Exiobase 3.4 in openLCA

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A multi-regional Input-Output Database in openLCA

Version: 1.00

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Title image: Wassily Leontief (https://en.wikipedia.org/wiki/Wassily_Leontief, accessed 20.12.2018)

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About Exiobase

"EXIOBASE is a global, detailed Multi-regional Environmentally Extended Supply and Use / Input Output (MR EE SUT/IOT) database. It was developed by harmonizing and detailing SUT for a large number of countries, estimating emissions and resource extractions by industry, linking the country EE SUT via trade to an MR EE SUT, and producing an MR EE IOT from this. The international input-output table that can be used for the analysis of the environmental impacts associated with the final consumption of product groups."[1]

With support of the Exiobase database consortium, the database is now available in openLCA, as free database, in version 2.2.

Exiobase implementation in openLCA

The Exiobase is an Input-Output-Database and can be used in openLCA just as any other database. Still, some aspects are worth mentioning:

- Since Exiobase is an Input-Output-Database, it should not be combined with other databases from nexus.openLCA.org

- Each process data set represents one "country specific factor"

- Exchanges between processes are provided in monetary units (EUR)

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[1]http://exiobase.eu/ (accessed 20.12.2018)

Figure 1.1: Exchanges between processes are provided in monetary units (EUR).

- Exiobase is an "environmental extended" Input-Output-Database. Therefore, each data set contains also emission flows (see above). These elementary flows are not part of the openLCA reference flows.

- The Exiobase database contains also its own set of Life Cycle Impact Assessment methods which fit to the elementary flows shipped with the database
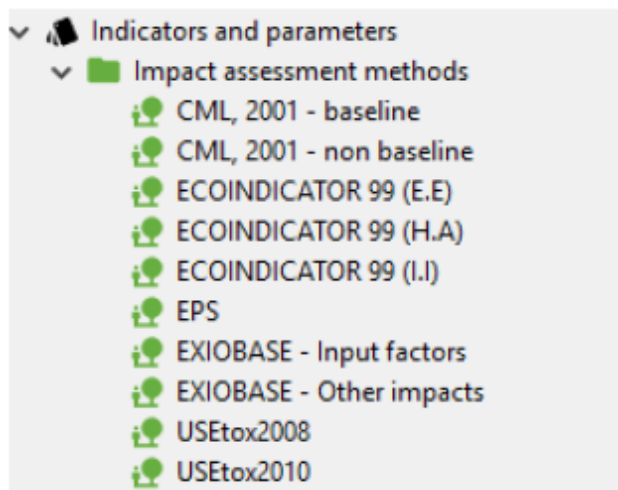
Figure 1.2: The Exiobase database contains its own set of Life Cycle Impact Assessment methods

- Exiobase is a very large database. Therefore, it is recommended to allocate as much memory as possible to openLCA when working with Exiobase[2]. However, when applying a cut-off during the product system creation, Exiobase can also be used with lower amounts memory.
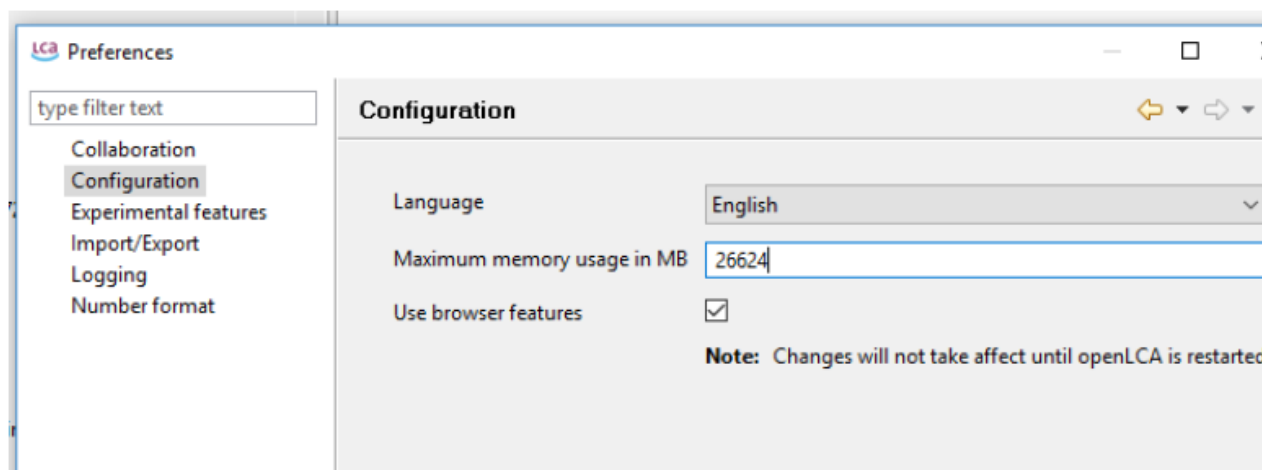

Figure 1.3: When working with Exiobase in openLCA, it is recommended to allocate as much memory as possible to openLCA or to apply *Cut-off*.

Use advice

Exiobase can be used in openLCA just like any other database. Product systems can be created and calculated with (Results) and without (Quick results) Life Cycle Impact Assessment Method. A data quality system and costs are not yet implemented in the database. To reduce the time required to create a product system as well

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[2]Change under File -> references

as the calculation time, on computers with low memory, applying a cut-off is highly recommended. Instructions on
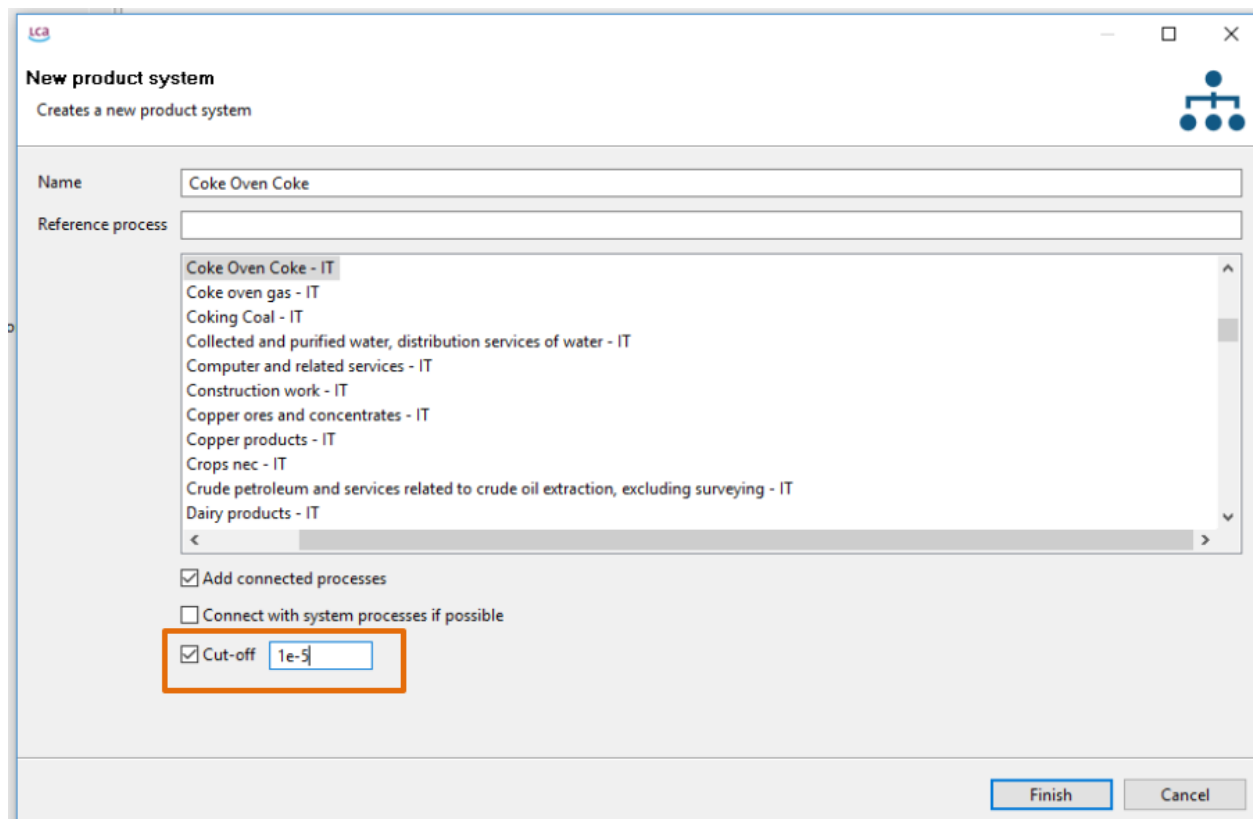

Figure 1.4: Applying *Cut-off* reduces the required amount of memory to calculate the results of a product system.

Further reading

What is *cut-off* in openLCA?
https://ask.openlca.org/632/what-is-cut-off-when-creatinging-a-new-product-system (accessed 20.12.2018)

How to assign more memory to openLCA?
https://ask.openlca.org/594/how-to-assign-more-memory-to-openlca (accessed 20.12.2018)

Support

GreenDelta GmbH, developer of openLCA, offers openLCA users prioritised and guaranteed professional openLCA support via the GreenDelta helpdesk: https://www.openlca.org/helpdesk/. Public (*User2User*) support for openLCA is available via https://ask.openlca.org/.

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