa80fcb5c
fosetyl-al	2	574fac48-ef6f-5401-a406-2e150c7afef9
garment	3	e678326c-8d37-57d5-bd8e-a8b4c80725ee
glass fiber	2	7fa34379-6326-516c-837f-507b454b2afa
glyphosate	2	d2879a9a-e8f0-5bd9-8e78-9b49dae23eb6
green compost, composted in	18	
closed system, for growing media,		
production mix, at plant		c6a83899-74fa-5d8d-9df2-a27696b7a842
green compost, composted in open	18	
system, for growing media,		
production mix, at plant		ff1863bc-3b39-5810-a649-1c7673caa20e
hardwood under bark	12	af73ac55-63e9-5d69-984a-086a0bd7085d
hay	6	d4c70def-20fc-5185-b84e-8e8c21688c13
hemp fibre	9	e6067f63-f535-512d-8e42-3979a465bff6
leather, veal	15	fd613ea8-3234-5829-8e41-151e19e11a55
linen, dew retted	6	7c81a0c2-acaf-5a2f-9991-52835b145875
Lubricating oil	2	d8a11424-0089-465b-8e5d-40aef78f1fe7
magnesium oxide	2	dad6db78-9f08-4c3e-a5ce-4a27f4b272c3
magnesium sulfate	2	678b0465-7584-5dcc-affd-b352332811c4
mancozeb	2	f7d8e2ba-7969-57f1-b2c5-e5ebe5712448
manure, bovine cattle	12	a5b039b8-12fd-5e35-88b8-61e67a73c8d5
manure, pig	12	b0f44635-be97-513c-9ac6-a48bcd320fe0
manure, poultry	12	faba218e-8faf-5368-a32b-363cbf876595
mechanical wood pulp	6	3d6ed855-43fc-5416-ba59-316f8b72ba9b

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bark chips, composted in close	12			
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bipyridylium-compounds	2	8e8a4309-9beb-59d6-b5d1-2671d5e458db
bis(2-Hydroxyethyl) terephthalate	2	acbc5038-7eae-508f-a9a2-45e99c707436
black peat, for growing media,	18	
production mix, at plant		e8d50110-0747-580b-83da-995ac47c6e68
bleached kraft pulp, eucalyptus	6	8494c059-32ae-5332-b052-6ad8f9f94787
bleached kraft pulp, hardwood	9	a02b7e22-b236-52b3-873a-51ff1cc42ae2
bleached kraft pulp, softwood	15	da2a15d4-8b34-5ae8-b1bb-de391b78fecb
bleached sulphite pulp, hardwood	9	e62e7272-9240-572c-83bf-3db59e583e2d
bleached sulphite pulp, softwood	15	f1fa54c9-264a-5e70-b285-d98cb7577fcd
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folpet	2	d07c611b-22f3-5438-a71f-770fa80fcb5c
fosetyl-al	2	574fac48-ef6f-5401-a406-2e150c7afef9
garment	3	e678326c-8d37-57d5-bd8e-a8b4c80725ee
glass fiber	2	7fa34379-6326-516c-837f-507b454b2afa
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hay	6	d4c70def-20fc-5185-b84e-8e8c21688c13
hemp fibre	9	e6067f63-f535-512d-8e42-3979a465bff6
leather, veal	15	fd613ea8-3234-5829-8e41-151e19e11a55
linen, dew retted	6	7c81a0c2-acaf-5a2f-9991-52835b145875
Lubricating oil	2	d8a11424-0089-465b-8e5d-40aef78f1fe7
magnesium oxide	2	dad6db78-9f08-4c3e-a5ce-4a27f4b272c3
magnesium sulfate	2	678b0465-7584-5dcc-affd-b352332811c4
mancozeb	2	f7d8e2ba-7969-57f1-b2c5-e5ebe5712448
manure, bovine cattle	12	a5b039b8-12fd-5e35-88b8-61e67a73c8d5
manure, pig	12	b0f44635-be97-513c-9ac6-a48bcd320fe0
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bark chips, for growing media,	18	
production mix, at plant		fd6207f8-fe40-5be9-bc79-84873ec30849
beef cattle	33	f72830c3-33e9-5677-91d8-bfb97e362da9
beef, fresh hides	12	ecd6dd8f-574d-5300-b114-7008b94fc2f2
benzo[thia]diazole-compound	2	6fde12fe-a9ee-49e1-8615-4ec1ea4e9b69
bipyridylium-compounds	2	8e8a4309-9beb-59d6-b5d1-2671d5e458db
bis(2-Hydroxyethyl) terephthalate	2	acbc5038-7eae-508f-a9a2-45e99c707436
black peat, for growing media,	18	
production mix, at plant		e8d50110-0747-580b-83da-995ac47c6e68
bleached kraft pulp, eucalyptus	6	8494c059-32ae-5332-b052-6ad8f9f94787
bleached kraft pulp, hardwood	9	a02b7e22-b236-52b3-873a-51ff1cc42ae2
bleached kraft pulp, softwood	15	da2a15d4-8b34-5ae8-b1bb-de391b78fecb
bleached sulphite pulp, hardwood	9	e62e7272-9240-572c-83bf-3db59e583e2d
bleached sulphite pulp, softwood	15	f1fa54c9-264a-5e70-b285-d98cb7577fcd
broiler	9	f6116cde-0c3f-53ba-905c-0807e223cb3c
calcium ammonium nitrate, per kg	2	
substance, production mix, at plant		b14b5c6b-3c85-58a1-a37c-e5ef808d6d2e
cashmere fiber (raw), at farm	6	f3288681-2e30-5071-9b35-e76e583e6d40
chemi-thermomechanical pulp	6	f7055408-21bf-572e-812c-7824c9f095e1
coconut coir, for growing media,	12	
production mix, at plant		bf54cc43-48b7-5761-b3cc-88eace210935
coconut fibre, virgin	15	fbd599dd-7007-5457-8814-ec20af78f23d
compost (green waste)as fertilizer,	12	
in closed system, per kg compost		
produced, production mix, at plant		6f7e5d80-70bf-579f-a2bd-7c629add1438
compost (green waste)as fertilizer.	12	

Jonas Hoffmann V1.4 04.09.2023

ethyl acetate	2	b396ef27-5da5-599e-a13a-2af098c2b33a
eucalyptus forestry	6	cbd02235-eeb8-5d8d-9c91-8a72cddf16a0
fabric	37	facf6496-ef8c-56fd-83a1-0119eb854992
fine bark fraction, for growing	30	
media, production mix, at plant		ff36c332-e521-5380-9d28-caaffbc76782
folpet	2	d07c611b-22f3-5438-a71f-770fa80fcb5c
fosetyl-al	2	574fac48-ef6f-5401-a406-2e150c7afef9
garment	3	e678326c-8d37-57d5-bd8e-a8b4c80725ee
glass fiber	2	7fa34379-6326-516c-837f-507b454b2afa
glyphosate	2	d2879a9a-e8f0-5bd9-8e78-9b49dae23eb6
green compost, composted in	18	
closed system, for growing media,		
production mix, at plant		c6a83899-74fa-5d8d-9df2-a27696b7a842
green compost, composted in open	18	
system, for growing media,		
production mix, at plant		ff1863bc-3b39-5810-a649-1c7673caa20e
hardwood under bark	12	af73ac55-63e9-5d69-984a-086a0bd7085d
hay	6	d4c70def-20fc-5185-b84e-8e8c21688c13
hemp fibre	9	e6067f63-f535-512d-8e42-3979a465bff6
leather, veal	15	fd613ea8-3234-5829-8e41-151e19e11a55
linen, dew retted	6	7c81a0c2-acaf-5a2f-9991-52835b145875
Lubricating oil	2	d8a11424-0089-465b-8e5d-40aef78f1fe7
magnesium oxide	2	dad6db78-9f08-4c3e-a5ce-4a27f4b272c3
magnesium sulfate	2	678b0465-7584-5dcc-affd-b352332811c4
mancozeb	2	f7d8e2ba-7969-57f1-b2c5-e5ebe5712448
manure, bovine cattle	12	a5b039b8-12fd-5e35-88b8-61e67a73c8d5
manure, pig	12	b0f44635-be97-513c-9ac6-a48bcd320fe0
manure, poultry	12	faba218e-8faf-5368-a32b-363cbf876595
mechanical wood pulp	6	3d6ed855-43fc-5416-ba59-316f8b72ba9b

It was not exactly nice and easy

In total. 1275 rows where updated.

total, 1275 forts intere apastear

Characterization and weighting factors Sourced from the EF 3.1 reference package (https://epica.jrc.ec.europa.eu/permalink/EF3_1/EFv3.1.zip) normalization and weighting factors were added:

1, 8 8	
Impact categories	WF [%]
Acidification	6.20%
Climate change	21.06%
Ecotoxicity, freshwater	1.92%
EF-particulate matter	8.96%
Eutrophication, freshwater	2.80%
Eutrophication, marine	2.96%
Eutrophication, terrestrial	3.71%
Human toxicity, cancer	2.13%

Aultiple UUIDs for one flow:			Stop here
Flow name	N	Final UUID (also for several flow properties)	
[thio]carbamate-compounds	2	ad9ead4e-18a1-5864-82cb-df04a520cf0c	
acetamide-anillide-compounds	2	fb2b13eb-afc0-5c9f-95b6-dce23b6299f2	
alfalfa	6	d93a6413-cae0-56bf-b292-170d936777fa	
ammonium nitrate, per kg n,	2		
production mix, at plant		effc0451-421c-5640-9e40-134fda5c12f1	
Aramid fiber	2	a1f86c36-c2d3-5af6-8f3a-4b00ed684b23	
bamboo fibre	9	fadf657e-3c3d-56cc-81e4-29850624a255	
bark chips, composted in close	12		
system, for growing media,			
production mix, at plant		d4a4b20f-2a18-5933-b38b-aebf9c353d77	

All datasets registered and published are compliant with quality requirements aimed at guarantee datasets quality

Jonas Hoffmann V1.4 04.09.2023					J	onas Hoffmann V1.4 04.09
bark chips, composted in open air	15		٦ L		ſ	ethyl acetate
system, for growing media,						eucalyptus forestry
production mix, at plant		fe56393a-2f06-56e5-8ae5-07f503cb8be2				fabric
bark chips, for growing media,	18					fine bark fraction, for gro
production mix, at plant		fd6207f8-fe40-5be9-bc79-84873ec30849				media, production mix, a
beef cattle	33	f72830c3-33e9-5677-91d8-bfb97e362da9				folpet
beef, fresh hides	12	ecd6dd8f-574d-5300-b114-7008b94fc2f2				fosetyl-al
benzo[thia]diazole-compound	2	6fde12fe-a9ee-49e1-8615-4ec1ea4e9b69				garment
bipyridylium-compounds	2	8e8a4309-9beb-59d6-b5d1-2671d5e458db				glass fiber
bis(2-Hydroxyethyl) terephthalate	2	acbc5038-7eae-508f-a9a2-45e99c707436				glyphosate
black peat, for growing media,	18					green compost, compost
production mix, at plant		e8d50110-0747-580b-83da-995ac47c6e68				closed system, for growin
bleached kraft pulp, eucalyptus	6	8494c059-32ae-5332-b052-6ad8f9f94787				production mix, at plant
bleached kraft pulp, hardwood	9	a02b7e22-b236-52b3-873a-51ff1cc42ae2				green compost, compost
bleached kraft pulp, softwood	15	da2a15d4-8b34-5ae8-b1bb-de391b78fecb				system, for growing medi
bleached sulphite pulp, hardwood	9	e62e7272-9240-572c-83bf-3db59e583e2d				production mix, at plant
bleached sulphite pulp, softwood	15	f1fa54c9-264a-5e70-b285-d98cb7577fcd				hardwood under bark
broiler	9	f6116cde-0c3f-53ba-905c-0807e223cb3c				hay
calcium ammonium nitrate, per kg	2					hemp fibre
substance, production mix, at plant		b14b5c6b-3c85-58a1-a37c-e5ef808d6d2e				leather, veal
cashmere fiber (raw), at farm	6	f3288681-2e30-5071-9b35-e76e583e6d40				linen, dew retted
chemi-thermomechanical pulp	6	f7055408-21bf-572e-812c-7824c9f095e1				Lubricating oil
coconut coir, for growing media,	12		7			magnesium oxide
production mix, at plant		bf54cc43-48b7-5761-b3cc-88eace210935				magnesium sulfate
coconut fibre, virgin	15	fbd599dd-7007-5457-8814-ec20af78f23d				mancozeb
compost (green waste)as fertilizer,	12					manure, bovine cattle
in closed system, per kg compost						manure, pig
produced, production mix, at plant		6f7e5d80-70bf-579f-a2bd-7c629add1438				manure, poultry
compost (green waste)as fertilizer,	12					mechanical wood pulp

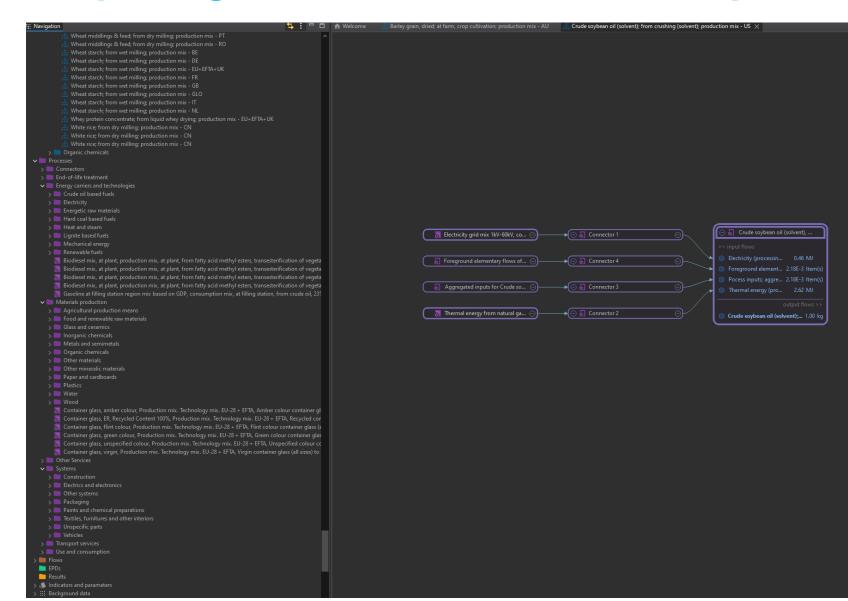
ethyl acetate	2	b396ef27-5da5-599e-a13a-2af098c2b33a
eucalyptus forestry	6	cbd02235-eeb8-5d8d-9c91-8a72cddf16a0
fabric	37	facf6496-ef8c-56fd-83a1-0119eb854992
fine bark fraction, for growing	30	
media, production mix, at plant		ff36c332-e521-5380-9d28-caaffbc76782
folpet	2	d07c611b-22f3-5438-a71f-770fa80fcb5c
fosetyl-al	2	574fac48-ef6f-5401-a406-2e150c7afef9
garment	3	e678326c-8d37-57d5-bd8e-a8b4c80725ee
glass fiber	2	7fa34379-6326-516c-837f-507b454b2afa
glyphosate	2	d2879a9a-e8f0-5bd9-8e78-9b49dae23eb6
green compost, composted in	18	
closed system, for growing media,		
production mix, at plant		c6a83899-74fa-5d8d-9df2-a27696b7a842
green compost, composted in open	18	
system, for growing media,		
production mix, at plant		ff1863bc-3b39-5810-a649-1c7673caa20e
hardwood under bark	12	af73ac55-63e9-5d69-984a-086a0bd7085d
hay	6	d4c70def-20fc-5185-b84e-8e8c21688c13
hemp fibre	9	e6067f63-f535-512d-8e42-3979a465bff6
leather, veal	15	fd613ea8-3234-5829-8e41-151e19e11a55
linen, dew retted	6	7c81a0c2-acaf-5a2f-9991-52835b145875
Lubricating oil	2	d8a11424-0089-465b-8e5d-40aef78f1fe7
magnesium oxide	2	dad6db78-9f08-4c3e-a5ce-4a27f4b272c3
magnesium sulfate	2	678b0465-7584-5dcc-affd-b352332811c4
mancozeb	2	f7d8e2ba-7969-57f1-b2c5-e5ebe5712448
manure, bovine cattle	12	a5b039b8-12fd-5e35-88b8-61e67a73c8d5
manure, pig	12	b0f44635-be97-513c-9ac6-a48bcd320fe0
manure, poultry	12	faba218e-8faf-5368-a32b-363cbf876595

• It was not exactly nice and easy

The ILCD datasets from the respective nodes were imported into openLCA 2.0.2 in the following order:

Node	File	URL		
JRC	EF-v3.1	https://eplca.jrc.ec.europa.eu/LCDN/dev eloperEF.xhtml		
Sphera	EF3_1_official_data_energy_transport_ packaging_EoL EF31_pt2_official_datasets	https://lcdn.thinkstep.com/		
CEPE	EF_3_1_logical_datastock	http://lcdn-cepe.org/		
ESIG	EF_SOLVENTS_3_1_PUBLIC	https://data.esig.org/		
ecoinv ent	EF3_1_Chemicals_Part_1_public[1] EF3_1_Chemicals_Part_2_public EF3_1_Apparel_1_public EF3_1_Apparel_2_public EF3_1_Apparel_3_public EF3_1_Others_public EF3_1_Plastics_public	http://ecoinvent.lca-data.com/		
Blonk	EF_3_1_MASTER EF_3_1_AGROFOOD EF_3_1_RENEWABLES EF_3_1_FEED	http://lcdn.blonkconsultants.nl/Node/		

- Errors fixed
- Usability improved (locations to product systems names)
- LCIA methods also imported
- Flow nomenclature etc. untouched





A closer look at the database (live)



How to get the database, the DAL

• New tool: inspect content of a database, and launch it, for export into openLCA

Hi Andreas,

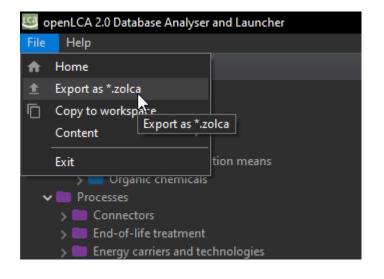
has an open source license, and it can be used in commercial projects. The point is though that if you CHANGE the database or embed it into some kind of tool, you CANNOT sell that changed database or database-tool combination commercially – the combination has to be open source too.

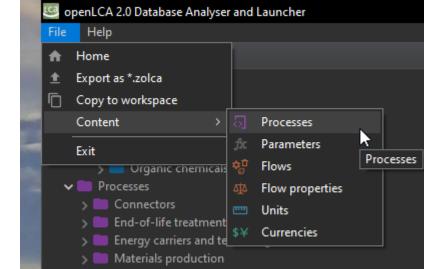
What can be done though is say developing a tool (e.g. Simapro), that is independent from the database (eg. Ecoinvent) and then make available the tool available for a fee.

Kind regards



openLCA 2.0 Database Analyser and Launcher					
ïle Help					
E Navigation	🔄 🗄 🗖 💼 🛧 Welcome 🛛	▶			
🗸 🍔 Database					
📄 Projects	Database: Environme	Database: Environmental Footprint 3.1			
🗸 💼 Materials production	 Database information 	• Database information			
	Description	The Environmental Fordprint (EF) database is now provided under the guidance of the European Commission and its bint Research Centre in its newest version 3.1 (as of June 2023). The available EF data for the representative products is in line with the current product environmental Fordprint (EF) database is based or tables database is based at adapase. The environmental Fordprint sector rules (OFSRs. The EF3 2 at database is based ratabase in based or tables and tables database is based ratabase. The environmental Fordprint sector rules (OFSRs. The EF3 2 at database is based ratabase).			
		the EF method package and EF compliant datasets from the respective EF nodes.			
> 🛅 Connectors > 💼 End-of-life treatment		Note: Since this database is making use of the latest 'Impact direction' functionality of openLCA 2.0, it is only compatible with openLCA version 2.0.3 or higher.			
> Energy carriers and technologies		EF node: https://eplca.jrc.ec.europa.eu/LCDN/contactListEF.xhtml			
> Materials production					
> Other Services		CERT FOR activity Divit Color			
> 🖿 Systems	Author	CEPE, ESIG, ecoinvent, Blonk, Sphera			
> Im Transport services	Type of database	manual connect			
> Elows	Can be combined with	It is not recommended to combine the unit processes with other databases.			
EPDs					
Results					
✓ ↓ Indicators and parameters	Supported LCIA methods	Available in the database; no other LCIA methods are recommended to be used with the database.			
> impact assessment methods					
Impact categories I= Acidification					
E Climate change					
E Climate change-Biogenic		🗶 Export as * zolca 🛛 🔯 Copy to workspace			
Climate change Fossil					
Climate change-Land use and land use change					
Ecotoxicity, freshwater	 Database license 				
Ecotoxicity, freshwater_inorganics					
	End User License Agreem				
	IMPORTANT - READ CAR				
	This End-User License Ag	eement ("EULA") is a legal agreement between you ("YOU" or third and an an analysis of the USE TRANSPORT			
	CLICKING "I ACCEPT". DO	dividual or a single entity) and CEPE also (UCENSOR), BY WINLOADING, MODIFICATING OR USING THE DATA,			
Human toxicity, cancer Human toxicity, cancer inorganics	DATASETS OR DATA BASE	("DATASET") OR ACCESSING THEM IN ANY OTHER			
= Human toxicity, cancer organics	WAY, YOU AGREE TO THE	TERMA SAND CONDITIONS OF THIS EULA. IF YOU DO ANN POU DERA SCHEPTINE IN THIS EULA. YOU HAVE			
E Human toxicity, non-cancer		AN END USER AS DEFINED IN THIS EULE, YOU HAVE DATASET IMMEDIATELY YOU ARE NOT ALLOWED			
E Human toxicity, non-cancer_inorganics	TO COPY OR USE THE DA	taset, you have to delete all downloaded			
Human toxicity, non-cancer_organics	DATASET ON ALL MEDIA.	IF YOU ARE NOT AN END USER AS DEFINED UNDER			
	DATASETS (sustainability)	CONTACT THE LICENSOR FOR THE USE OF THE kirring and			
	1. Definition				
	"LICENSOR": CEPE "DATASET": any of the FE	compliant datasets (both Life Cycle Inventory (I.CI) datasets or			
	Life Cycle Impact Assess	nent (LCIA) results datasets or partiy appreciated datasets at level 1			
Resource use, minerals and metals	in an extended ILCD form	at) that are published by the LICENSOR in the International System (ILCD) data format, on			
∃ Water use Social indicators	Reference Life Cycle Data	System (IICD) sata format, on dex.html?stock=fs_3_ideduit/(FF 3.1 DATASETS' hereafter).			
Global parameters	"END USER":				
> Data quality systems	- any natural or legal pers	on, or someone on their behalf, using one or more of the			
> ::: Background data		hrough this tender when carrying out a PEF/CEF study			
	in compliance with a PEF the Commission1	CR/OEFSR developed in the framework established by			
	, or				
	- any natural or legal pers	on, or someone on their behalf, using one or more of the			
	Datasets måde available t PEE/OEE study in compli	Datasets made available through this tender when performing a full or a partial PEF/OEF truty in compliance with the requirements of an EU policy 2			
	or	in the net requirements of on the points.			





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ቹ Navigation	🔄 🗄 🗖 💼 🍙 Welcome 🛛 Processes 🗙					
∨ 😂 Database	Processes					
E Projects	Flocesses					
🗸 🛄 Materials production	Filter					
> 🧰 Agricultural production means						
> Crganic chemicals	Name		Reference Flow	ID		
✓ ■ Processes		Category Process type				
> Connectors	Waste incineration of textile, animal and plant based, production mix, at consumer, waste-to-energy plant with d			00572999-e31a-4f39-bb7d-9c64edee92c		
> End-of-life treatment	Electricity from biogas, production mix, at power plant, mix of direct and CHP, technology mix regarding firing a			0062d377-ed68-4e27-bddb-a6f93a5edb		
> Energy carriers and technologies	Sawn soft wood, single route, at plant, Sawmill from wood, 14.7 MJ/kg net calorific value - EU+EFTA+UK	Materials production/Food 🔕 System proc		008412a6-515a-46e8-a89f-dff0ddf22b8f		
> Materials production	Gasoline mix (premium) at filling station (E5), consumption mix, at filling station, from crude oil and bio compor			00ceb901-cace-4a90-8504-98d213f206d		
> 🛅 Other Services > 🛅 Systems	Electricity from biomass (solid), production mix, at power plant, mix of direct and CHP, technology mix regarding			00efa381-9301-40cc-9997-3674dd5b537		
> Systems > Transport services	🕢 Waste incineration of PE, production mix, at consumer, waste-to-energy plant with dry flue gas treatment, includ			010702b1-b39e-4d64-bcbc-dd826ee865		
> Use and consumption	🔂 Landfill of inert (glass), production mix (region specific sites), at landfill site, landfill including leachate treatment	and transport (no p 📁 End-of-life treatment/Lan 🗿 System proc	ess 🔲 Waste (unspecified)	01196227-0627-440c-9f2f-94b8f1e7d1ac		
> Solution > Flows	🕢 🕟 Recycling of palladium, from electronic and electric scrap, production mix, at plant, collection, transport, disman	tling, shredding, se 📁 End-of-life treatment/Mat ቭ Unit process	; 😂 Palladium	012626e4-62d9-4ac9-b1dd-9d9a42a611		
EPDs	🕢 Waste incineration of processed wood, production mix, at consumer, waste-to-energy plant with dry flue gas trea	atment, including tr 🔲 Materials production/Othe 🗿 System proc	ess 🔲 Incineration good (processed wood)	014e46d4-4d3a-4f2e-a763-518d4de2e24		
Results	Recycling of lead into lead scrap, from lead acid batteries, production mix, at plant, collection, transport, dismant	ling, acid removing 📁 End-of-life treatment/Mat 潣 System proc	ess 🔯 Lead paste (desulphurized)	016a54dd-73c5-47fc-af3a-5a08923ff7c1		
 Mesons Indicators and parameters 	O Plastic, shrink wrap, production mix, at plant, raw material production, plastic extrusion, thickness: 120 µm, gram	mage: 0,11016 kg/ 🔲 Systems/Packaging 🛛 🔊 System proc	ess 🕸 Plastic, shrink wrap	017de0d2-c8f8-4208-b1b5-357a815f2dd		
> Impact assessment methods	🕢 Waste incineration of PVC, production mix, at consumer, waste-to-energy plant with dry flue gas treatment, inclu	ıding transport and 🛑 Materials production/Othe 🗿 System proc	ess 🔲 Incineration good	018e7c9f-17e1-4802-93e8-2908a254180		
Impact ascessment methods Impact categories	O Plastic Film, PET, production mix, at plant, raw material production, plastic extrusion, grammage: 0.0685 kg/m2, t	hickness:50 µm - E 🛑 Systems/Packaging 🛛 🗿 System proc	ess 🕸 Plastic film, PET	01bdd631-5c7a-4e0f-9b4d-f4a9996f9a5		
= Acidification	🕢 Light fuel oil at refinery, production mix, at refinery, from crude oil, 1.8 wt.% sulphur - CN	🔲 Energy carriers and techno 🔙 System proc	ess 🕸 Light fuel oil	01f55563-4c89-4af4-a3ab-4eba24cc8b3		
– Climate change	🕢 Waste incineration of PP, production mix, at consumer, waste-to-energy plant with dry flue gas treatment, includ	ling transport and p 🔲 Materials production/Othe 🗿 System proc	ess 🔲 Incineration good	020c880b-a516-41be-83ef-be09d8ae109		
Climate change-Biogenic	Electricity from wind power, production mix, at plant, technology mix of onshore and offshore, 1kV - 60kV - NZ	Energy carriers and techno System proc	ess Electricity; consumption mix, at consumer; AC	028fb5d5-3821-4dc4-9281-f201e1c54f85		
 Climate change-Fossil 	Process steam from natural gas, production mix, at heat plant, technology mix regarding firing and flue gas clear	ning, MJ, 90% efficie 🛑 Energy carriers and techno 🔄 System proc	ess 🕸 Steam (MJ)	0290737a-0c12-43a5-a17e-3183050caba		
Climate change-Land use and land use change	Can making, non-beverage, production mix, at plant, can forming, cleaning, drying, non beverage can - EU+EFTA	A+UK Systems/Packaging 💭 Unit process	🔅 Can (steel, empty, [kg])	02c34f2d-8049-477f-be87-85f4a68dfbac		
Ecotoxicity, freshwater	Waste incineration of processed wood, production mix, at consumer, waste-to-energy plant with dry flue gas tree	atment, including tr 🔲 Materials production/Othe 🔚 System prod	ess Incineration good (processed wood)	034b2afb-2aa4-4d64-99b5-f39f700f3d44		
Ecotoxicity, freshwater_inorganics	Waste incineration of PS, production mix, at consumer, waste-to-energy plant with dry flue gas treatment, includ			036307fb-9c35-4762-b6a7-322849ff73d9		
Ecotoxicity, freshwater_organics	Waste incineration of PE, production mix, at consumer, waste-to-energy plant with dry flue gas treatment, includ			0370baaf-8923-4e26-b3b8-abcebb89f97		
EF-particulate Matter	Waste incineration of textile, animal and plant based, production mix, at consumer, waste-to-energy plant with d			037bd979-ace0-4eef-afd7-3721dfeb4c2		
Eutrophication marine	Cap, tin plated steel, production mix, at plant, metal production, cap manufacturing, tin plated steel - EU+EFTA+			03953301-bfd0-4064-af89-c0b6523b681		
Eutrophication, freshwater	Waste incineration of PET, production mix, at consumer, waste-to-energy plant with dry flue gas treatment, inclu			03c6ca38-c023-41e2-9aca-8d86670bff2		
Eutrophication, terrestrial	Kraft paper, uncoated, production mix, at plant, Kraft Pulping Process, pulp pressing and drying, <120 g/m2 - EU.			03dea8f0-44e0-4bf3-a862-bb572c9d5f5		
	Polyamide (PA) 6 in waste incineration plant, production mix, at consumer, waste-to-energy plant with dry flue g			03e9cd7e-7bcf-4084-bec1-3904579ab00		
Human toxicity, cancer_inorganics	Solid board, bleached, production mix, at plant, Kraft Pulping Process, pulp pressing, bleaching and drying, >220			0405501b-e12f-4d45-ab51-c5b1f5f1262		
Human toxicity, cancer_organics	Can making + coating, beverage, production mix, at plant, can forming, cleaning, drying, printing and vanishing			04206793-bb87-4fa0-b65b-9fb1a29f1e7		
	Carried Control Control of Con			044e50c8-f441-4175-810b-a04c22e6ee1		
Human toxicity, non-cancer_inorganics	Electricity from hydro power, production mix, at power plant, mae of mice the output of the production mix at power plant, technology mix of run-off-river, storage and pump			04676448-9e3e-41bc-b227-f082a8ccc60		
Human toxicity, non-cancer_organics	Electricity from wind power, production mix, at plant, technology mix of onshore and offshore, 1kV - 60kV - BG	Energy carriers and techno		046bb2aa-3959-4d6e-b276-209427461el		
E lonising radiation, human health	Electricity grid mix 1kV-60kV, consumption mix, to consumer, technology mix, 1kV - 60kV - DK	 Energy carriers and technol System processing 		046c49fc-c9ba-4263-aaf0-181f6e8015ea		
E Land use	Waste incineration of PS, production mix, at consumer, waste-to-energy plant with dry flue gas treatment, includ			04748e19-4b12-46df-9611-edb4ed42dd		
Ozone depletion	 Waste incineration of PS, production mix, at consumer, waste-to-energy plant with dry nue gas treatment, include Electricity from biogas, production mix, at power plant, mix of direct and CHP, technology mix regarding firing a 			04b22095-6108-42f8-ac19-22c87000068		
Photochemical ozone formation - human health Resource use, fossils	 Electricity from biogas, production mix, at power plant, mix of direct and CHP, technology mix regarding firing a Electricity from wind power, production mix, at plant, technology mix of onshore and offshore, 1kV - 60kV - ES 	Ind flue gas cleanin Energy carriers and techno 🖓 System proc		04fa9e72-774f-4847-afbb-2e98f31a6503		
Hesource use, tossils Resource use, minerals and metals				0504dde3-a2ac-4469-a30b-cd7050bcae		
	Articulated lorry transport, Total weight 20-26 t, mix Euro 0-5, consumption mix, to consumer, diesel driven, Euro					
water use	Waste incineration of PVC, production mix, at consumer, waste-to-energy plant with dry flue gas treatment, inclu			053d283e-ae80-41c1-876e-b0ec1cf3594 0567a8c9-e3e4-40a4-85ad-af17ff37453a		
Global parameters	Electricity from natural gas, production mix, at power plant, mix of direct and CHP, technology mix regarding firit			056/a8c9-e3e4-40a4-85ad-at1/ft3/453a 0578096f-574f-4a5f-ae40-067f7d5ea3a2		
> Data quality systems	Waste incineration of untreated wood, production mix, at consumer, waste-to-energy plant with dry flue gas trea Screw can PP production mix at plant raw material production plastic injection moulding 0.91 a/cm3.42.08 a			05/809bt-5/4t-4a5t-ae40-06/t/d5ea3a2 05a26a08-1ab5-4523-b25t-41b9be0ftc7/		

≒ : □ □	A Welcome		👼 Electricity from natural gas, production r	nix, at power plant, mix of dir $ imes$			
	🚮 General i	nformatior	n: Electricity from natural gas, prod	uction mix, at power plant	, mix of direct and CHP,	technology mix regarding firi	ng and flue gas cleaning, 1kV - 60l
	- General in	formation					
	Name	Elec	tricity from natural gas, production mix, at power	plant, mix of direct and CHP, technole	ogy mix regarding firing and flue	gas cleaning, 1kV - 60kV	
	Category						
	Description						
		(Int	data set covers all relevant process steps and tech ernational Energy Agency, and US-EPA eGRID for U rature data.	nologies along the supply chain. The r JSA regions) for the corresponding refe	national energy carrier mix used fo erence year. Detailed power plant	or electricity production, the power plant effi models were used, which combine measure	ciency data, shares on direct to combined heat a d (e.g. NOx) with calculated emission values (e.g
		Versi	ion 20.06.000 🛞 🛞 Last change 2022-1	0-21 09:34:16 UUID 044e50c8-f44	1-4175-810b-a04c22e6ee1a		
	Tags						
	Infrastructur	e process 📃					
	▼ Time						
	Start date	01.01.2012 🗐	✓				
	End date	01.01.2024 🗐	✓				
	Description	Annual avera <u>c</u>	ge, the most recent data source consistently availa	ble for all countries (IEA for 2012) has b	peen used. The DQR of the datase	t reflects the quality of the data at the time o	f release. The user of the dataset should revise th
	 Geography 						
	Location						
	Description	The data set re its DQR is rela	epresents the average national or region specific el ted to relevance of the contributors. Possible geog	lectricity production based on natural (raphical variance of minor contributor	gas. Main technologies for firing, rs below the cut-off criteria are no	flue gas cleaning and electricity generation a at affecting the geographical representativen	ire considered according to the national or regio ess of the overall process, but are positively affec
	 Technology 						
	Description	The fossil pow inventory data	ystem: is either produced in a natural gasl specific power er plant models combine emission data from liter a bases, utility companies and other sources. The c is supply considers the whole supply chain of the i	ature with calculated values for non-m alculation of other emissions within th	neasured emissions e.g. organics i ne models are based on energy ca	or heavy metals. For the emissions CO2, SO2, rrier properties, transfer coefficients and pow	NOx, CO, CH4, N2O, NMVOC and particulate m rer plant thermodynamics representing the appli
		regional avera	ige natural gas properties (e.g. elemental composi includes the own use of electricity by energy produ	tion and energy content).			
	▼ Attached in						
		mages tricity_from_nati	ural passing				
			5.61_g03/jpg	Electricity fro	m Natural Gas		
				Electricity inc			
					_		
				ral Gas nsport		Natural Gas power plant construction	
				ral Gas nsport Natural Gas Mixer		Natural Gas power plant usephase	
						Natural Care 1	

DAL is used for distributing the EF database

- It can be obtained from openLCA Nexus,
 - https://nexus.openlca.org/utility/Database%20Analyser%20and%20Launcher

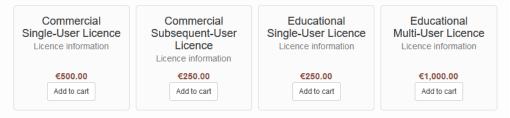
Info Documents

The openLCA Database Analyser and Launcher (DAL) - a tool for analysing and launching LCA databases

DAL allows users to access certain databases for openLCA. These databases are free of charge by the database provider and have undergone quite some work from the openLCA team to make them accessible for the openLCA format. This effort is not funded by the database provider. The openLCA team can finance this work through the Database Analyser and Launcher.

Ordering utilities is also possible outside of Nexus. Additional fees may apply. Please see here for more details. If you are interested, send us a message.

Database Analyser and Launcher Utility details







That's about it...your turn now!

Q&A Session





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