

IMPACT World+, January 2020

For IMPACT World+ pack from openLCA Nexus, <https://nexus.openlca.org/>

General notes:

The **IMPACT World+** pack is available both in **zolca** and in **JSON-LD** formats.

The **zolca** file is basically a compressed openLCA database. To use it in openLCA, either **restore** it (right-click in openLCA category tree – restore); this will recreate the database in openLCA, as new database. **Or, import it into an existing** database which is already open in openLCA (then select file / import / import entire database). This allows you to combine different databases and Nexus data packs.

The **JSON-LD** can be imported into an existing LCA database via the second option. With the JSON-LD file the user can select either to **update** (with a newer version) or **overwrite** the existing database elements.

Specific notes for this method pack:

IMPACT World+ is globally **regionalized method** for life cycle impact assessment (LCIA), integrating multiple state-of-the-art developments as well as damages on water and carbon areas of concern within a consistent LCIA framework. Most of the regional impact categories have been spatially resolved and all the **long-term** impact categories have been subdivided between **shorter-term** damages (over the 100 years after the emission) and long-term damages. It is based on a midpoint-damage framework with four distinct complementary viewpoints to present an LCIA profile: (i) midpoint impacts, (ii) damages impacts, (iii) damages on human health, ecosystem quality, and resources & ecosystem services areas of protection, (iv) damages on water and carbon areas of concerns. The method includes 18 midpoint and 27 damage (or endpoint) categories.¹

IMPACT World+ can be combined with:

Inventory: ecoinvent (maximum benefits from IMPACT World+ are obtained with the regionalized version)¹, Agri-footprint, Agribalyse, ARVI, BioEnergieDat, DataSmart, ELCD, ESU World Food, EuGeos, idea, LC-Inventories.ch, ProBas, Evah, USDA and UVEK.

Impact Assessment: ecoinvent LCIA method pack; openLCA LCIA method pack v. 2.x

Data quality systems: ecoinvent, Ciroth/Muller/Weidema

LCIA pack **cannot** be combined with:

Inventory: Input-Output DBs (exiobase, PSILCA, Social Hotspots DB, soca), Ökobaudat, and GaBi DBs

Calculating LCIA results:

To calculate LCIA results, calculate a product system and select a method from the method pack.

Checking LCIA results:

For the product system, a sheet LCIA checks is available, which lists all flows not addressed, per single LCIA category. A similar sheet is also available for each process and shows which of the flows occurring in the process are not addressed in a specific LCIA method and category.

¹ REFERENCE: Bulle., et al. (2019). IMPACT World+: a globally regionalized life cycle impact assessment method. The International Journal of Life Cycle Assessment. <https://doi.org/10.1007/s11367-019-01583-0>