

Converting process data sets from SimaPro to EcoSpold 2 using openLCA

SimaPro CSV export

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0 Background

A feature to read process files exported from SimaPro (www.pre-sustainability.com/simapro) in csv format into the openLCA LCA software (www.openlca.org), and to export these files in a specific EcoSpold 2 format that can be imported into the ecoEditor as it is available from the ecoinvent website (www.ecoinvent.org), has been developed by GreenDelta, with financial support from the ecoinvent centre.

The procedure is straightforward and described in the following.

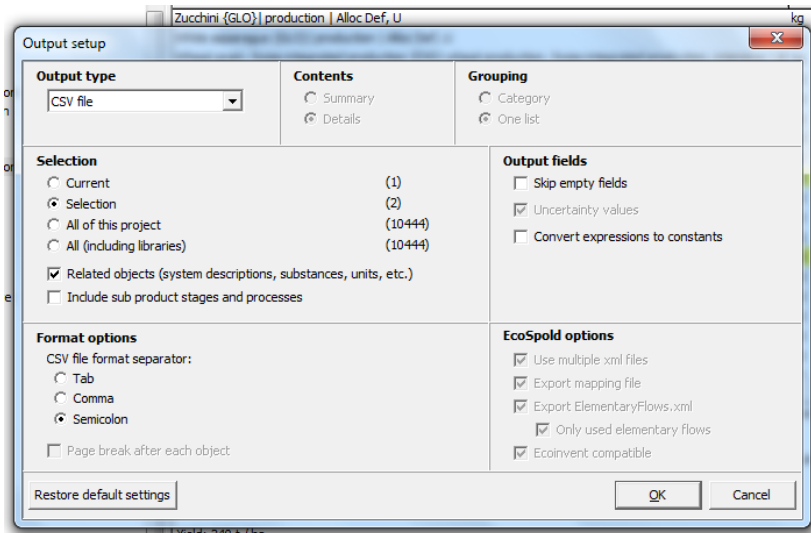
I Export the CSV files from SimaPro

1. Select the processes you want to export:

The screenshot shows the SimaPro interface. On the left is a tree view of materials, with 'Food' > 'Market' > 'Transformation' selected. On the right is a list of processes with columns for description, unit, and category. Two processes are highlighted in blue: 'Wheat grain {FR} | wheat production | Alloc Def, U' and 'Tomato {GLO} production | Alloc Def, U'. Below the list is a note: 'The LCA study, from which this LCI has been derived, contains detailed descriptions of the system boundaries and the data source (et al. 2012). The publication is published and freely available with comprehensive supporting information:'

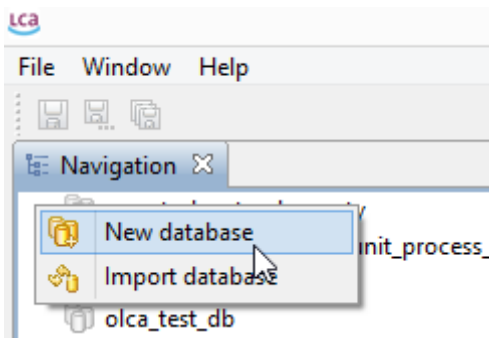
Description	Unit	Category
Zucchini {GLO} production Alloc Def, U	kg	Com
White asparagus {GLO} production Alloc Def, U	kg	Com
Wheat grain, Swiss integrated production {CH} wheat production, Swiss integrated production, intensive Alloc Def, U	kg	Com
Wheat grain, Swiss integrated production {CH} wheat production, Swiss integrated production, extensive Alloc Def, U	kg	Com
Wheat grain, organic {RoW} wheat production, organic Alloc Def, U	kg	Com
Wheat grain, organic {CH} wheat production, organic Alloc Def, U	kg	Com
Wheat grain {US} wheat production Alloc Def, U	kg	Com
Wheat grain {RoW} wheat production Alloc Def, U	kg	Com
Wheat grain {FR} wheat production Alloc Def, U	kg	Com
Wheat grain {ES} wheat production Alloc Def, U	kg	Com
Wheat grain {DE} wheat production Alloc Def, U	kg	Com
Vine tomato {GLO} production Alloc Def, U	kg	Com
Tomato {GLO} production Alloc Def, U	kg	Com
Sugar, from sugarcane {RoW} cane sugar production with ethanol by-product Alloc Def, U	kg	Com
Sugar, from sugarcane {BR} cane sugar production with ethanol by-product Alloc Def, U	kg	Com
Sugar, from sugar beet {RoW} beet sugar production Alloc Def, U	kg	Com
Sugar, from sugar beet {CH} beet sugar production Alloc Def, U	kg	Com
Strawberry {GLO} production Alloc Def, U	kg	Com
Spinach {GLO} production Alloc Def, U	kg	Com

2. Open the export wizard under 'File/Export'. Select 'CSV file' as output type, semicolon as format option, and the processes you want to export under 'Selection':

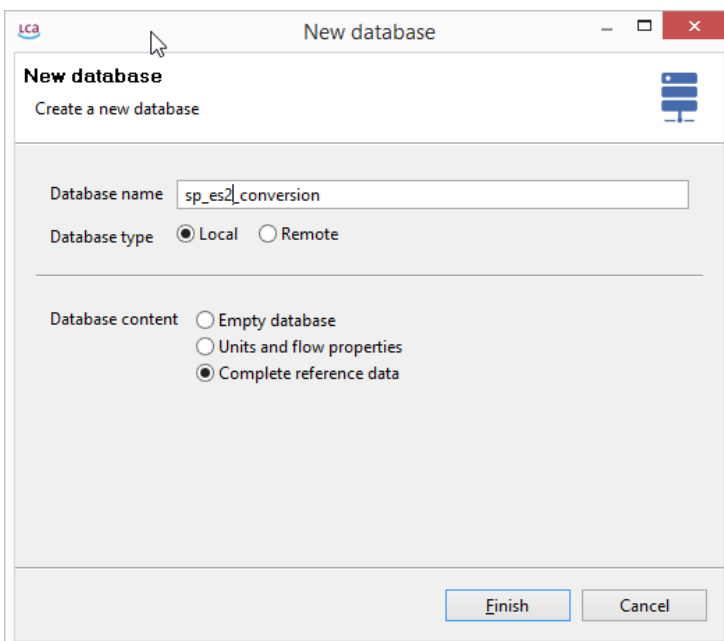


II Import the SimaPro CSV file into openLCA

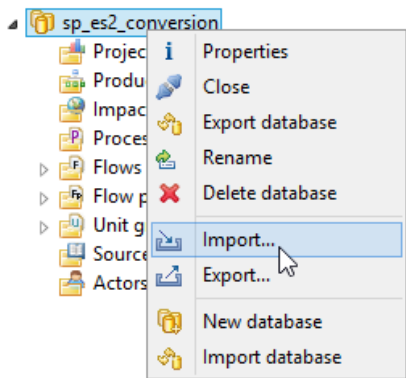
3. Create a new database in openLCA via the context menu in the openLCA navigation view (alternatively, you can use an existing database and open it with a double click):



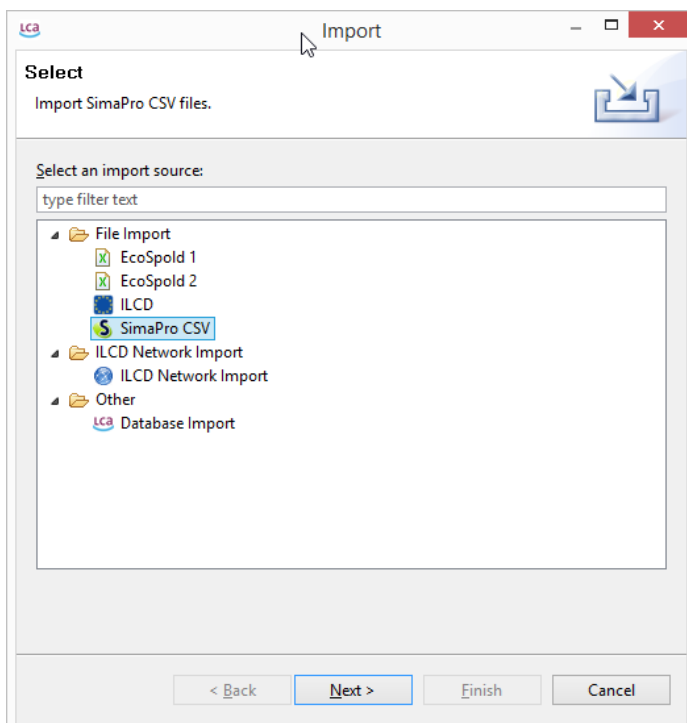
4. Create a local database with the option 'Complete reference data' (we need the reference data for mapping flows, units etc.):



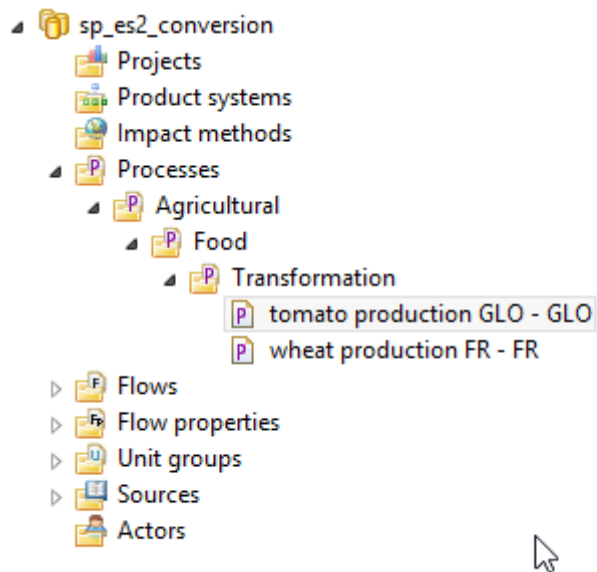
5. Right click on the database and select 'Import':



6. In the import select 'SimaPro CSV' as import option and select the CSV file you want to import:

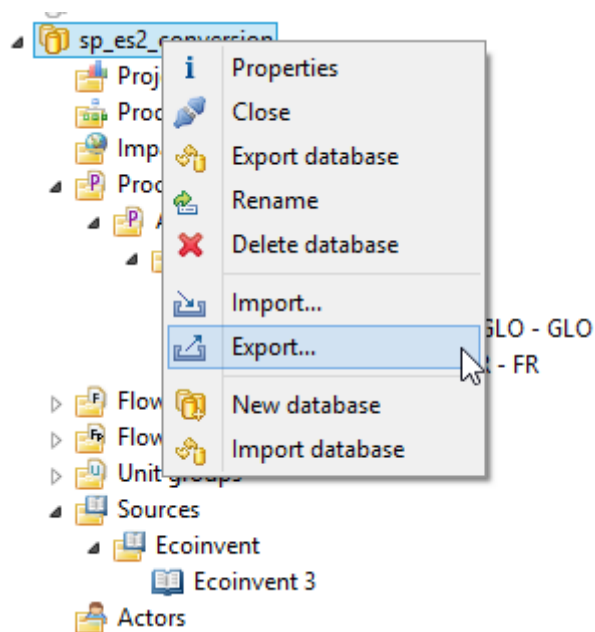


After the import you will see imported data sets under the same process categories as in SimaPro:

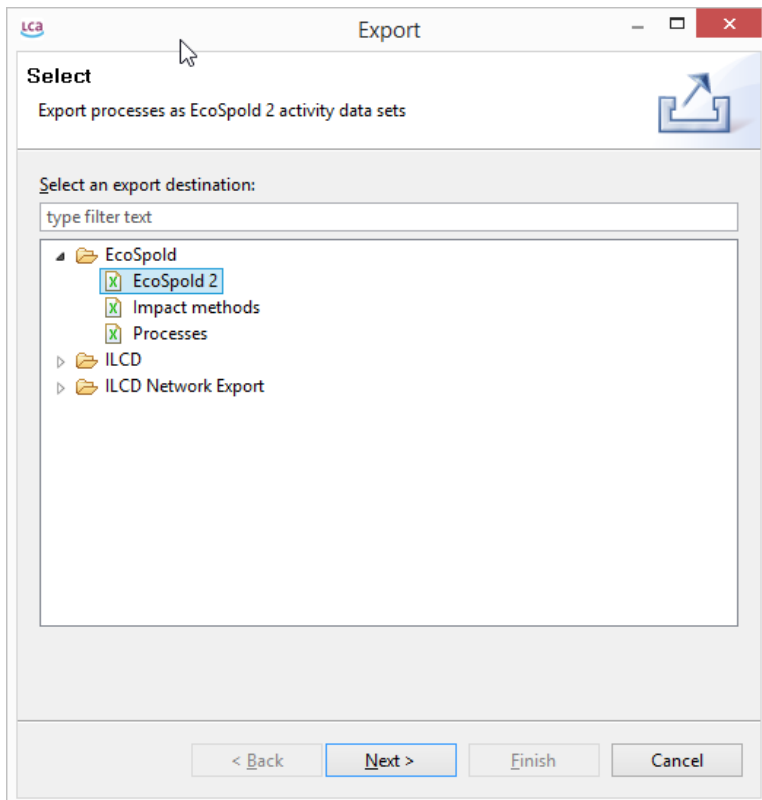


III Export the processes from openLCA to EcoSpold 2

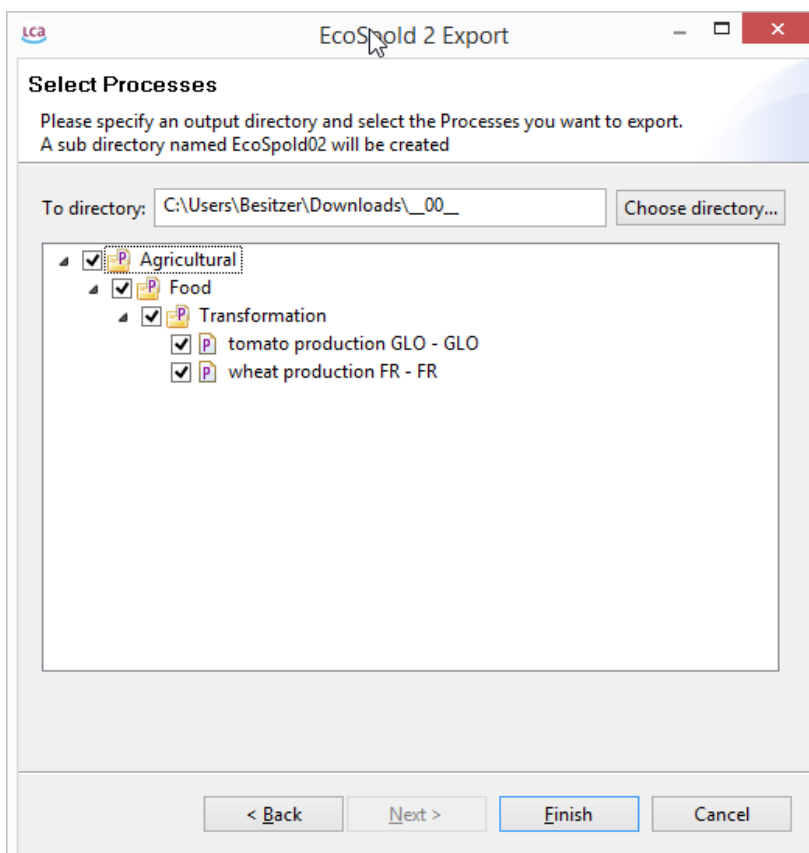
7. As for the import, right click on the database and select 'Export':



8. In the export wizard, select EcoSpold 2 as export option:

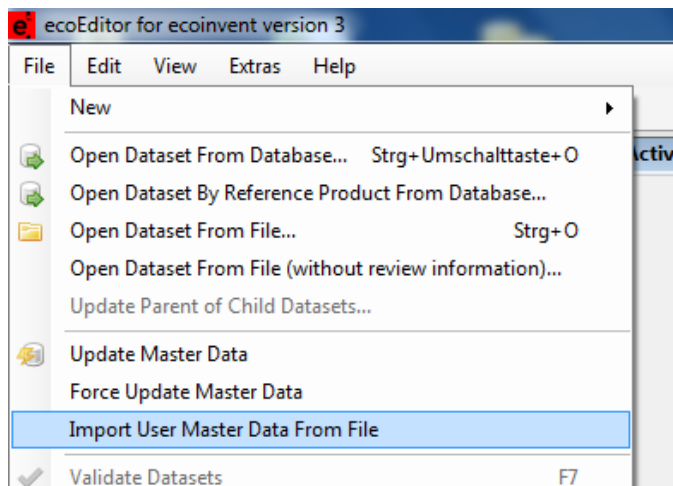


9. Select the processes you want to export and an export directory where the files should be written:

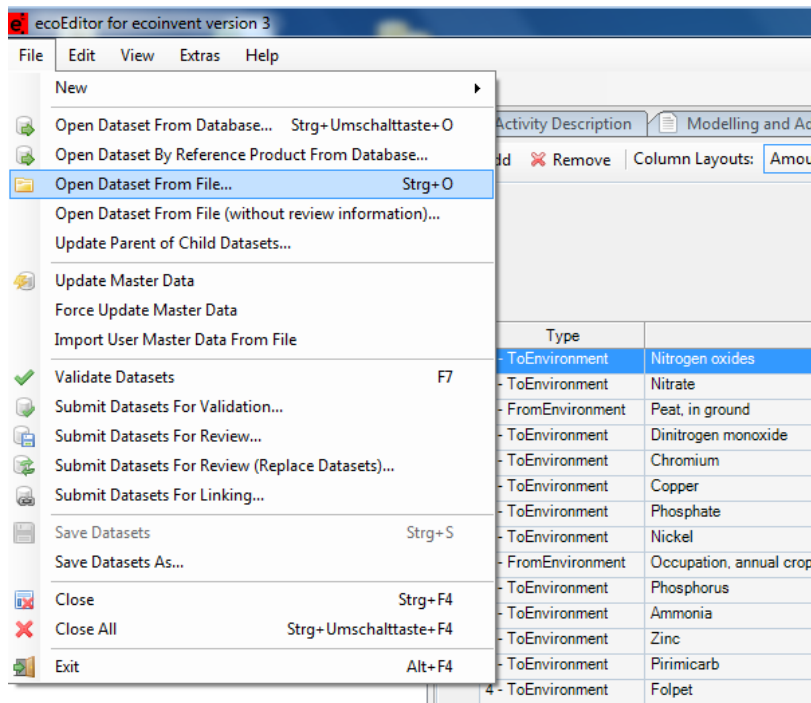


IV Open the data sets in the ecoEditor

10. The ecoEditor cannot open EcoSpold 2 files with unknown “master data”. Master data are flows, sources, units, compartments, locations etc. Thus, you first need to import the master data from a file before you can open the file. Select ‘Import User Master Data From File’ form the menu and select the EcoSpold 2 file which you want to open:



After this, you should be able to open the data set from an EcoSpold 2 file:



V Remove/Reset the imported master data

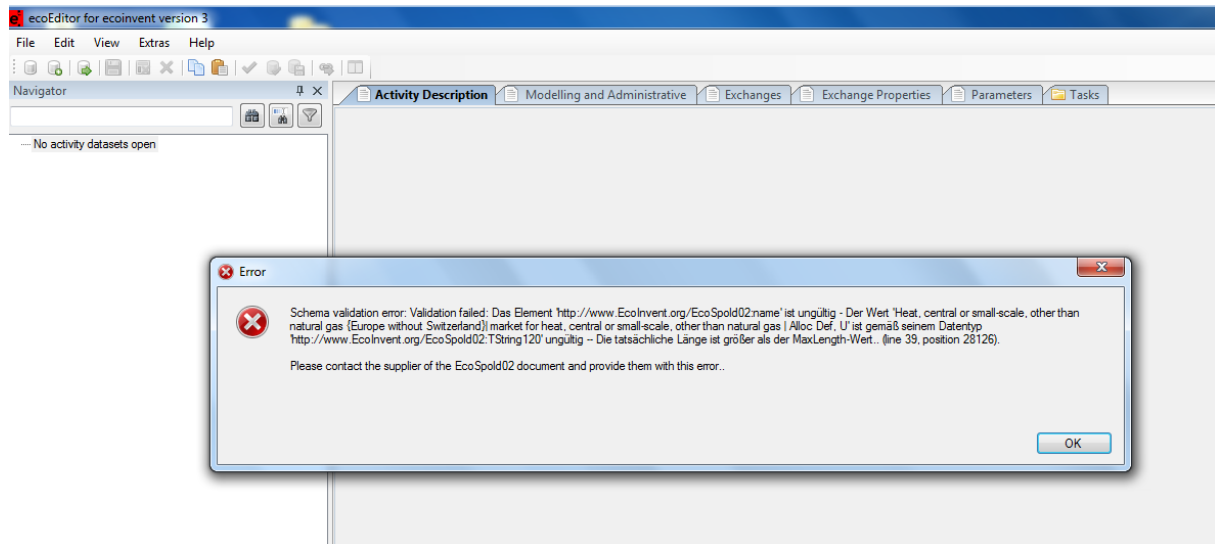
If you want to remove the imported master data in the ecoEditor, go to the installation folder of the ecoEditor under .../Documents/ecoinvent/ecosEditor and remove the XML files under xml/MasterData/Production/user. You may backup this folder before you delete these files.

VI Conversion issues

Field length

In SimaPro 8 product names can be something like: *Heat, central or small-scale, other than natural gas {Europe without Switzerland} | market for heat, central or small-scale, other than natural gas | Alloc Def, U*

This string has 161 characters but only 120 characters are allowed in the EcoSpold 2 format:



Thus, we have to cut names that are longer than 120 characters.

Meta-data mapping

Most of the meta-data are in a different format in SimaPro and EcoSpold 2 / ecoEditor, e.g.

- Categories: tree in SimaPro <-> flat list that cannot be extended in the ecoEditor
- Time: fixed enumeration in SimaPro <-> start and end date in EcoSpold 2
- Geography: only five locations in SimaPro
- Contact information: free text in SimaPro <-> structured person tags in EcoSpold 2
- ...

Some of these issues can be fixed when editing the data set after the export in openLCA or the ecoEditor.

ecoEditor and SimaPro Version

The features have been developed and tested using the following ecoEditor version (screenshot from the ecoinvent website):

ecoEditor for ecoinvent version 3 (freeware, version v3.3.65.10874, released 02.12.2013)!

For SimaPro, a multi user developer version 8.0.1 was used.

Upcoming versions of the software systems may behave differently.

The import and export features are available in the openLCA version 1.4.