Instructions for data delivery to ÖKOBAUDAT via the EPD Editor

Preface

The ÖKOBAUDAT database comprises life cycle assessment datasets on building materials, construction, transport, energy and disposal processes. The data is subject to strict quality requirements and can be used in many different building assessment systems. ÖKOBAUDAT usually sources its data from EPD programme operators. To ensure high data quality and consistency, all data providers must take into account the "Principles for acceptance of LCA data in ÖKOBAUDAT". Therefore, a programme operator must apply for acceptance of data and submit all necessary documents before being released for the delivery of data to the ÖKOBAUDAT. Once the programme operator and the datasets to be delivered have been accepted, the data can be delivered to ÖKOBAUDAT.

For further information see https://www.oekobaudat.de/en/guidance/data-providers.html

The EPD Editor is an open source option for exchanging data with the ÖKOBAUDAT backend via the standardised ÖKOBAUDAT interface. The editor enables easy generation of – also multilingual – datasets. Optionally, data can be delivered to ÖKOBAUDAT directly via the online interface.

The EPD Editor is available online at
https://github.com/GreenDelta/epd-editor/releases

Note: The EPD Editor replaces the previously available plugin for openLCA which will no longer be updated.

The EPD Editor was developed with the support of the innovation programme "Future Building" (Zukunft Bau), a research programme of the Federal Ministry of the Interior, Building and Community (BMI).
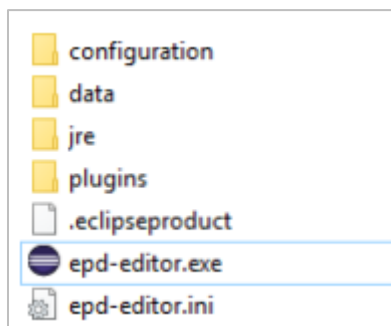
Content

Data delivery to ÖKOBAUDAT via the EPD Editor

1. Installation

The EPD Editor is distributed as a ZIP package: https://github.com/GreenDelta/epd-editor/releases.
The package is saved locally in a directory with write access and unpacked. The editor is started with
the file "epd-editor.exe":

The data generated with the editor are managed centrally in the user folder, regardless of where the
EPD Editor is saved.

2. User interface

The user interface of the EPD Editor consists of a main menu with a toolbar, a navigation and an
editor area:
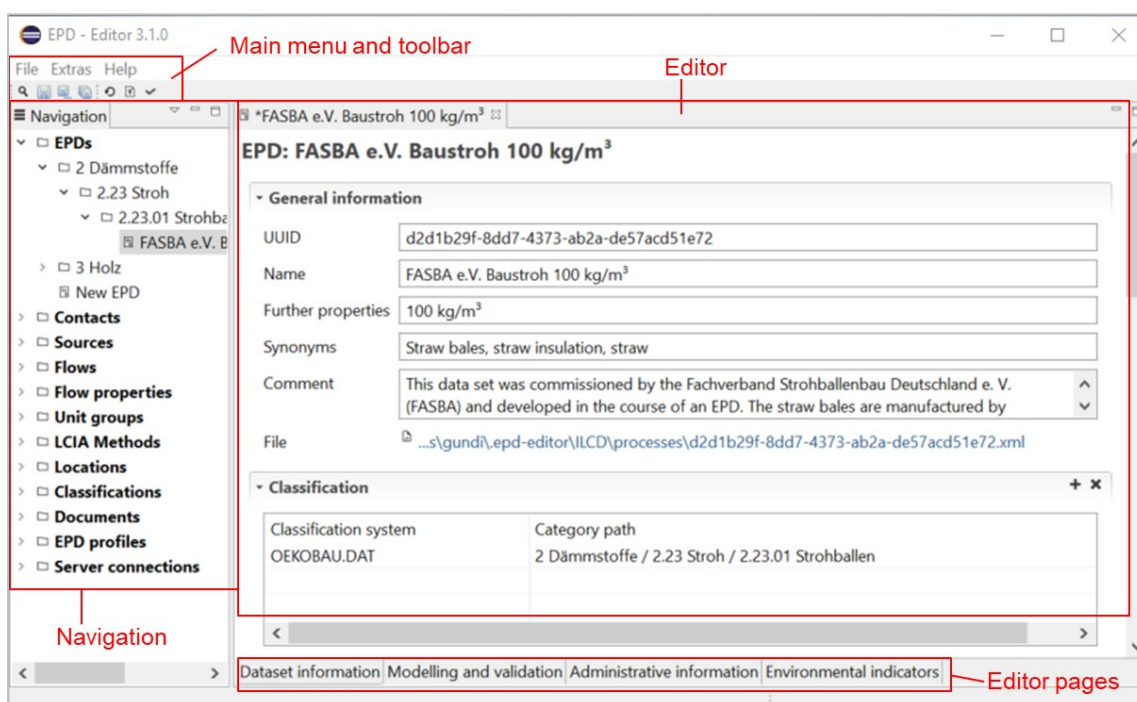
2.1 Toolbar

The functions
- Search
- Save

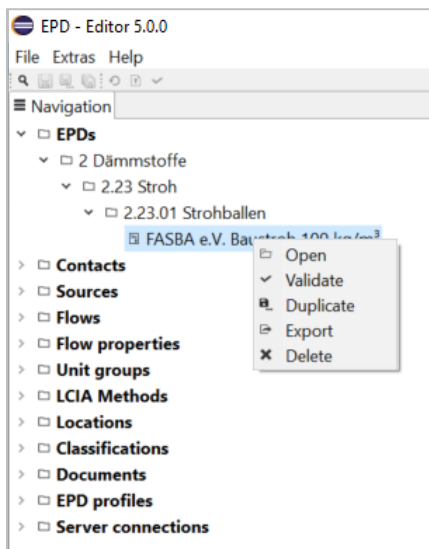Data delivery to ÖKOBAUDAT via the EPD Editor

- Save As
- Save All
- Reload
- Upload data set
- Validate data set

are available via the toolbar:

2.2 Navigation

The datasets are displayed in their respective categories in the navigation. By right-clicking, various actions can be carried out via the navigation context menu, depending on the selected element:
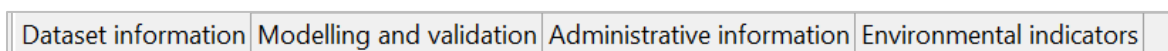

Datasets can also be opened with a double left click.

2.3 Editor area

Datasets are edited in the editor area.
An editor can have several pages, between which you can switch using the tabs at the bottom of the editor:

An editor page is again divided into logical areas, such as the general information of a dataset in the upper area of the "Dataset information" tab:

The information in the data fields on the EPD Editor page must be entered as text, as a selection from a specified list, as tables or links.

Another important component is the references to other datasets in the EPD Editor, which can be set by clicking the button; for example, an EPD dataset must refer to a product flow dataset:

2.4 Edit tables

Tables have a context menu and a toolbar for editing the content:

Depending on the content, particular fields, such as the quantities of the indicator results, can be edited directly in the tables:

| Module	Scenario	Indicator	Value	Unit
A1-A3		Total use of renewable primary energy resources (PERT)	1650.0	MJ
A1-A3		Use of renewable primary energy resources used as raw materials (PE...	1630.0	MJ
A1-A3		Use of net fresh water (FW)	829.0	m3

For some tables there are specific functions such as the synchronization, import and export function of the indicator results:
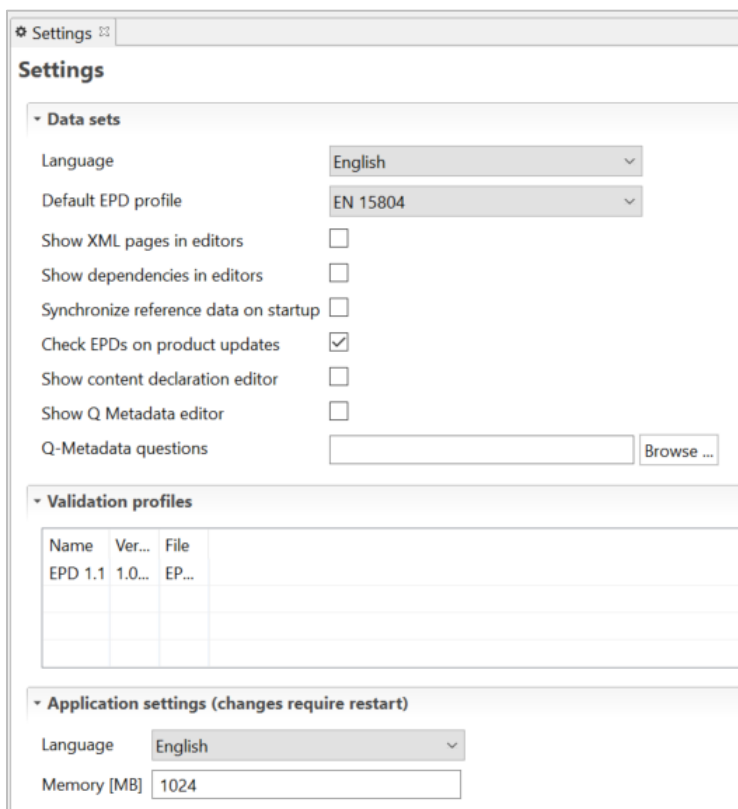

3. Settings

The settings can only be changed if the EPD Editor is saved in a directory with write access (see also Chapter 1 Installation).

The general settings can be adjusted via the menu item "Extras > Settings":
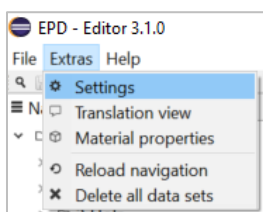

The window is divided into the three areas "Data sets", "Validation profiles" and "Application settings":

Validation profiles see Chapter 6 Validation of datasets.

Data delivery to ÖKOBAUDAT via the EPD Editor

3.1 Application settings

The language of the EPD Editor and the allocated storage capacity can be set under "Application settings" in the lower area of the window:
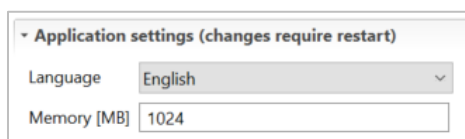
Changes of the desired language and storage capacity require a restart.

3.2 Data set settings

The language in which the text fields of a dataset are to be displayed and edited can be set here. The appropriate language is selected from the list. All data entered in data fields in the editor area are then assigned to the selected language.

Note:
- Opened datasets must be closed and reopened to be active in the newly selected language.
- The information in which language the data set is currently being processed can only be seen in the settings. In the editor area, this can only be recognised on the basis of the data already entered.

The EPD profile is currently set to "EN 15804" by default.
The user can alternatively switch to EN 15804+A2.
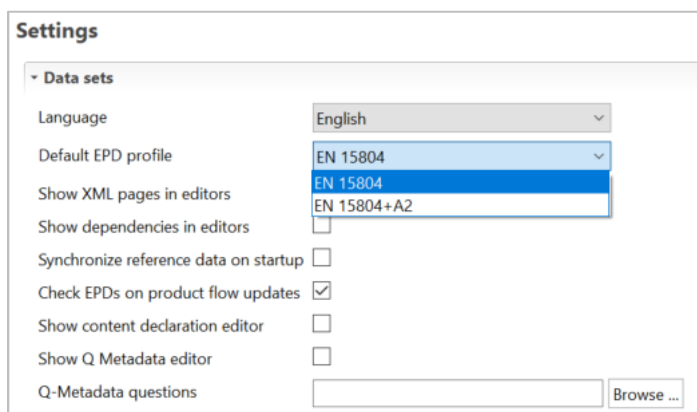
Furthermore, various display and update options can be set.
For EPD datasets for ÖKOBAUDAT, "Check EPDs on product flow updates" must be activated.

Information on ingredients can optionally be made by activating " Show content declaration editor".
The Q metadata ("Show Q Metadata editor" and "Q-Metadata questions") are not shown in ÖKOBAUDAT.

3.3 Multilingual datasets

Via the menu item "Extras > Translation view" the values of a data field can be displayed in different languages, if the field supports this:
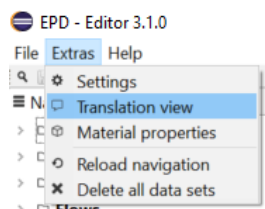

In this mode, another area "Translations" is displayed on the right-hand side. If you click in a data field in the editor area, the data are displayed in the translation area in all the languages in which they have been entered:
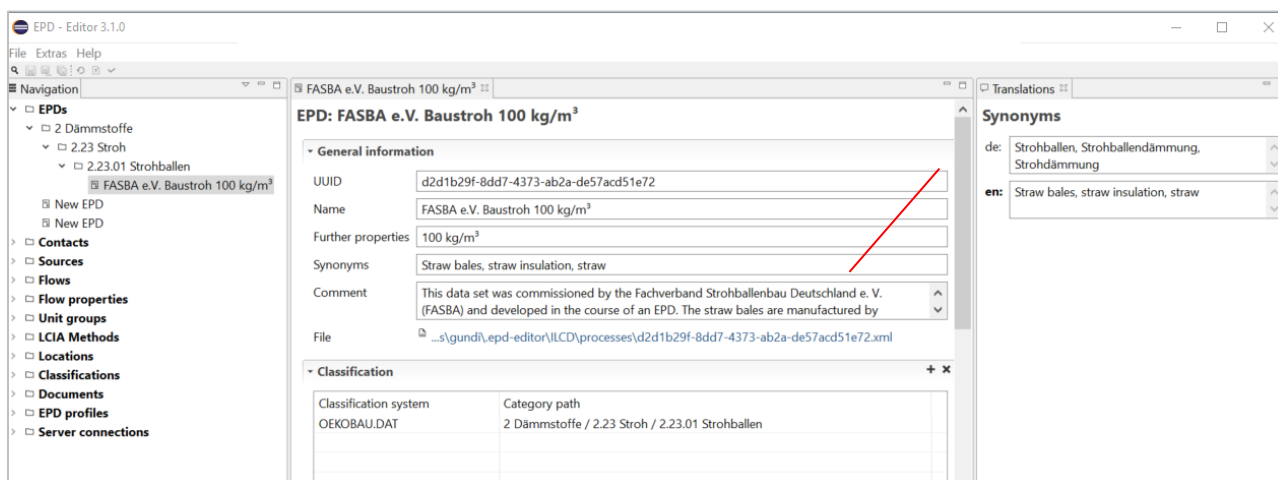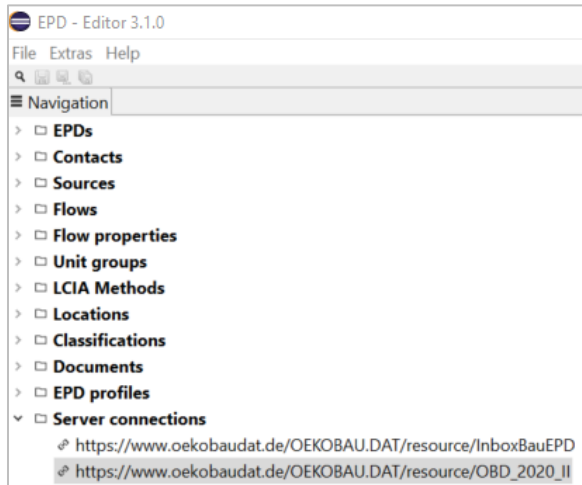
4. Server connection to ÖKOBAUDAT

4.1 Establish server connection to ÖKOBAUDAT

In technical terms, the ÖKOBAUDAT database is based on the software soda4LCA (https://bitbucket.org/okusche/soda4lca) and is equipped with a standardised interface (API) for data exchange. The EPD Editor supports internet-based data exchange via this interface. Such connections can be created or edited via the context menu of the "Server connections" folder:
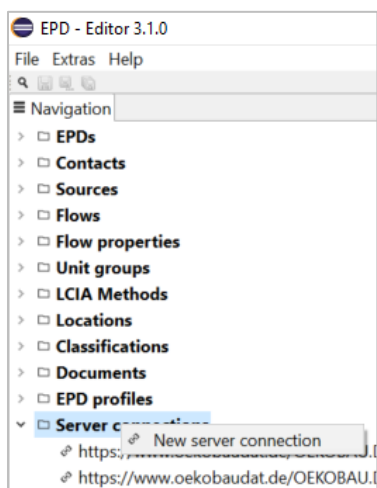
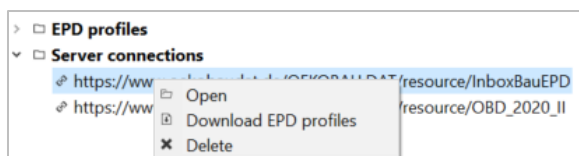A link to ÖKOBAUDAT is already stored under "Server connections":

Note: The current URL for ÖKOBAUDAT is:

https://www.oekobaudat.de/OEKOBAU.DAT/resource

In version 3.0.1 of the EPD Editor, "http" must be corrected to "https".

Via the navigation, existing server connections can be opened for editing or deleted with a right click, just like with the other datasets:

Data delivery to ÖKOBAUDAT via the EPD Editor

A connection to a soda4LCA server consists of a URL to a service endpoint (e.g. https://www.oekobaudat.de/OEKOBAU.DAT/resource) and, if applicable, a user name and a password.

Note: No user account and password are required to connect to generally accessible ÖKOBAUDAT data.

4.2 Import of published ÖKOBAUDAT datasets via the server connection

After clicking on the link (default: "not set") a data stock can be selected:

If the data pool is set, data can be searched online using the search field:

Note: If "Search" is clicked without a search term, all datasets of the selected database are displayed.

Datasets can be selected from the table and downloaded with a right click.

In the download dialog you can set whether the dependent datasets (for the selected datasets) should also be downloaded and whether local datasets should be overwritten with new datasets from the server, i.e. updated if applicable:
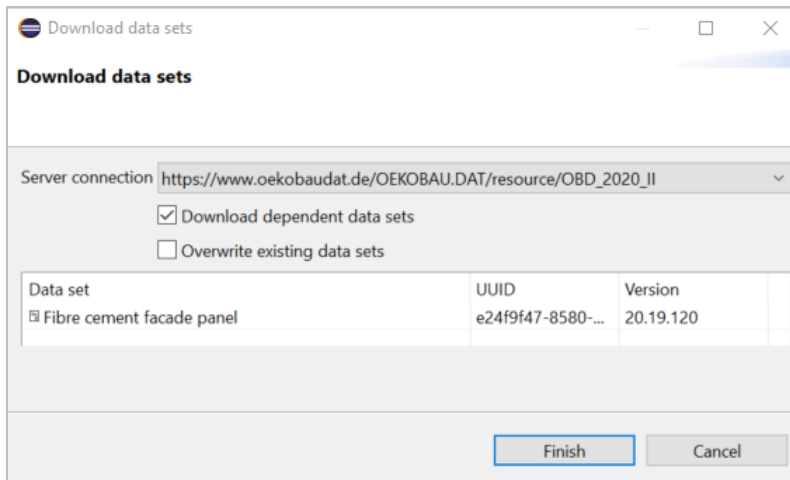
After downloading, all selected datasets including their flows can be found in the navigation tree.

By default, the search function is searching for EPD datasets. By clicking on the selection icon and selecting an option, the user can switch to contacts, sources, flows, flow properties or unit groups:
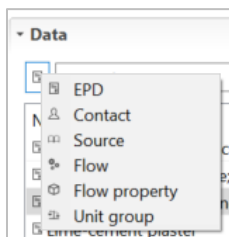
## 4.3 Connection to your own "Inbox" datasets in ÖKOBAUDAT

The import and export of datasets from and into the ÖKOBAUDAT backend must be approved by the BBSR. By using a username and password and creating the server connection as described in section 4.2 above, you can use the "Inbox" to exchange your own datasets that have not yet been published. To do this, select your own "Inbox" under "Data stock".

4.4 Import or export data packages / data sets via the main menu

ÖKOBAUDAT data packages or individual datasets can be imported using the context menu of the "Server connections" folder as described in 4.2. Alternatively, a data package can be imported via the main menu item "File > Import data package" or exported via "File > Export data package":
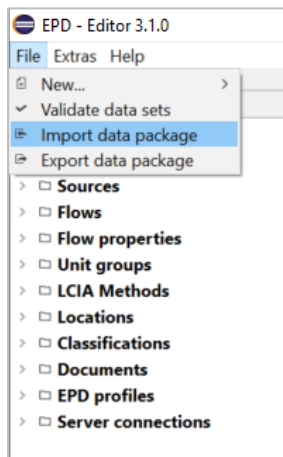
A zip file can be saved with "Export data package". This reflects the status of the "data backup":
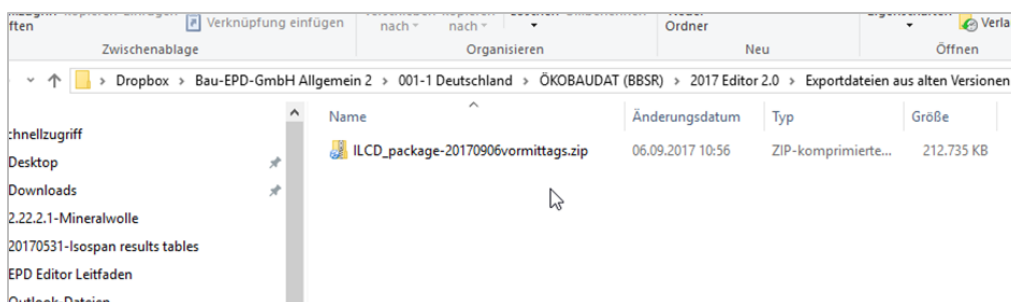
A backup saved in this way can be imported into the EPD editor with "Import file".

Note: This menu can be used to import "ILCD packages": The EPD Editor saves data as XML files in ILCD format (http://eplca.jrc.ec.europa.eu/LCDN/developer.xhtml). An ILCD package is a ZIP file in which XML files are stored in a specific folder structure.

The data of the latest ÖKOBAUDAT release can be downloaded as a ZIP archive or CSV export: https://www.oekobaudat.de/en/service/downloads.html

5. Create and edit flows (products) and EPDs

General note: Editor pages are saved using the toolbar.
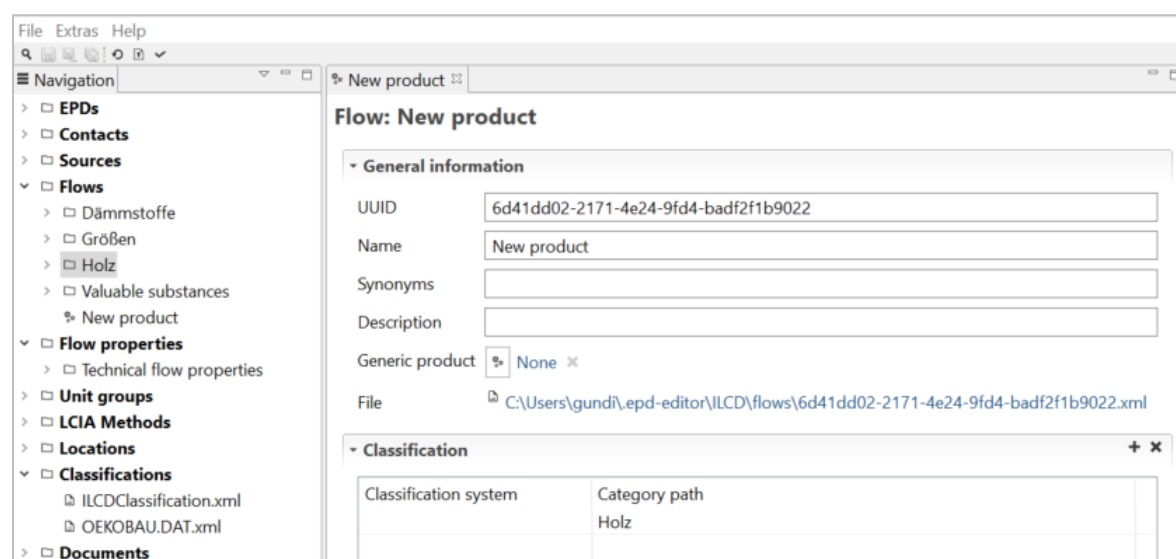

5.1 Create and edit flows (products)

Note: For EPDs (environmental product declarations), "flow" is synonymous with "product". In the EPD Editor, "flows" are therefore usually referred to as "products".

New products can be created by right-clicking on the context menu "Flows" or, if available, on the corresponding category subfolder:
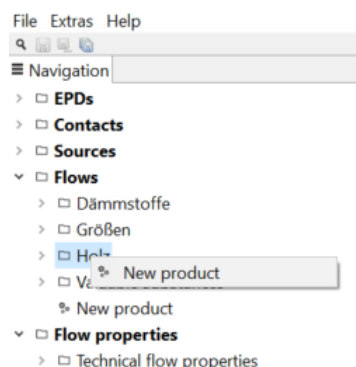
The flow editor field opens on the right:

The UUID is generated automatically, name, synonyms and description can be chosen freely. Under "Generic product" you can optionally choose a generic dataset from "ÖKOBAUDAT" which corresponds to the product type of your own product. This data is not currently in use.
Note: This function is already set up for future use in the EPD Editor, but implementation in ÖKOBAUDAT is still being worked on.

For the selection of categories under the "Classification" menu item, see 5.4 Update categories.

In the lower part of the flow editor field, vendor information, flow and material properties as well as "Administrative information" is entered:
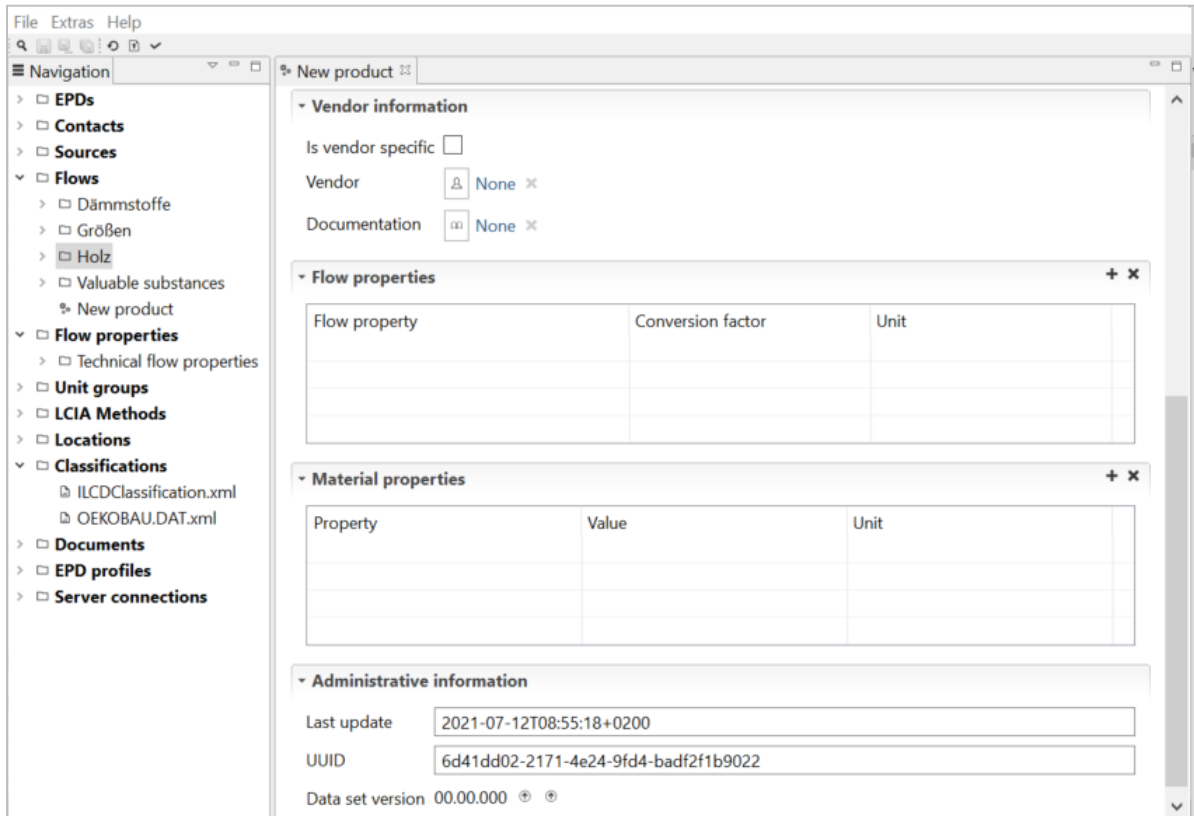
The administrative information is generated automatically.

In the case of vendor specific datasets, a link must be given to the vendor's contact dataset, and a source dataset (e.g. an EPD document) must be stored under "Documentation" (see 5.5 Create contacts, sources, etc.).

Under "Flow properties", a link is made to the appropriate physical reference quantity for the product flow (for adding new flow properties, see 5.5. Create contacts, sources, etc.):
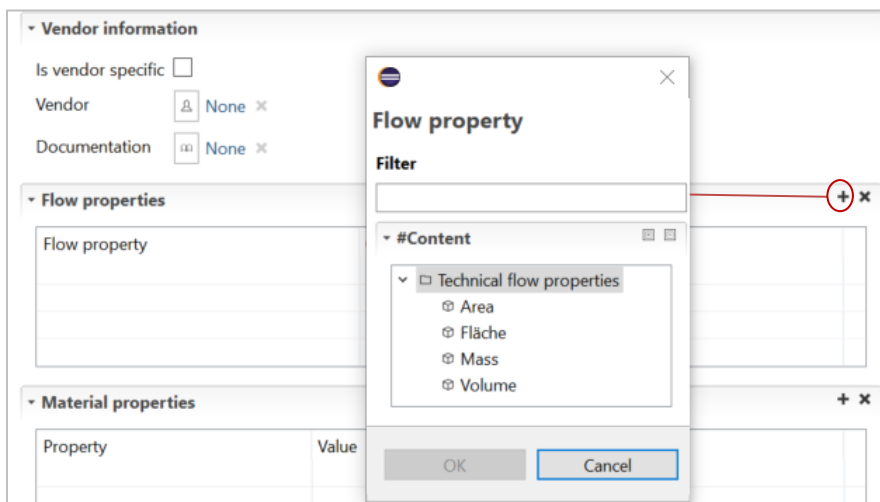
Under "Material properties" you can choose from a specified list of properties:
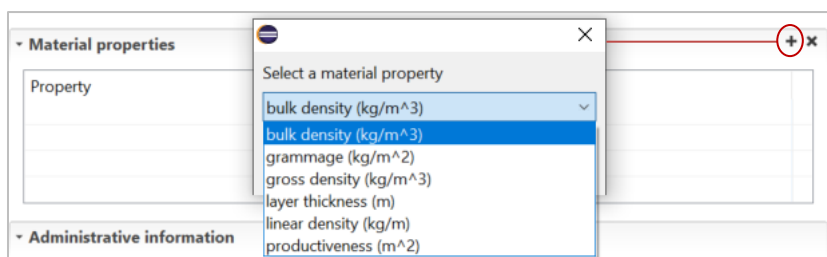
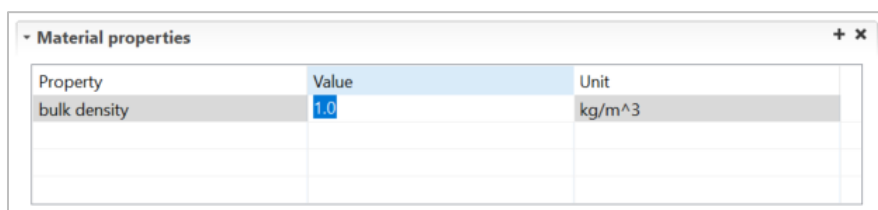The designation and unit of the material properties are fixed. The value can be overwritten by clicking in the field:

Note: The value of the material properties is entered according to the English writing convention (point instead of comma as decimal separator).

Note: Instructions on the required material information when transferring EPD / life cycle assessment data to ÖKOBAUDAT can be found here: https://www.oekobaudat.de/en/service/downloads.html > Technical instructions

Note: When updating EPDs, existing product flows can be used. If essential properties of the product have changed (e.g. bulk density), a new product must be created.

5.2 Open, create or edit EPDs

Existing EPDs can be opened via the navigation tree:
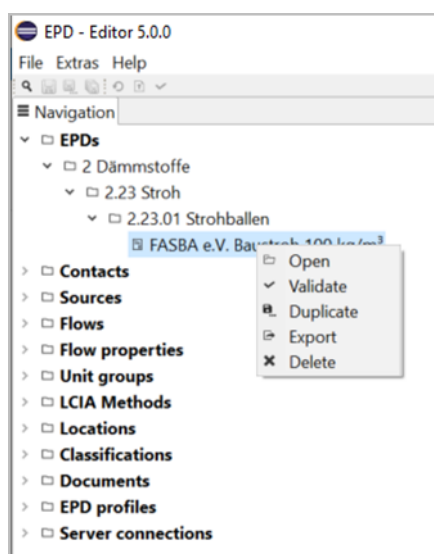
New EPDs can be created by right-clicking on the EPDs folder or, if available, on the corresponding category subfolder:
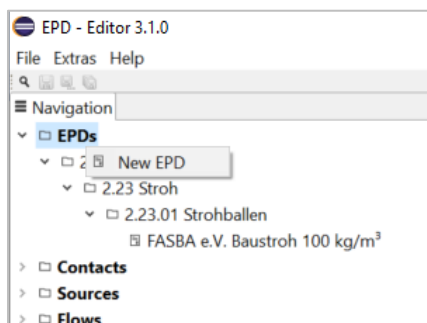

Note: When generating a new (EPD) documentation, no sources / documentation with umlauts, spaces or special characters in the name are allowed.

Changes to the entries for EPDs and flows can be made in the corresponding fields described in Sections 5.1 and 5.3.

It should be noted that the UUID of the EPDs and flows remain the same, provided that their period of validity does not change. The version numbers increase automatically.

In any case, the data records should be validated as described in Chapter 6.

5.3 Edit EPDs

The EPDs are opened by double-clicking or via the context menu of the navigator. The EPD area consists of several folders. The basic structure of the editor area and the basic functions are described under 2.3.

Like the ÖKOBAUDAT, the EPD Editor is based on the ILCD+EPD data format. Detailed information on the ILCD+EPD data format can be found at https://www.oekobaudat.de/en/service/downloads.html (Downloads menu, keyword "ILCD+EPD Data format").
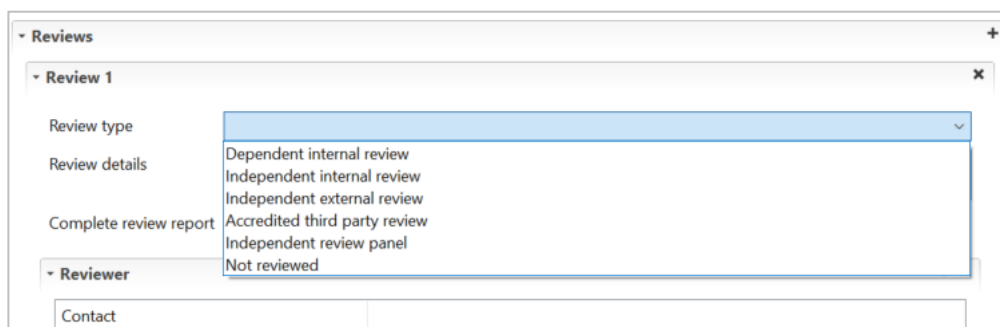
Data delivery to ÖKOBAUDAT via the EPD Editor

The UUID is automatically generated when a new dataset is created. The remaining fields are to be filled in tab by tab according to the definitions of the ILCD+EPD data format. The definitions are displayed via a "tool tip" function. Some additional guidance for specific data fields is provided below.

Tab "Dataset information"

- Further properties: Characterising product properties such as the surface weight of a product can be entered in the text field.
- "Name" and "Technical purpose of product or process": For "InData" conformity, these data fields are also required in English.
- Synonyms: can be chosen freely
- Declared product: Here, the corresponding product flow is linked (see 5.1 Create and edit flows (products) and EPDs). The quantity and unit must also be specified.
- External documentation sources: see section 5.5 Create contacts, sources, etc.
- Uncertainty margins: only relevant for generic datasets
- Flow diagrams or pictures: see section 5.5 Create contacts, sources, etc.

Tab "Modelling and validation"

- LCA method details, Data sources, Compliance declarations: see section 5.5 Create contacts, sources, etc.
- Reviews: The input field "Review 1" appears by clicking on "+":

Review type: For ÖKOBAUDAT, only datasets with the value "Independent external review" are approved.
Review details: Free text entry possible
Complete review report: can be uploaded optionally; see section 5.5 Create contacts, sources, etc.
Reviewer: see section 5.5 Create contacts, sources, etc.

Tab "Administrative information"

- Last update and Data set version: is generated automatically
- "Documentor" and "Owner": see section 5.5 Create contacts, sources, etc.
- "Data formats": For ÖKOBAUDAT-compliant data sets, "ILCD format" and "EPD Data Format Extensions" must be stated.

Tab "Environmental indicators"

- EPD profile: "EN 15804" is preselected. It may be changed to "EN 15804+A2" if appropriate.

- Scenarios and Modules: New scenarios or modules are created using the right mouse button "Add" or the left mouse button "+". All table fields can be filled in.
- Scenarios: The scenarios should be given a short, concise name (e.g. "recycling"). A "default" scenario can be determined. Optionally, several scenarios can be combined into a "group".
- Modules: The module designations must correspond to the specified format (only module number without designation):
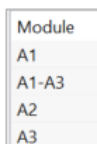
| Module |
|--------|
| A1 |
| A1-A3 |
| A2 |
| A3 |

If several scenarios have been created, the corresponding modules must be created for each scenario, e.g. Module D + scenario "recycling" and module D + scenario "energy recovery".
- Results: The results are best entered via Excel.

Import and export result data with Excel

- An Excel file with all modules, associated scenarios and indicators can be created via Export. The values from the life cycle assessment can be entered in this table or the table can be used for comparison with the life cycle assessment table. The finished table of values is read in via import.
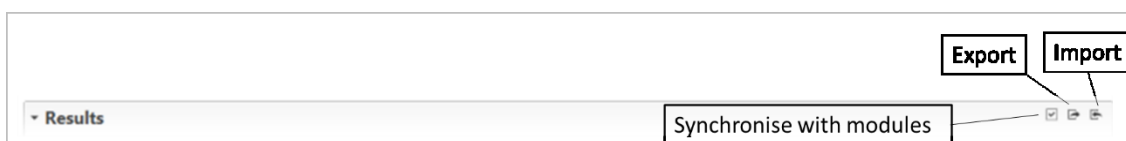

Notes:

In the exported excel table, the indicators are arranged in alphabetical order and not as in EN 15804. The import excel file can, however, have a different order. Otherwise nothing may be changed in the "Results" worksheet, but there can be links to other worksheets.
Only the first sheet of an import Excel file is imported, even if the file contains several worksheets.
- If modules are to be deleted, the results must first be imported and then a new synchronization must only be carried out with the desired modules via "Import modules".
- Import of several scenarios: These must be assigned by numbers in the import table (1, 2, n). After a successful import, names and descriptions of the scenarios can be entered.

5.4 Update categories

ÖKOBAUDAT contains predefined product categories, to which the EPD datasets must be assigned. After a connection to ÖKOBAUDAT has been established under "Server connections" (see 4.1), the ÖKOBAUDAT categories should be updated in the context menu "Classifications" in the EPD Editor:
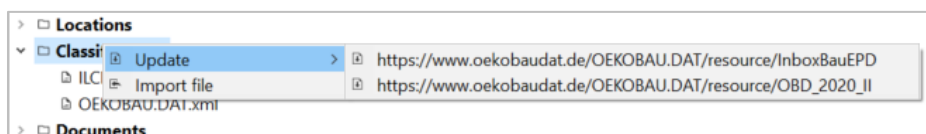
When creating or editing a product or EPD dataset, the classification system and the appropriate category can then be selected. To do this, a control panel is opened in the "Classification" table with the "+ button" or right-click "Add" and the "ÖKOBAUDAT" classification system is set in it. The corresponding category can be selected in the category list that then appears.
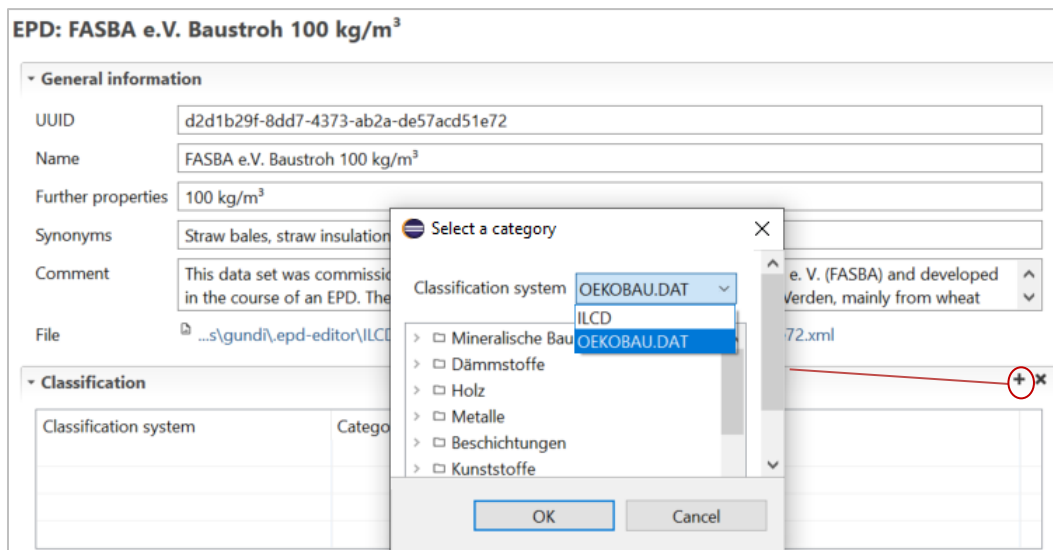

Note:

For import into ÖKOBAUDAT, only the "ÖKOBAUDAT" classification system is permitted.

Missing product categories can only be added by the BBSR.

5.5 Create contacts, sources, etc.

Contacts, data sources, etc. are created in the context menu by right-clicking on the corresponding folder or existing subfolders. The respective editor field opens on the right side. The UUID is always generated automatically as soon as a new dataset is created. The remaining data are entered as text, as a selection from a given list, as tables or links.

Data delivery to ÖKOBAUDAT via the EPD Editor

In the classification tables, clicking on the "+" symbol opens a classification system with different selection options:
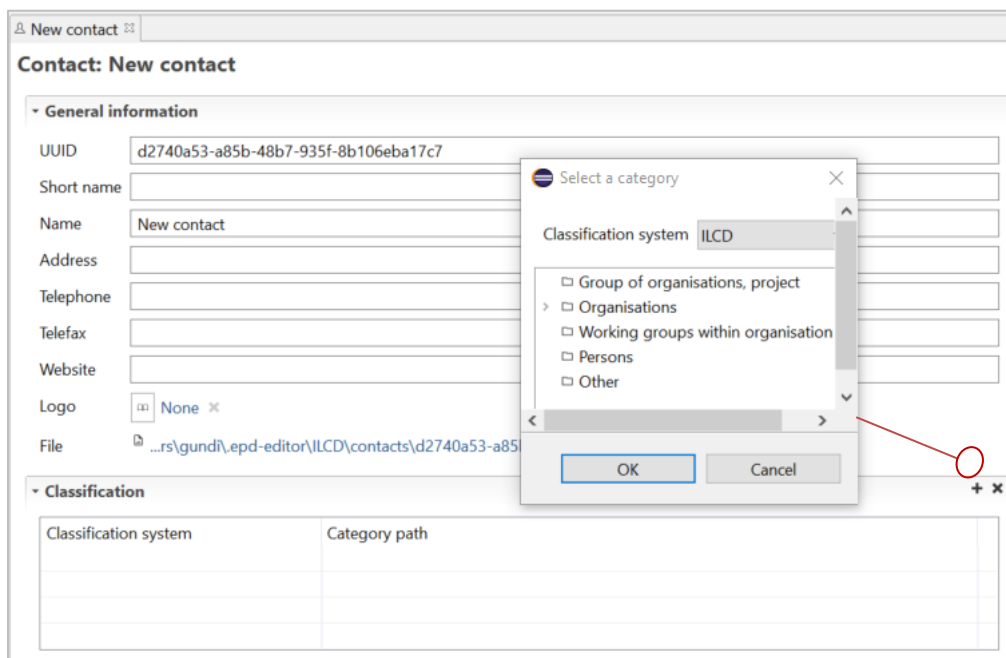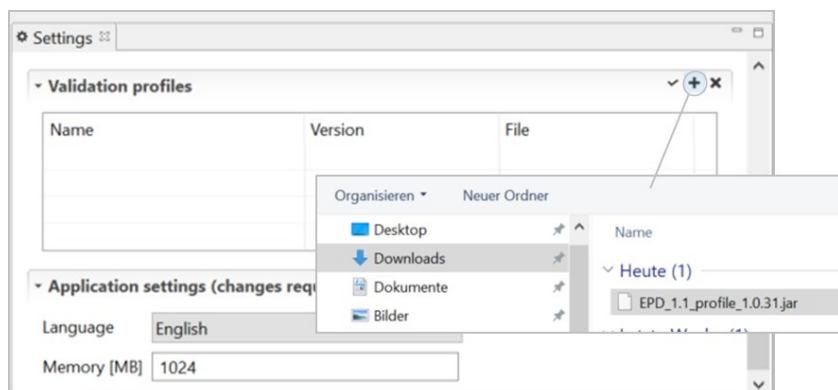

6. Validation of datasets

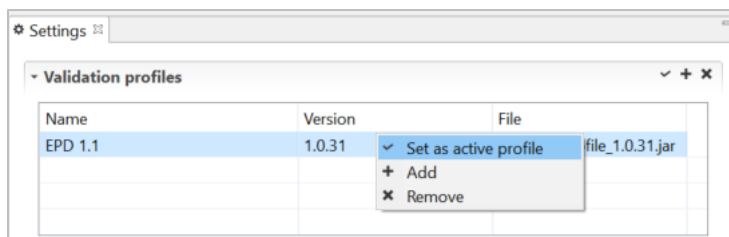### 6.1 Upload current validation profile

The current ÖKOBAUDAT validation profile (EPD profile) can be downloaded from the following link (keyword "Validation"):
https://www.oekobaudat.de/en/service/downloads.html

In the EPD Editor, the current validation profile can be stored under the menu item "Extras > Settings" (see section 3):

The profile is then set to active:

Subsequently created datasets can be validated.

6.2 Validate datasets

The validation function can be activated via the menu item "File > Validate data sets":
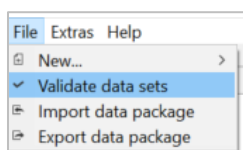
The validation function is also available for individual datasets and can be called up via the context menu in the navigation or the toolbar of an editor:
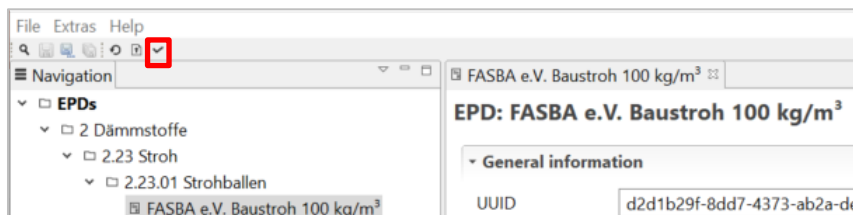
For a single dataset, it can be decided whether only this dataset or its referenced datasets should be validated:
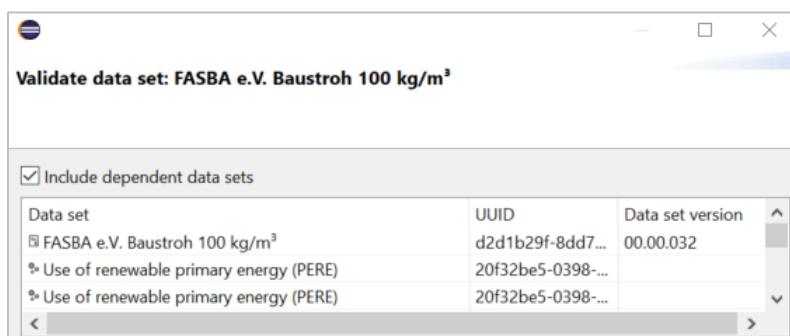
Note: For EPD datasets for ÖKOBAUDAT, "Include dependent data sets" must be selected in any case.

The result of the validation is displayed in a table in which the respective datasets can be opened with a double click:

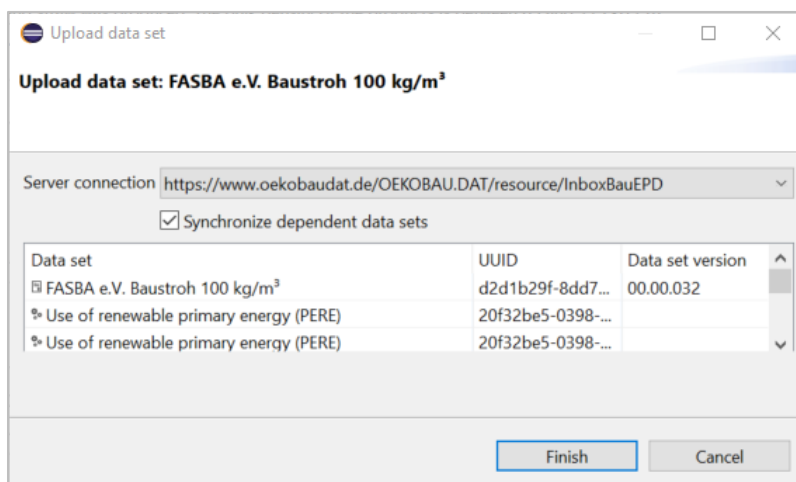## 7. Upload datasets to the ÖKOBAUDAT backend

Validated datasets can be uploaded to a data server via the toolbar menu:
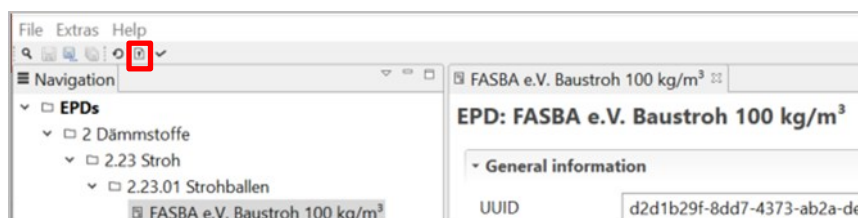
In the upload dialog, the user can decide whether referenced datasets should also be synchronized with the server ("Synchronize dependent data sets"), i.e. they are loaded onto the server if they do not yet exist in the given version:

After uploading to the ÖKOBAUDAT backend, an upload confirmation appears. The BBSR will then check at http://oekobaudat.de/OEKOBAU.DAT/login.xhtml in the ÖKOBAUDAT inbox whether the datasets have been transferred correctly.