Getting Started with SimaPro Synergy

User guide

SimaPro

Title: Getting Started with SimaPro Synergy |User guide

Written by: Polina Soboleva, Fabian Corrales, PRé Sustainability

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About SimaPro

SimaPro was developed by PRé with the goal of making sustainability a fact-based endeavor. PRé has been a leading voice in sustainability metrics and life cycle thinking development for more than 30 years, pioneering the field of environmental and social impact assessment. We develop tools that help you create value and drive sustainable change.

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Glossary

Term	Definition
API	The API (Application Programming Interface) allows external software or systems to interact with SimaPro data and functions. It enables automation, data exchange, and integration with other tools for streamlined life cycle assessment workflows.
Commodity	The material that makes up the Parts (e.g. aluminium, steel, rubber). These materials get mapped to the processes in the primary data library.
Data mapping	A data mapping connects the input data of the organization's external system to a process from a primary or secondary data library source.
Elementary flow	Elementary flows are inputs from or outputs to the environment, such as raw materials extracted (e.g. crude oil) or emissions released (e.g. CO_2 to the air). They connect the life cycle inventory to impact assessment methods.
Method	A method is the impact assessment approach used to translate elementary flows into environmental impact categories (e.g. climate change, acidification). Each method includes characterization factors that quantify the contribution of each flow to specific impacts.
Parameters	Variables that can be used to represent data or values within a configurable model.
Primary data library	A contained collection of datasets owned by an organization. The source of the data is more specific to the scope, specifically collected and or tailored for a specific objective, increasing relevance and specificity.
Secondary data library	A collection of datasets from an authoritative source, characterized as "secondary" due to its generalized nature, not tailored specifically for a current objective. Examples: ecoinvent, Agri-footprint.

1 Introduction

This document is an onboarding guide that introduces the key areas and essential features of SimaPro Synergy, meant to help you, the Expert user, create your first SimaPro Synergy model.

For more resources, such as interesting articles, FAQs, and manuals please visit the SimaPro Help Center. For additional support, please reach out to support@simapro.com or contact us via SimaPro Synergy by going to the Support section in the left-side menu and clicking Contact support.

1.1 What is SimaPro Synergy?

SimaPro Synergy is an online platform designed to scale and integrate life cycle assessment into day-to-day decision-making. At its foundation lies the reliable and transparent calculation engine that SimaPro is known for. It combines the power of the LCA calculation engine, data libraries, APIs for automation, and an innovative and flexible workflow to manage models and data.

1.2 User settings

Before you start the modelling, make sure to review and adjust the user settings. You can access user settings from the sidebar on the left side of the page by clicking on the user name.

Please note! If you have access to multiple organizations, a drop-down list of your organizations will appear under your user name.

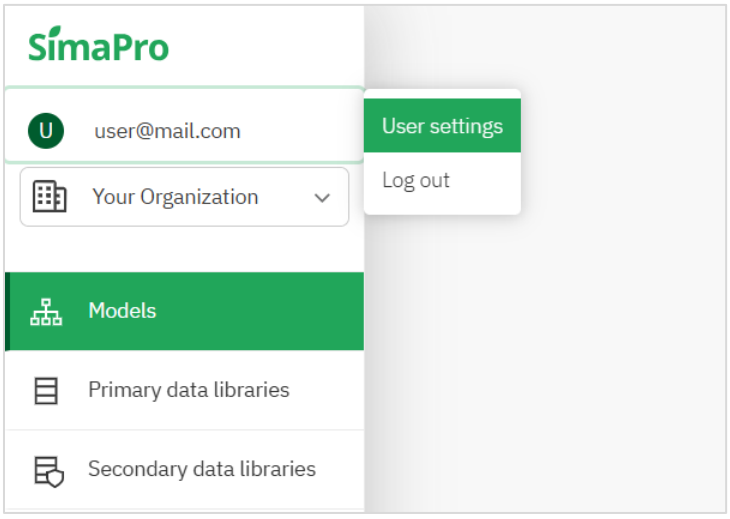


Figure 1: User settings

Account details

- Name - the field can be edited.
- Email - the field can be edited for non-Single Sign On (SSO) users. Please use an e-mail address you can access.
- Organization – this field indicates the organization where the user was created.
- Roles – this field indicates the access level assigned to the user.

Change password

- New password - Update your password by entering the current password and setting a new one. Preferably use a strong password. This is enabled for non-SSO users.

Additional user settings

- Multi-factor authentication (MFA) - your organization may require you to enable MFA. Follow the step-by-step instructions in our MFA user guide to enable it.
- Number precision - set the number precision (rounding to decimal places) you prefer to view across SimaPro Synergy.
- User research – indicate your interest in being a part of the user research for SimaPro Synergy.

2 Setting up your model

In SimaPro Synergy, modelling your product system involves two key elements: models and primary data libraries. Models define your product's structure using processes and parameters, while primary data libraries are used to store company-specific data such as materials, energy, and transport. When you build a model, you link it to data from the primary data library, ensuring consistency and centralized management. Updates to the primary data library automatically apply to all linked models, saving time and reducing errors.

Once you have logged in, you get access to the main page, *Models*. The *Models* list includes an overview of all models you have access to in your organization (created by you or other users).

Additionally, you can search for a model by name, filter on the owner, model visibility (hidden or visible), or model status (locked or unlocked).

Also, this page has a button to 'Create new model' (see section 2.3).

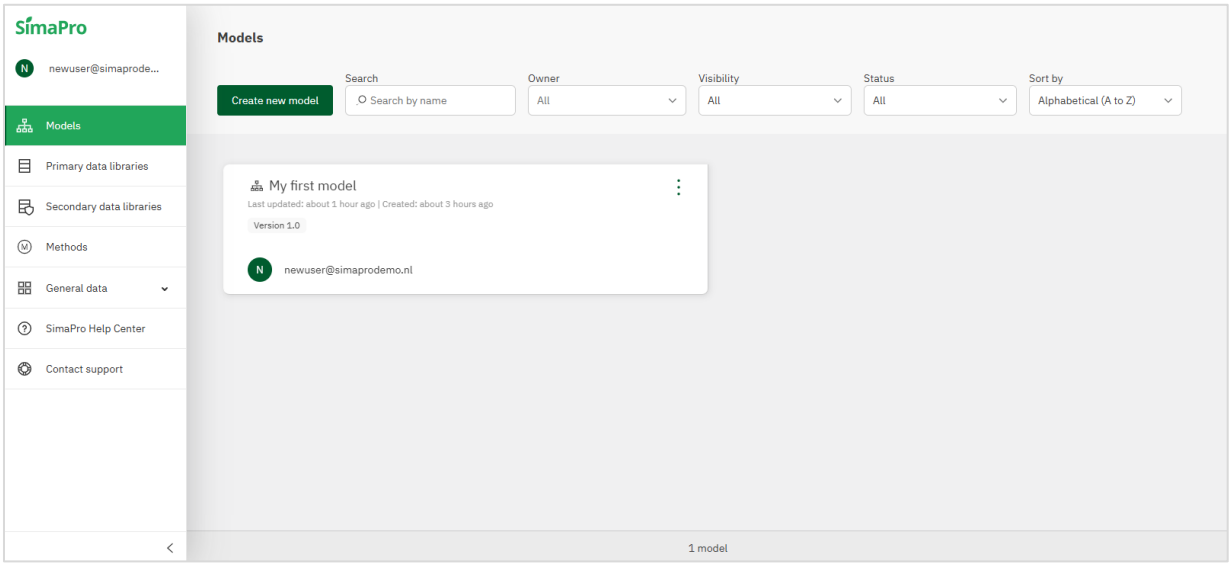


Figure 2: Models list

On the sidebar, you can access the following pages:

- **Models** – an overview of available models. See section 2.2.
- **Primary data libraries** – an overview of available primary data libraries. See section 2.1.
- **Secondary data libraries** - an overview of available secondary data libraries. Select relevant secondary data libraries by clicking on *Edit*.
- **Methods** – It includes an overview of the methods and impact categories.
- **General data** – It includes an overview of the elementary flows, geographies, quantities and units.
- **SimaPro Help Center** – a link to our knowledge hub.
- **Contact Support** – submit your support inquiry here.

By selecting a model or a primary data library, you get access to pages relevant to this specific model or primary data library:

- **Dashboard** – see section 3.
- **Data mappings** – see section 9.2 (specific for primary data libraries).
- **Model builder** – see section 4.
- **Processes** – see section 5.
- **Products** – see section 6.
- **Parameters** – see section 7.
- **Calculations** – see section 8.

Depending on your starting point, there are multiple ways to start working on your models in SimaPro Synergy.

- Start from scratch: Configure a new primary data library (section 2.1), then create a new model (section 2.2).
- Import model from SimaPro Craft: Export your existing SimaPro Craft project to a CSV file and import it into Synergy (section 2.4).

2.1 Configuring the primary data library

A primary data library is a library that contains a collection of processes or products you can use across your organization on multiple models or other primary data libraries. It is especially useful when different models have the same processes or products within their product system (parts, processes, materials, etc.).

It's best to create your primary data library before starting your model, but it's not mandatory. If you don't need one, you can skip ahead to section 2.2.

2.1.1 Creating a new primary data library

1. From the sidebar, select the *'Primary data libraries'* tab.
2. Click on the button *'Create new primary data library'*.

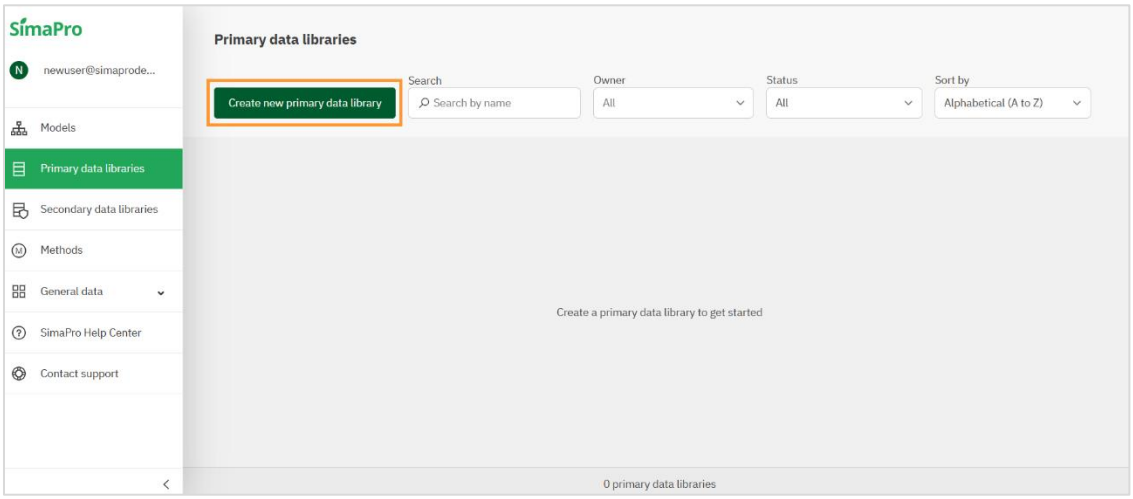


Figure 3: Creating a new primary data library

3. Fill in the details of your model, such as 'Name', 'Version', etc.

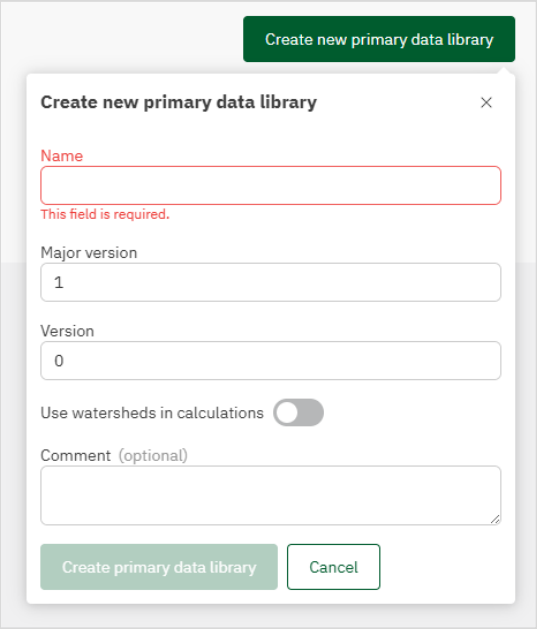


Figure 4: Model details

4. Click *'Create primary data library'.*

2.1.2 Selecting library sources

After creating your primary data library, you will be redirected to the *'Dashboard'* (see section 3) of your new library. Please follow the steps below to select the primary or secondary data libraries you want to use on your primary data library:

1. Go to the '*Dashboard'* of your primary data library.
2. On the Selected library sources, click the *'Edit'* button.

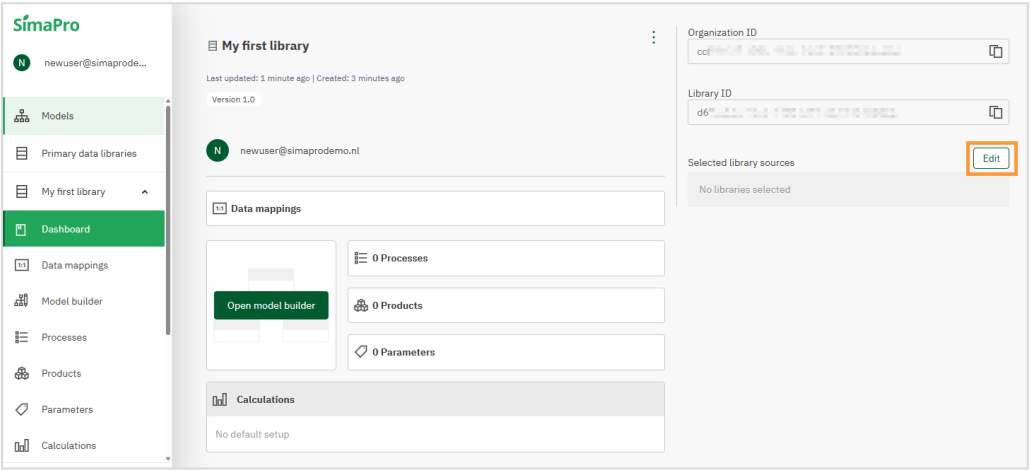


Figure 5. Selected library sources section on the 'Dashboard'

3. Select the relevant primary or secondary data libraries that include the processes or products you will use in your primary data library.

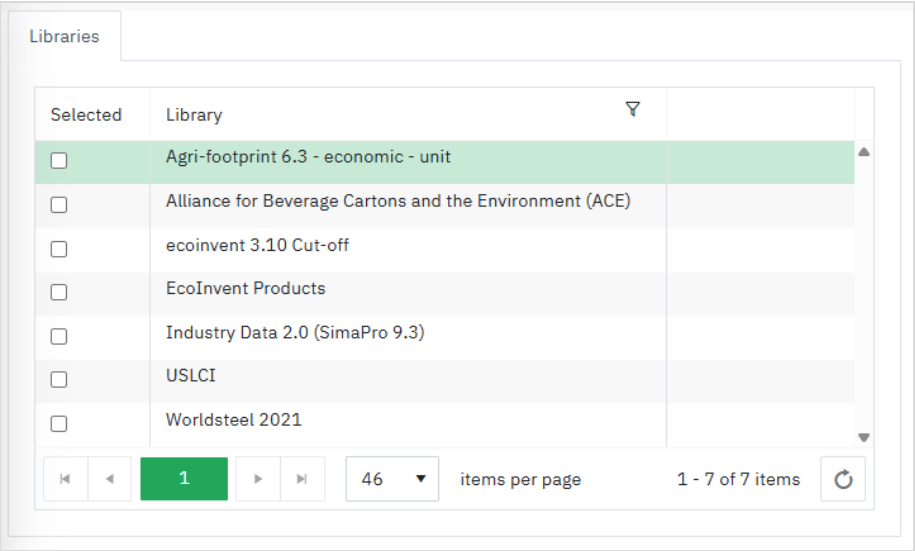


Figure 6. Selecting the library sources

Once you create your primary data library, it will be available to use as a library source for other primary data libraries or models. In this window, you can switch between different versions of the secondary data libraries using the *'Switch library'* button. For more information, please refer to How do I use library switch in SimaPro Synergy?

Life cycle inventory databases are called 'secondary libraries' in SimaPro. The following libraries are available by default in SimaPro Synergy:

- Agri-footprint (economic allocation)
- ecoinvent (allocation, cut-off by classification - included by default if your SimaPro license also includes an ecoinvent license)
- US Life Cycle Inventory database
- Industry data 2.0
- Worldsteel 2021 (in the desktop version this data library is included in the Industry data 2.0 library, within SimaPro 9.5 release)
- Alliance for Beverage Cartons and the Environment (ACE) (in the desktop version this data library is included in the Industry data 2.0 library, within SimaPro 9.5 release)

If you are also interested in additional libraries, please refer to Which databases (data libraries) are included in SimaPro Synergy?

2.2 Configuring the model

2.2.1 Creating a new model

1. From the sidebar, select the '*Models*' tab.
2. Click on the button *'Create new model'*.

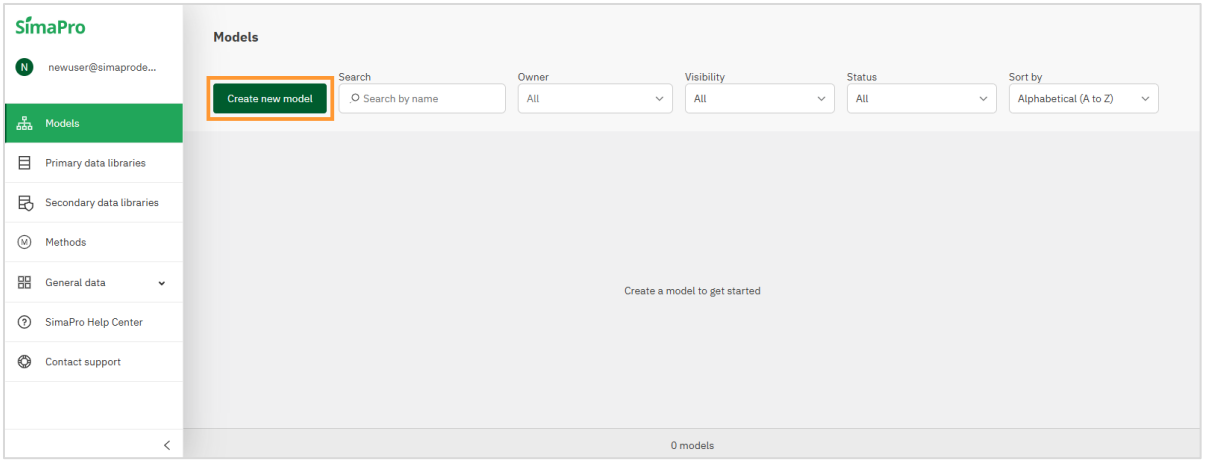


Figure 7: Creating new model

3. Fill in the details of your model, such as Name, Version, etc.

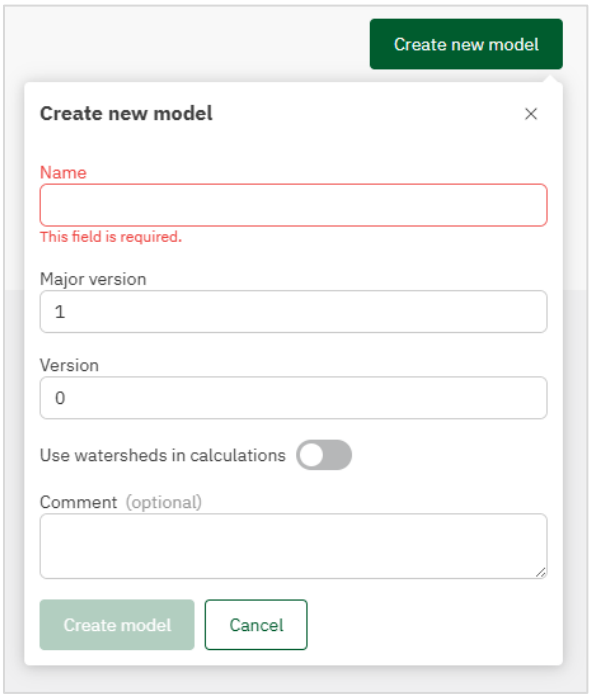


Figure 8: Model details

4. Click *'Create model'.*

2.2.2 Selecting library sources

After creating your model, you will be redirected to the Dashboard (see section 3) of your new model. Please follow the steps below to select the primary or secondary data libraries you want to use on your model:

1. Go to the *'Dashboard'* of your model.
2. On the Selected library sources, Click the *'Edit'* button.

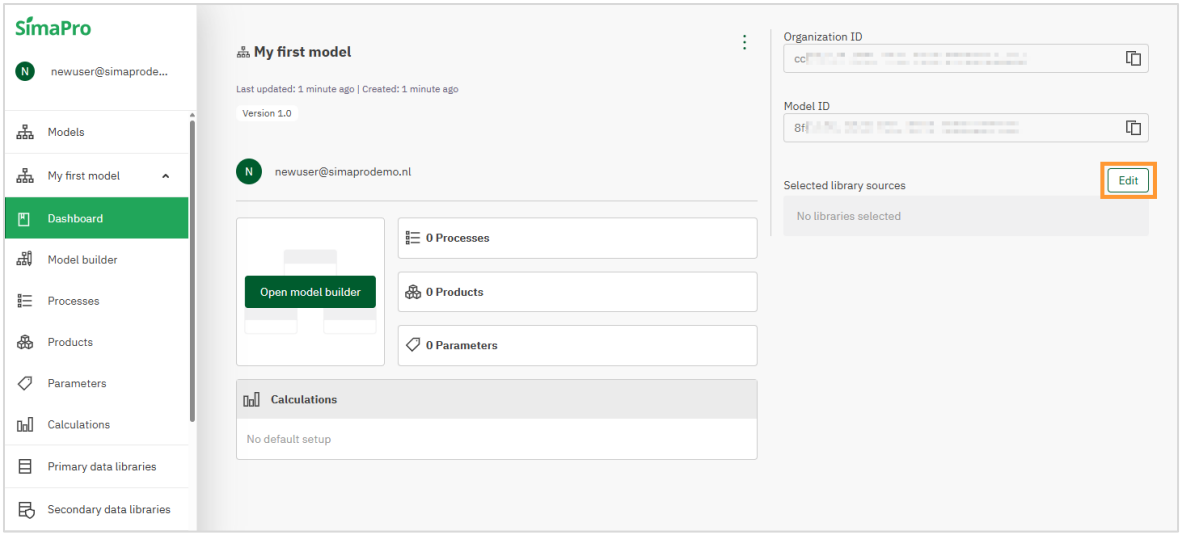


Figure 9. Select library sources section on the Dashboard

3. Select the relevant primary or secondary data libraries that include the processes or products you will use in your model.

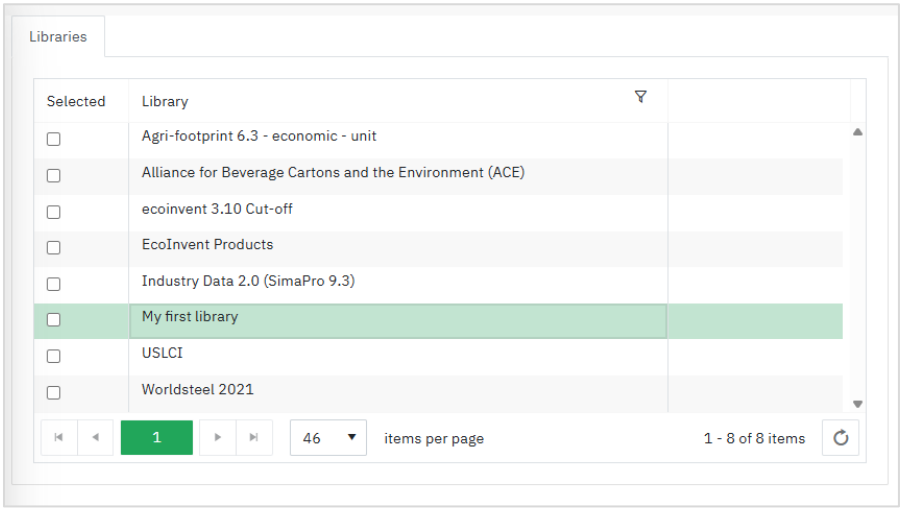


Figure 10. Selecting the library sources

2.3 Converting a model to a primary data library and vice versa

Once you have your model or primary data library, you can convert your model to a primary data library and vice versa.

You might want to convert a model into a primary data library when you want to reuse the data contained in the model as standard processes across multiple models, without having to rebuild the entire model or its parts each time. Vice versa, you convert a primary data library into a model when its processes are structured to represent final products or their parts. In that case, you can no longer link the processes from the primary data library you want to convert into a model to other models or libraries.

2.3.1 Converting your model to a primary data library

To convert a model to a primary data library, please follow the steps below:

1. On the *'Models'* list, open the model you want to convert to a library.
2. Enter model additional settings through the *'Dashboard'* (see section 3.1), by clicking on the ellipsis icon ⋮ .
3. Click on *'Convert to library'*.

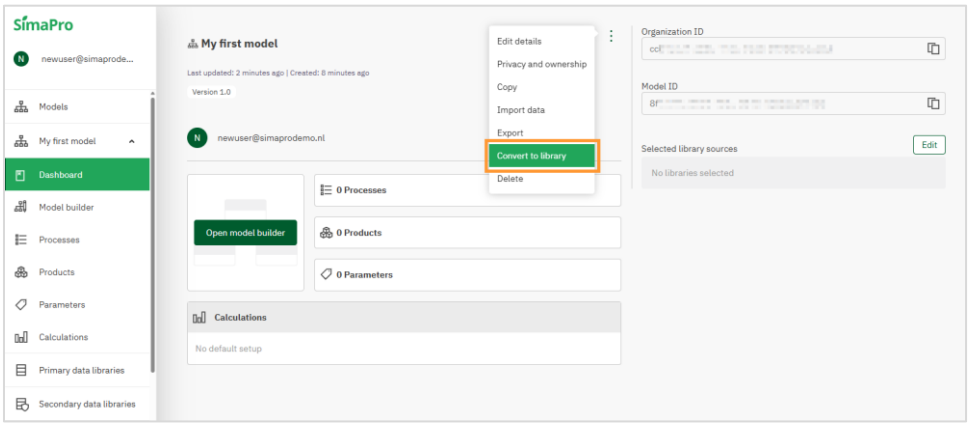


Figure 11. Convert model to library

After converting your model to a library, you can access it through the *'Primary data library'* page.

2.3.2 Converting your primary data library to a model

To convert a primary data library, please follow the steps below:

1. Make sure the library you want to convert is not in use or selected by any of the models or other primary data libraries in your organization. The library should be unselected from the *'Selected library sources'* sections of all the models (see Section 2.1.2) or primary data libraries (see Section 2.2.2). Otherwise, you will be prevented from converting it into a model.
2. On the *'Primary data library'* page, open the library you want to convert into a model.
3. Enter primary data library additional settings through the Dashboard (see section 3.1), by clicking on the ellipsis icon ⋮ .
4. Click on *'Convert to model'.*

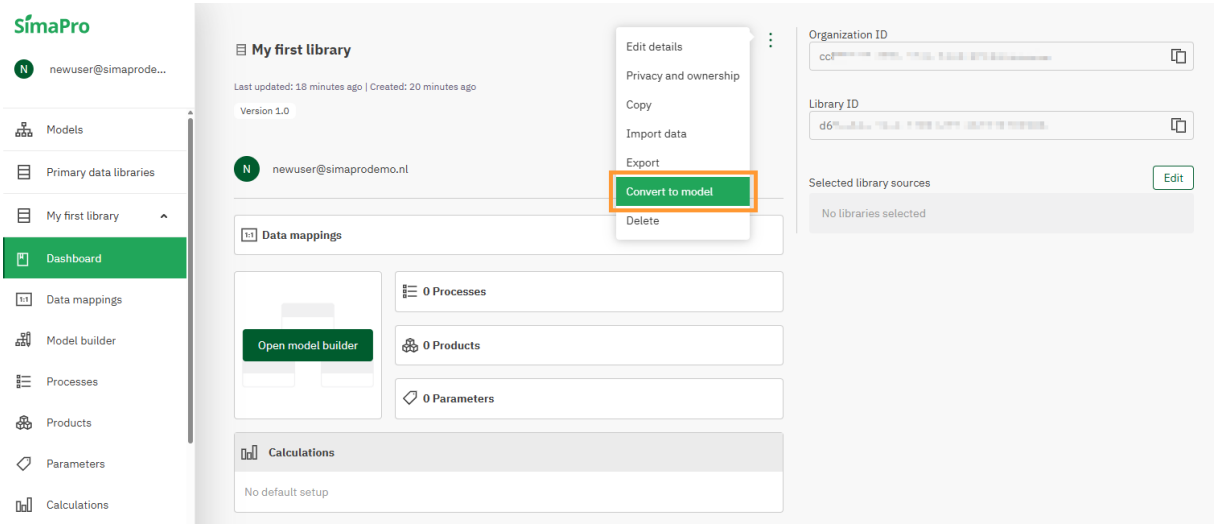


Figure 12. Convert primary data library to model

2.4 Utilizing an existing model or library from SimaPro Craft

Instead of creating a model from scratch, you can also create a model in SimaPro Synergy using one of your SimaPro Craft models. To do that, you first have to export the model as a .CSV from SimaPro Craft and then import it into SimaPro Synergy. A pre-requisite, in order to have a smooth transfer, is that the Craft database is properly updated to the latest version, and clean from old data.

2.4.1 Exporting a project from SimaPro Craft

To export a project from SimaPro Craft, please follow the steps below:

1. Open SimaPro Craft and select the process or project you want to export.
2. From the process list, select any process and go to '*File*' > *'Export to Platform'.*
3. That will show the export settings shown below:

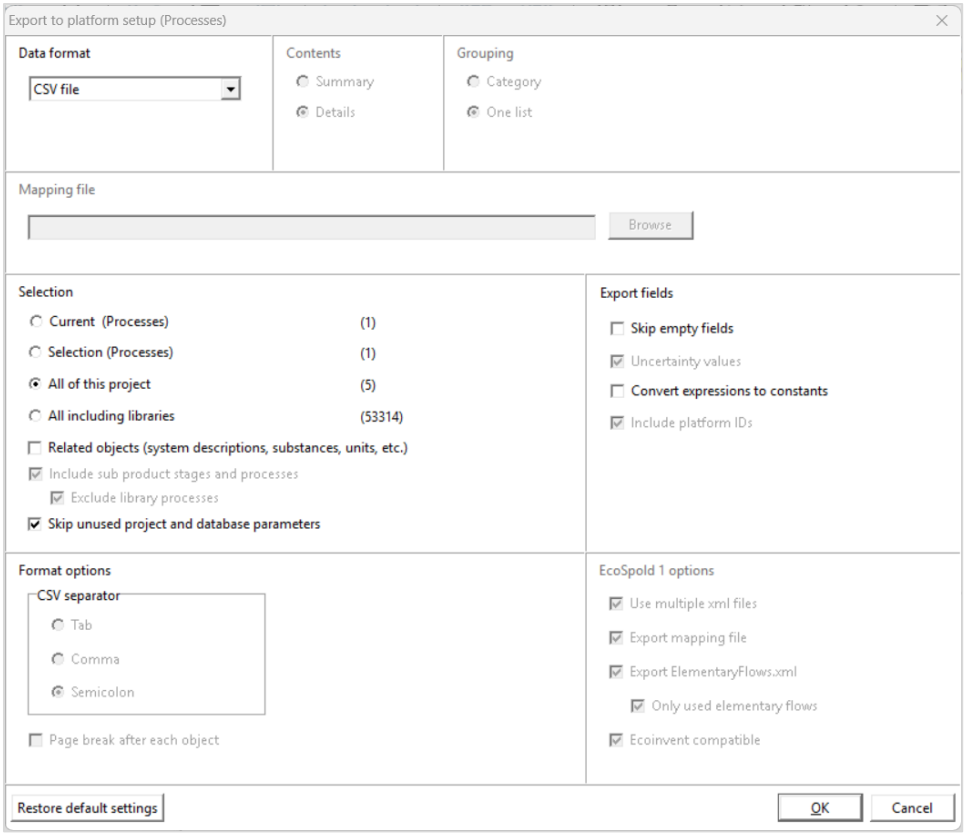


Figure 13: Model export from SimaPro Craft

4. Select the option that matches your export preference: *'Current (Processes)'*, *'Selection (Processes)'*, or *'All from this project'*.
5. Click *'OK'*.
6. Enter the file name and select where you want to save the file and click *'Save'*.

Things to keep in mind

- Import file size should be under 150 Mb.
- Remember to deselect the related objects if you have a large project.
- The model should contain less than 750 processes.
- This export setting will not include libraries, but when you upload your model, it will be automatically linked to the respective libraries, if the matching process can be found.
- Product stages related to disassembly, disposal scenarios and reuse are **not supported** on the SimaPro Synergy (as well as waste scenarios). They will be imported but will not be correctly linked in your model and will require manual rework.
- For more tips on making a smooth transition from the SimaPro Craft to the SimaPro Synergy, have a look at this article.

2.4.2 Importing a model to SimaPro Synergy

After creating the .CSV file of your model, you need to import it into SimaPro Synergy. To do that:

1. Go to synergy.simapro.com and login.
2. On the sidebar, select either *'Models'* or *'Primary data libraries´* tab (depending on the type of data you are importing).
3. Click on a button *'Create new model'* (see section 2.2.1) or *'Create new primary data library'* (see section 2.1.1).
4. From the *'Dashboard'*, go to *'Selected library sources'*, by clicking on *'Edit'*. Select all relevant secondary data libraries that were used in the SimaPro Craft model or library you want to import.

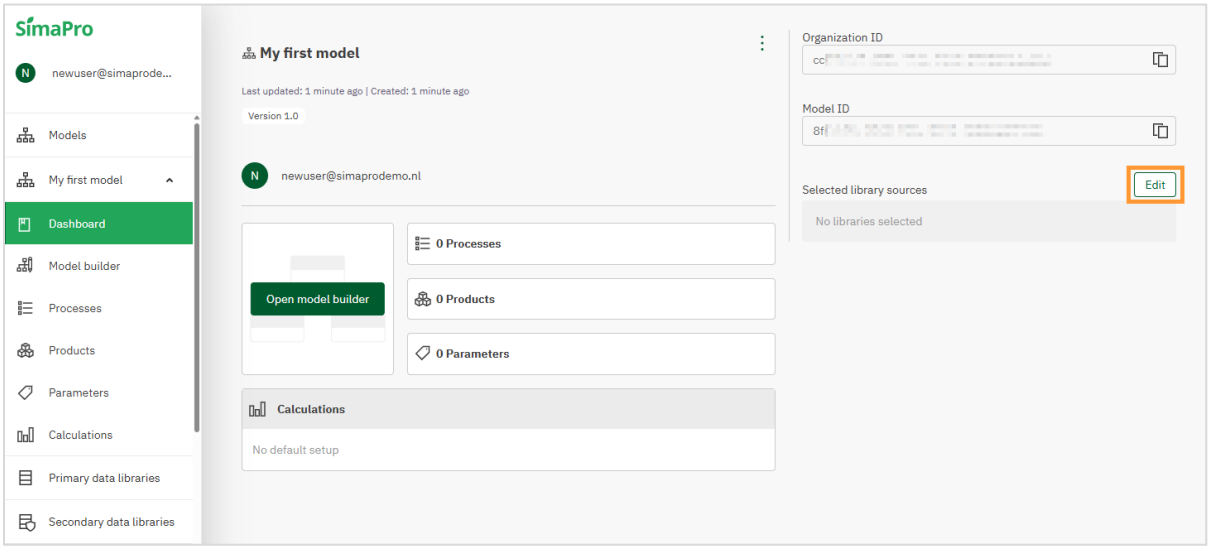
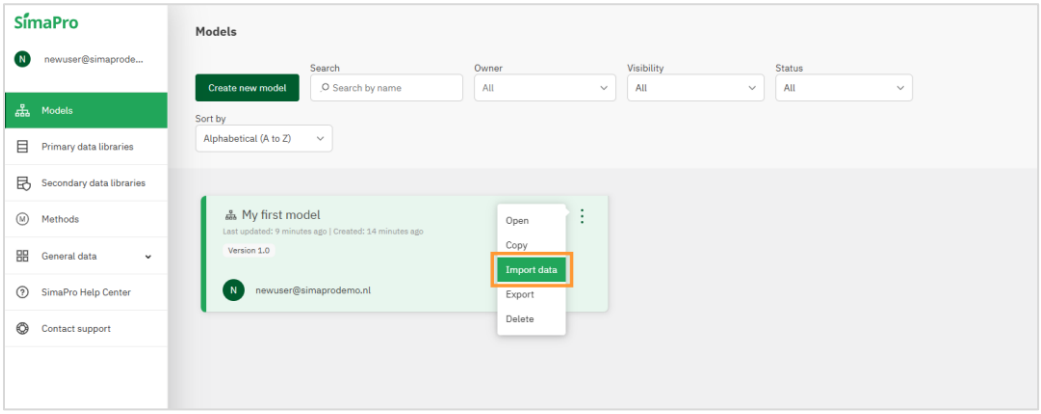


Figure 14: Selecting data libraries

5. Next, click the ellipsis icon ⋮ next to the primary data library or model's name and click *'Import data'*. You can find this button on the dashboard, on the *'Models'* list or *'Primary data libraries'* page.



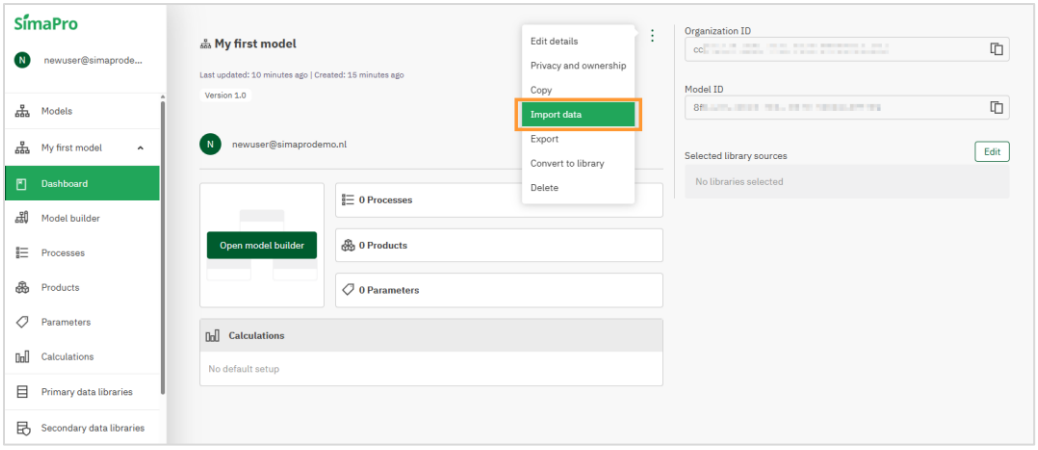


Figure 15: Model import

6. A pop-up window will appear, prompting you to select the relevant file.
7. Once the file is selected, you need to choose one of the import options:

- Professional 9.4 – ensures substances are mapped based on naming convention in the SimaPro Professional 9.4 database (with ecoinvent 3.8)
- SimaPro EF 3.1 – ensures substances are mapped based on naming convention in the SimaPro Environment Footprint 3.1 database. Choose this option when doing PEF modelling or if the data originated from a SimaPro Craft database using the EF 3.1 libraries;
- Professional 9.5 – ensures substances are mapped based on naming convention in the SimaPro Professional 9.5 database (with ecoinvent 3.9.1);
- Professional 9.6 – ensures substances are mapped based on naming convention in the SimaPro Professional 9.6 database – choose this option when importing data modelled using the SimaPro Professional 9.6 database (with ecoinvent 3.10);
- SimaPro ecoinvent 3.10 EN15804 – ensures substances are mapped based on naming convention in the SimaPro EN 15804 +A2 database.

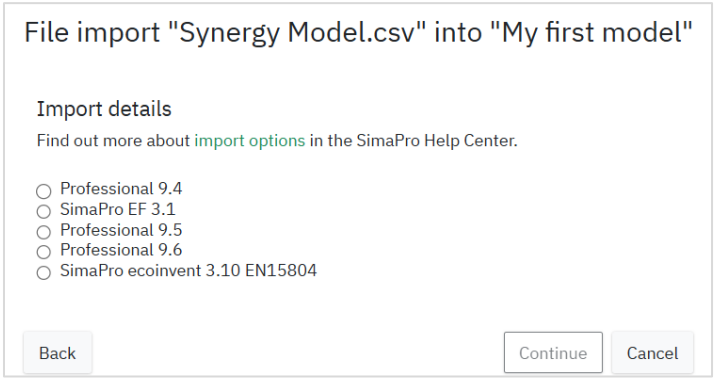


Figure 16: Import options

8. Once an import option is selected, click on *'Continue'.* The upload will be processed, and an import overview will be generated. Click *'Continue'.*

Please note! It is also possible to import data into an existing model / primary data library. In such a case, you need to select a model / primary data library and continue with importing data.

3 Dashboard

The dashboard provides an overview of a model/primary data library/secondary data library. It includes the details and links to other pages (additional settings, processes, products, parameters, calculations, selected library sources).

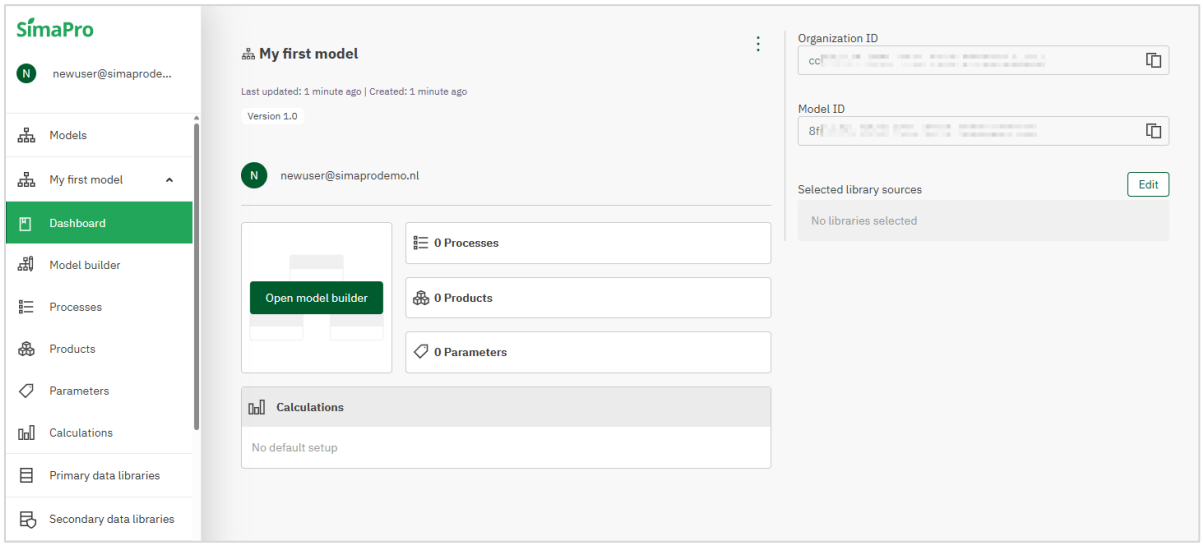


Figure 17: Dashboard

3.1 Additional settings of the model

You can access the model's additional settings through the 'Dashboard' or the 'Models' page by clicking the ellipsis icon ⋮. The following features are available:

- Edit details
- Privacy and ownership
- Copy
- Import data
- Export
- Convert to library
- Delete

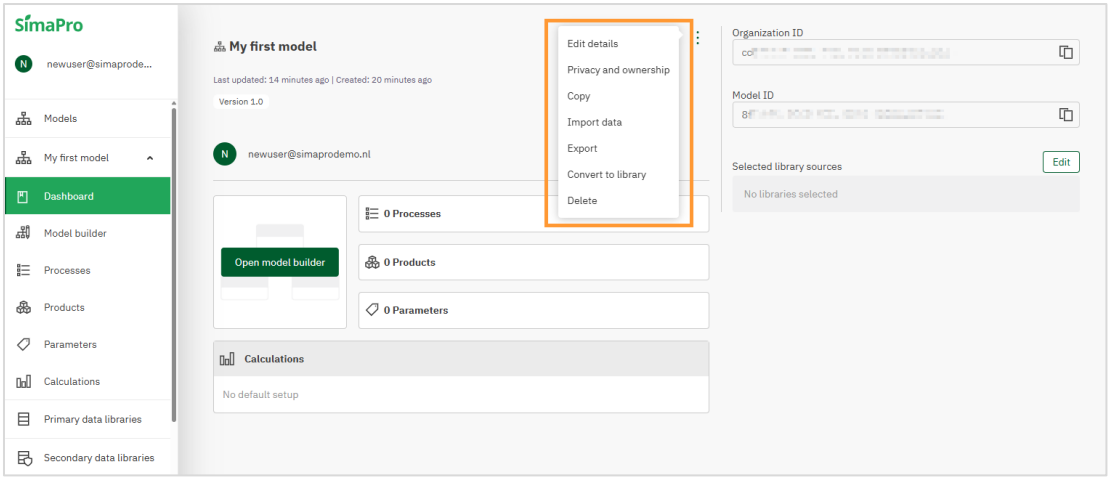


Figure 18: Additional settings menu

Privacy and ownership tab

If there are multiple users in the organization, you can protect your data by using the following features:

- **Lock model -** You can lock a model/primary data library that you have been working on, so that it is not possible to apply changes. This is permanent until you, as the model/library owner, unlock it.
- **Hide model** - You can do the same with hiding a model, so other users do not see the model. This is permanent until you, as the model owner, unhide it.
- **Owner -** You can transfer model/primary data library ownership to another user in the same organization.

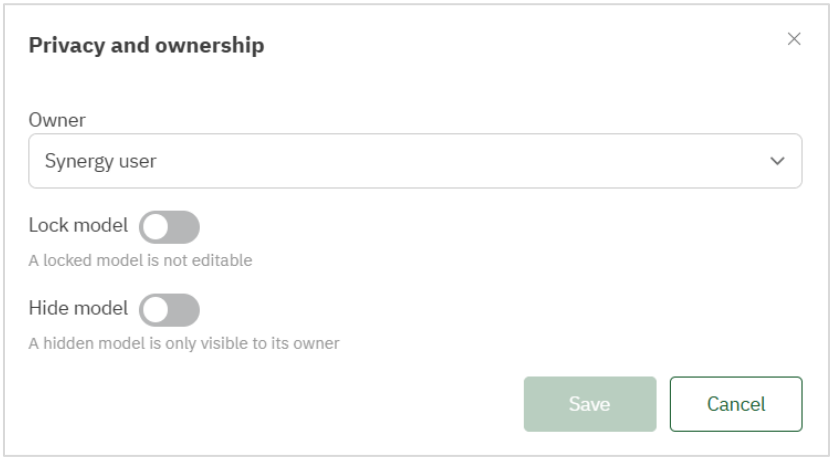


Figure 19: Privacy and ownership settings

4 Model builder

The Model builder is a feature that allows users to visualize and modify their processes and products flows using a tree representation. Users can view and update process details through the side panel, expand or collapse parts of the model, reorder processes on the same level, drag to form connections between the processes, and use a few keyboard shortcuts for faster modelling.

Modelling in the Model builder vs Processes list

There are two ways to model a process on the SimaPro Synergy; through the *Model builder* and the *Processes* page. These two modelling approaches are distinct but can be used in parallel.

The advantages of using the Model builder are:

- Creating a visual scheme of the model.
- Keeping an overview of what has been modelled and the relationship between processes.
- Easily creating, connecting, modifying, and deleting processes.

For more information, please refer to the Model builder in SimaPro Synergy | User guide.

5 Processes

The *Processes* page shows all the different processes which are being used in the model. It has two overarching tabs *Processes* and *Library processes used.*

The *Processes* page shows the processes created in this specific model.

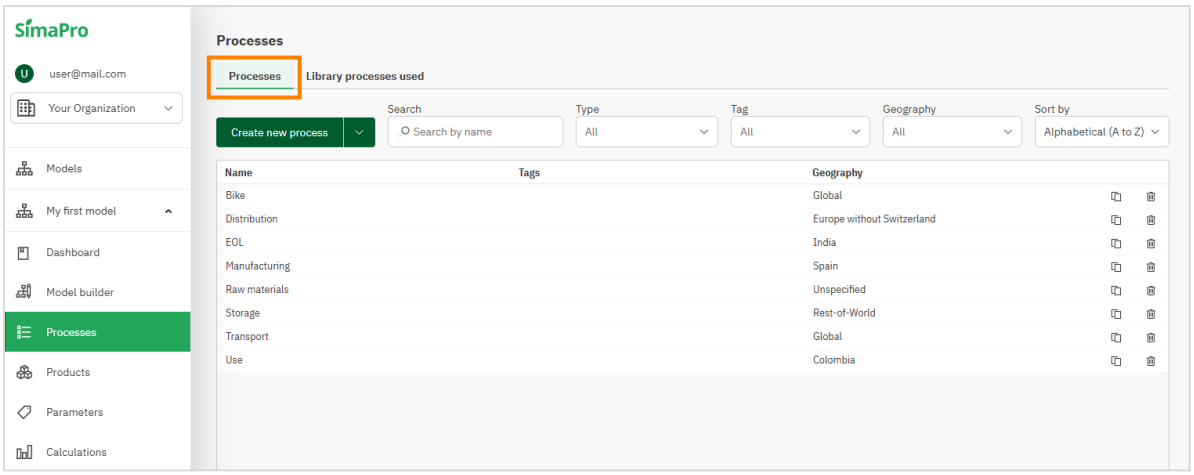


Figure 20: Processes tab

5.1.1 Creating a process

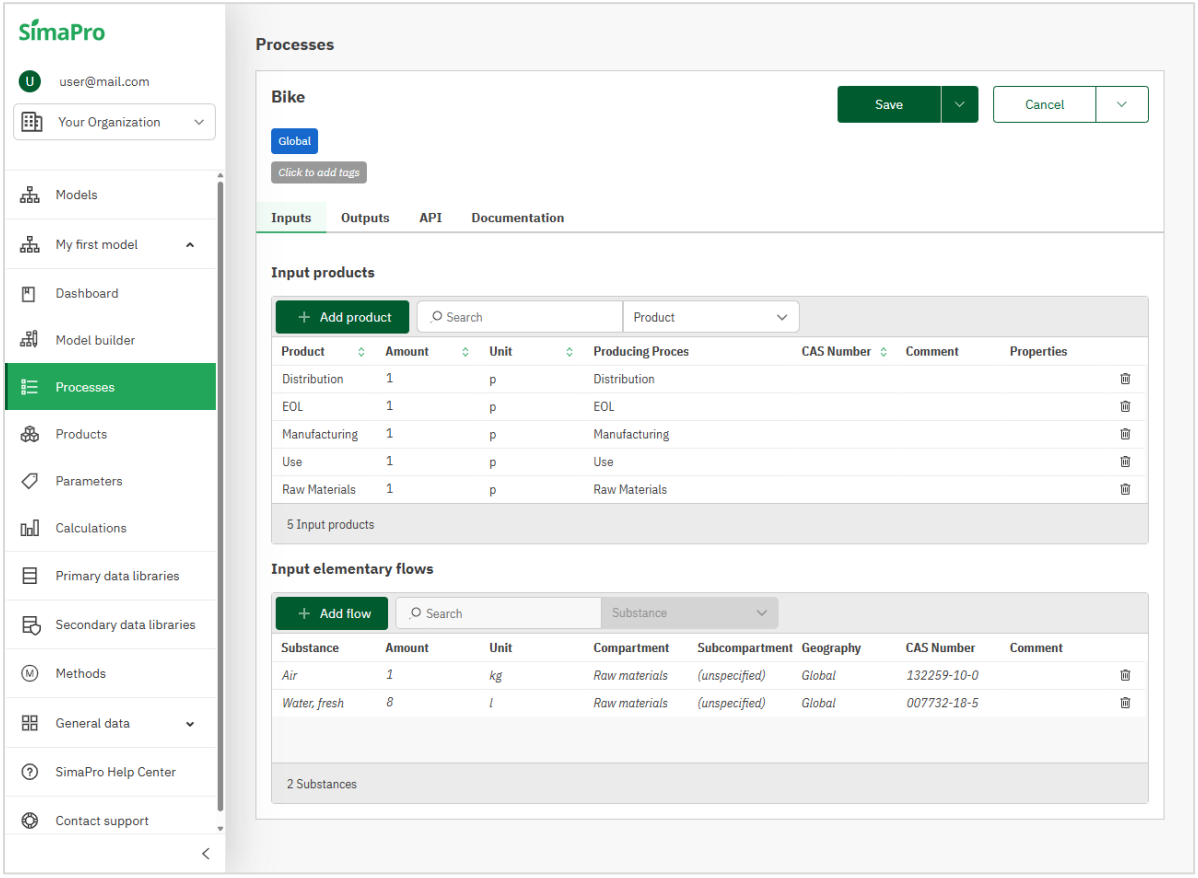


Figure 21: Process form

To create a new process through the processes list:

1. On the *'Processes'* form page, click on *'Create new process'*.
2. The new process is created and redirects you to the process form.
3. Give it a *Name* and select the *Geography,* or add a *tag (optional).*

There are several tabs on the form:

Inputs – defining input products

1. Click on *'+ Add product'*.
2. Start typing the name for the product input you want to connect to.
3. If the product already exists it will be listed, choose the correct product.
4. Fill in the amount and unit.
5. In the drop-down below *'Producing Process',* scroll to find the process you are looking for and select by clicking on the combination of the producing process and geography.
6. Click *'Save'*.

Outputs – defining output products

1. Click on *'+ Add product'*. You can choose to create a new product or use one from a library. When creating a new product, you can, for simplicity, use the process name.
2. Select the product or type to create a new product
3. Fill in the amount (also quantity, only if it is a new product).
4. Adjust the allocation, in case you have more than one product allocation percentages must add up to 100%.
5. Click *'Save'*.

Elementary flows can be added in a similar way as inputs or outputs under the *Input(or Output) elementary flows* section, clicking on *'+ Add flow'*.

API – enable API inputs

See section 9.

Documentation – note all the relevant process details

You can use the Documentation tab to write notes or leave comments related to this process.

> **Process Tip!**
>
> In all the Amount and Allocation percentage fields, a parameter can be created or used. See section 7 for more information.

5.1.2 Copying a process from a library

To copy an existing process from a library through the processes list:

1. On the *Processes* page, click on the *'chevron icon'*  next to *'Create new process'*.

2. Click on *'Create from library process'.*
3. Select a library. The libraries displayed are the selected library sources.
4. Select a process.
5. Click on *'Create process'*.

5.1.3 Reviewing library process used

In the '*Library processes used'* tab, you can see which primary and secondary library processes are used as inputs of the current model.

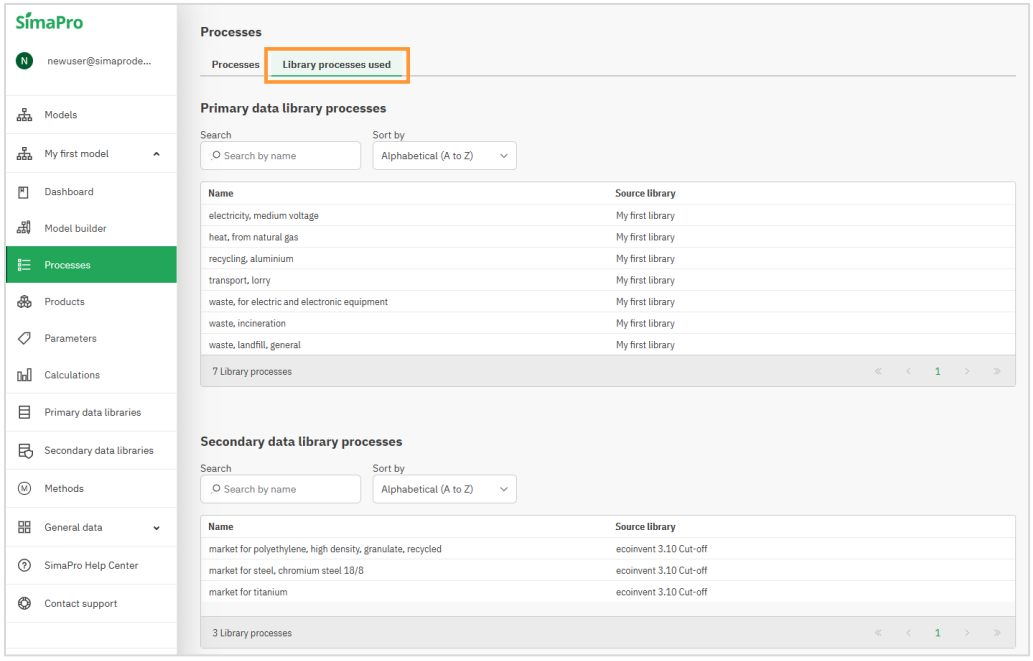


Figure 22: Library processes used

Filtering Tip!

On the various SimaPro Synergy pages, you can use the filtering options. Depending on the page, you can filter processes by Name, Type, Geography, or Tag. When available, you can filter for any of these options:

1. Click on the filtering option (*'Search', 'Type', 'Tag', 'Geography'*).
2. Enter a value (write a part of the process name, for example) and click *'Apply'.*

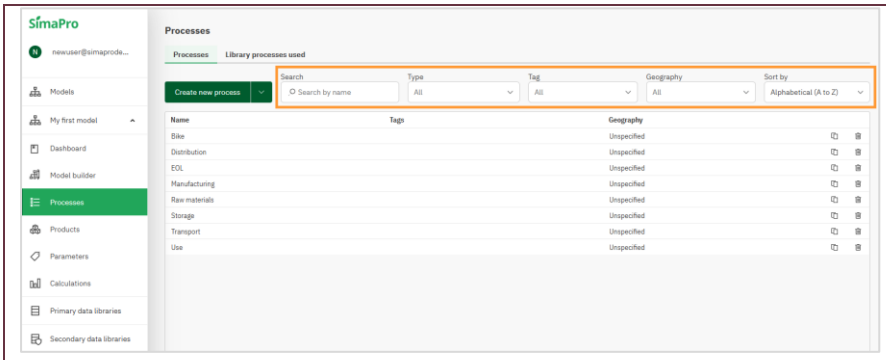


Figure 23: Filtering options

6 Products

The products in SimaPro Synergy are used as the outputs of each process, and where the results of the processes or the model are allocated. Every process can have one or more products in its output tab, and each product can have one or more producing processes. Whenever you create a producing process on the Model builder an output product with the same name is created.

On the *'Products'* list, it is possible to create, review, and edit products.

Products Tip!

On the *'Products'* page, you can view and access the processes that are currently using each product by clicking on *'Used by'*. It will display a pop-up with the list of processes.

6.1.1 Creating a product

Products are automatically created using the *'Model builder'* and can be created on the *'Output'* tab of a Process (see section 5.1.1). To create a new product through the *'Products'* list:

1. On the *'Products'* page, click on *'Create new product'*.
2. Give it a *'Name'*.
3. Select the *'Quantity'*, and the *'Default unit'*. Optionally, add *'CAS number'* or *'Comment'*.
4. Click on *'Create'*.

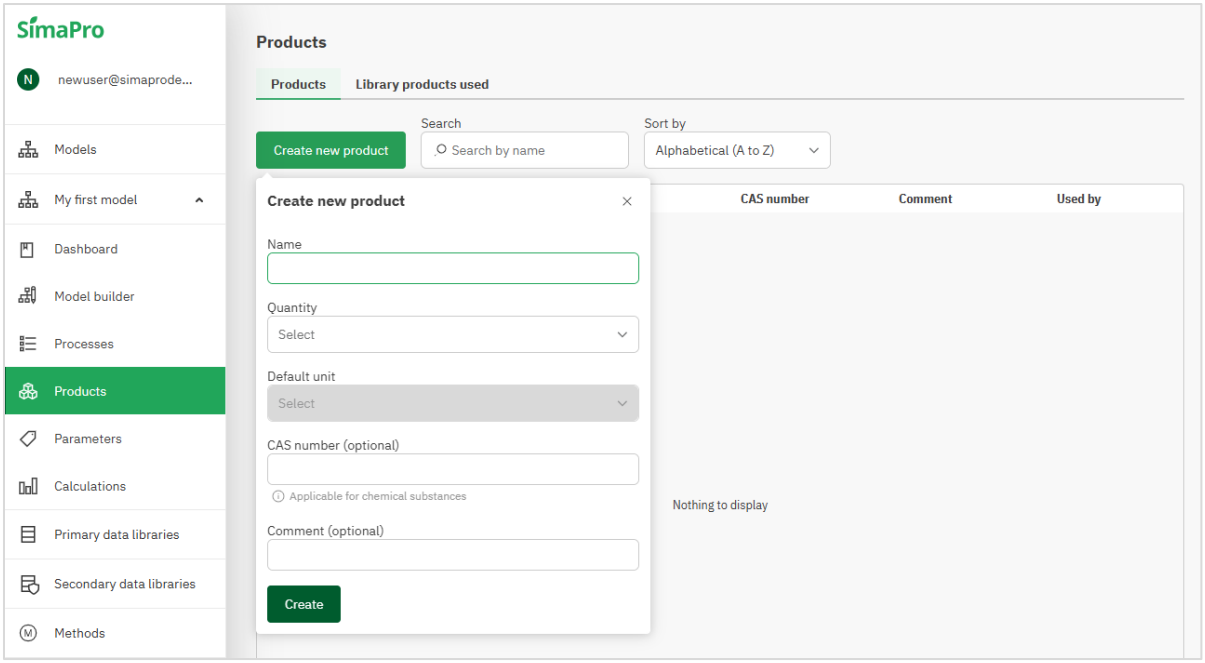


Figure 24. Create a new product

For a product to be considered in a model or calculation, it has to be added as an output for a process. When creating a new product through the *'Products'* page, no process is automatically assigned.

6.1.2 Reviewing library products used

In *'Library products used'* you can see which library products are used by processes in the current model, and from which library they are from (either Primary data library or Secondary data library).

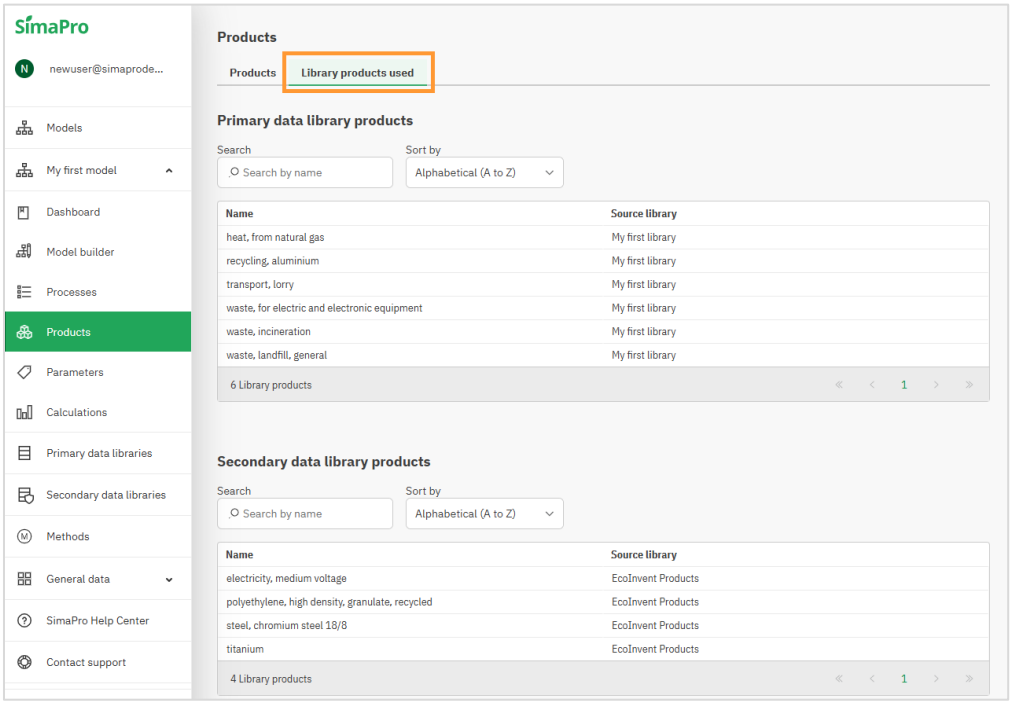


Figure 25: Library products used

7 Parameters

Parameter modifications can be widely utilized when creating a model. Parameterizing a model allows flexibility when creating a configurable LCA model.

There are multiple fields throughout the application that accept parameter inputs. All created parameters are listed on the *'Parameters'* list and can be edited there.

To create a parameter from the *Parameters* page:

1. Go to the '*Parameters'* list.
2. Click on *'Create new parameter'*.
3. Then, the parameter will be added to the list.
4. Here, you can change the *name*, add an *expression*, and/or a *comment* (optional).

Parameter Tips!

Tip 1: The comment field is good to use for keeping track of the unit of the parameter.

Tip 2: When editing a process, you can also fill in the name of a new parameter and the default value will again be 1 until it is edited in the parameter page.

The *'Parameters'* page has the following features:

- *'Expression'* defines how the parameter is calculated. If you enter a number, then it will be the parameter's value (see below), but you can also enter a calculation formula.

Allowed expressions

When creating a parameter or writing a value in any of the quantified fields, such as 'Amount', 'Allocation percentage' etc., there are some expressions which are allowed. These expressions are:

- Plus (+), minus (-), division (/), modulo (%), multiplication (*), power (^).
- Equal (=), unequal (<>).
- Smaller than (<), smaller or equal to (<=), larger than (>), larger or equal to (>=).
- Scientific notation (2.3E-7).
- IF statements (2 IF Parameter1 == 4 ELSE 1).
- AND statements (2 IF(Parameter1 == 4 AND parameter2 == 2) ELSE 5).
- OR statements (2 IF(Parameter1 == 4 OR parameter2 == 2) ELSE 5).
- MAX and MIN functions (MAX(2;5)), (MIN(2;5)).

  Note! For more than 2 arguments, please adapt the function to (MAX(1;MAX(2;5))), (MIN(1;MIN(2;5)))
- Parentheses for resolving sub expressions (2*(4-3)).

Tip! If you change the name of the parameter on the Parameters page, the name of the parameter will be changed in all the fields in which it is used throughout the application.

- *'Value'* field shows the value which will be used for further calculations, this is especially useful when you create a large expression using other parameters or complex formulas.
- *'Used by'* shows if and where the parameter has been used in your model.
- *'Configurable parameter'* toggle allows the parameter to be modified using the API products (see section 0).
- Finally, if you would like to delete a parameter, click on the waste bin symbol .

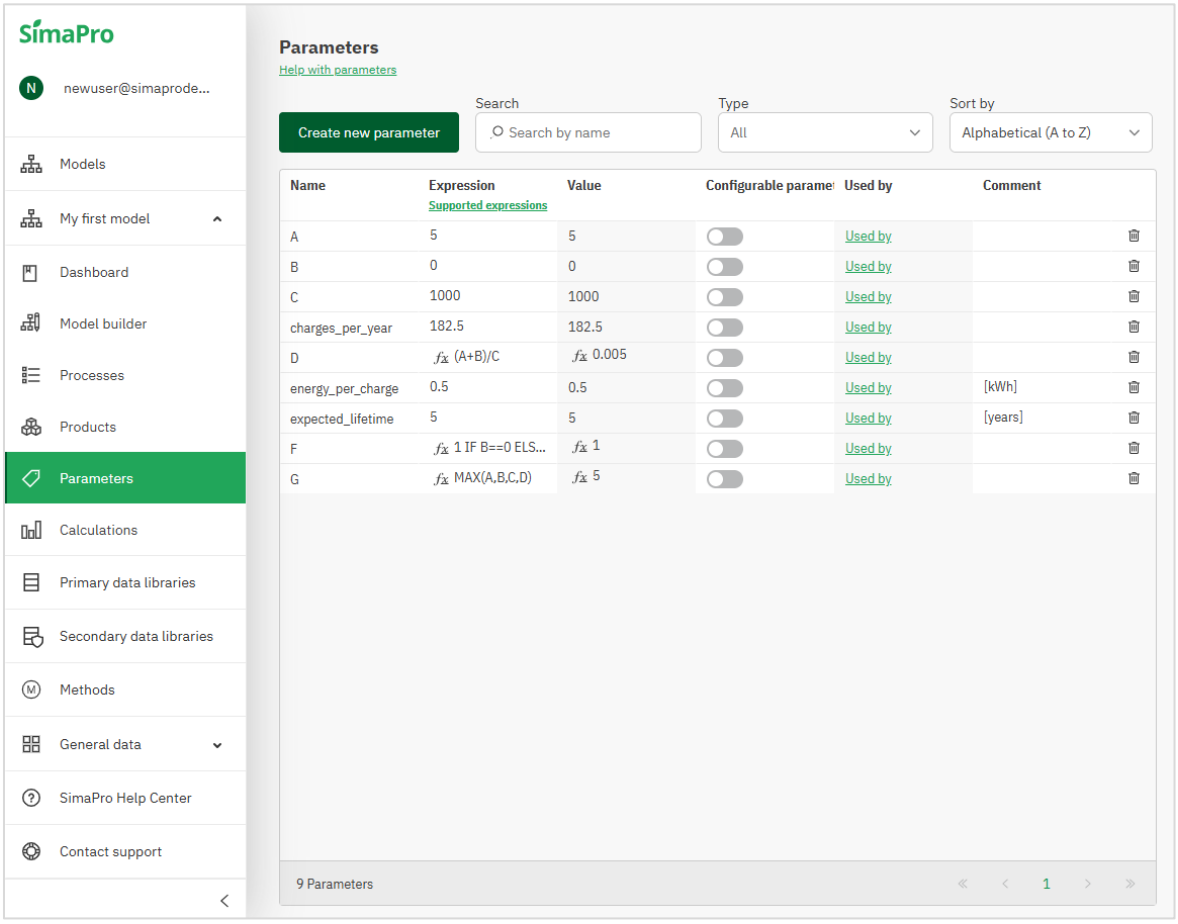


Figure 26: Parameters

A parameter can be used in any value field throughout the application. To call a parameter in a value field:

1. Type the exact parameter name in value field.
2. When you click out of the field, you can recognize the parametrized field by the sign fx.

8 Calculations

Once you have finalized your model, you can proceed with calculating the LCA results.

8.1 Configuring the calculation setup

You can access *'Calculations'* page from the sidebar or by clicking on *'Calculations'* on the *'Dashboard'* page.

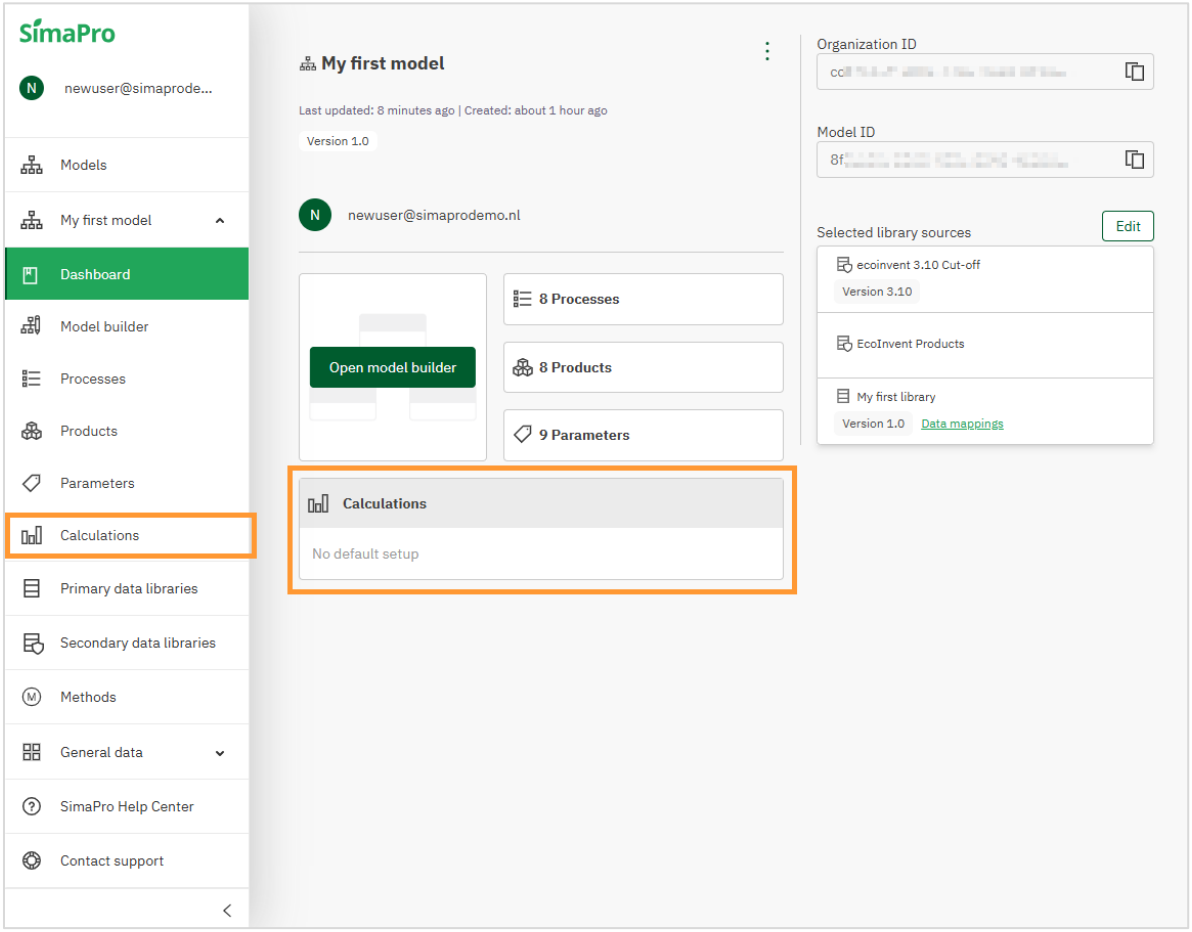


Figure 27: Setting up the calculations

Define the following fields:

- **The top process** – Select the top process for your calculation.
- **The product** – If your process has more than one product, select one of them.
- **The amount** – Set the amount for your calculation.
- **The unit** – Select one of the units corresponding to the quantity of your product.
- **The impact assessment method** - See an overview of the available methods here.
- **The normalization set** – If applicable, select one of the available normalization sets.
- **The weighting set** – If applicable, select one of the available normalization sets.

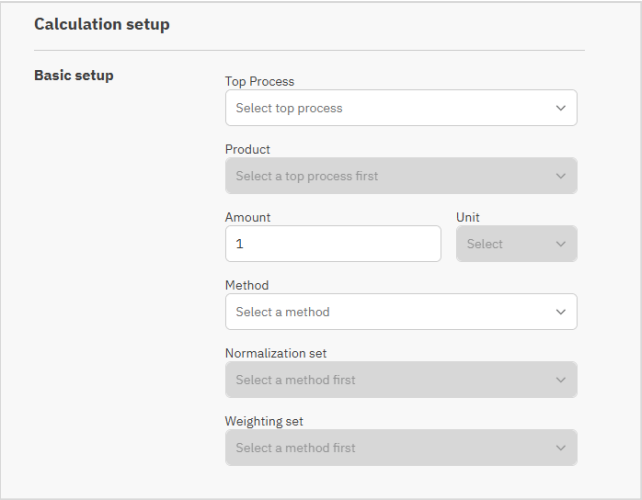


Figure 28. Basic calculation setup

Save a default calculation setup. It is possible to update the default calculation setup as frequently as necessary.

8.2 Analysis groups

If you want to display the results according to a certain group of processes or geography, you can use analysis groups to make sets of processes for which the results will be calculated.

To set up analysis groups in a calculation:

1. Select your model and go to the '*Calculations Set up'* page.
2. Define the calculation setup fields, as described in the section 8.1. (top process, product, etc.).
3. When the calculation setup is finished, you can create analysis groups by clicking on the *+ Add analysis group*. Then this screen will show:

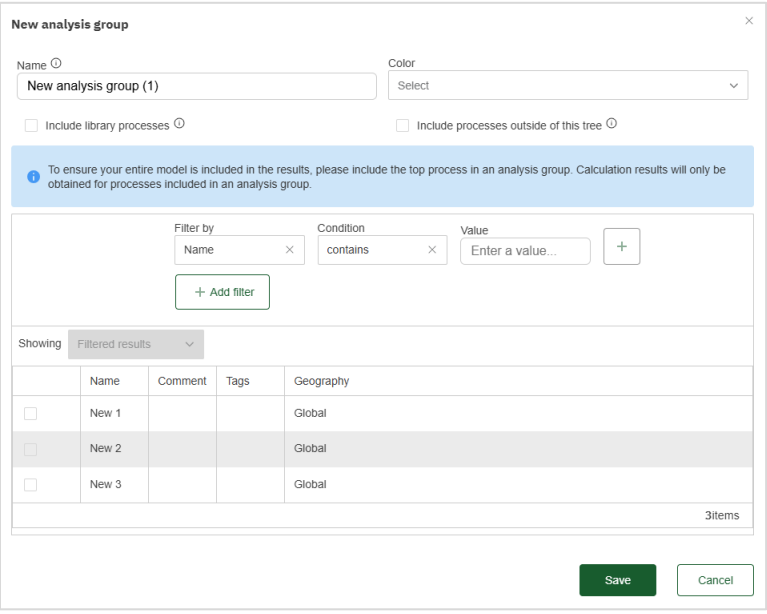


Figure 29: Creating an analysis group

4. There are four parts to the creation of analysis groups:

    - Naming the group and choosing a color

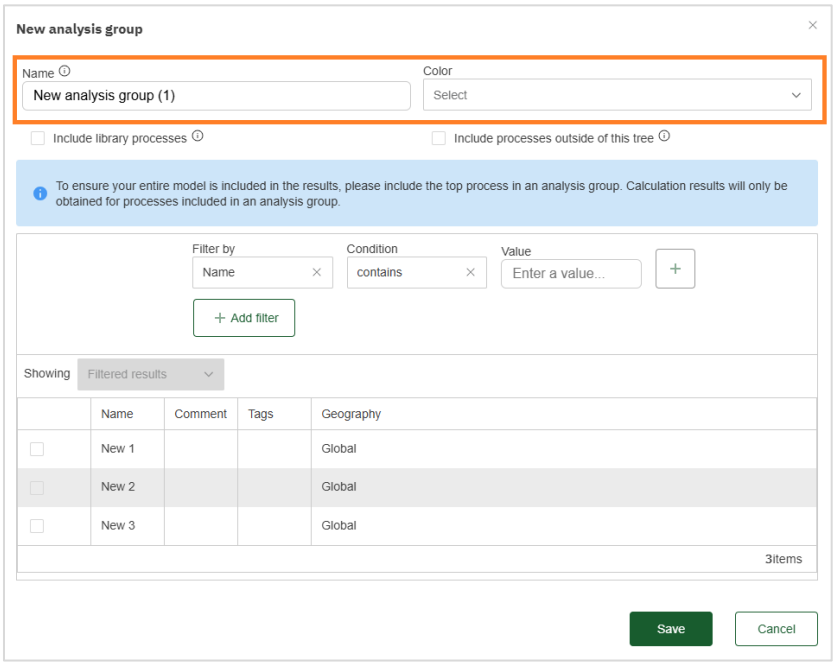


Figure 30: Configuring a new analysis group

    - Including library processes and including processes outside of this tree

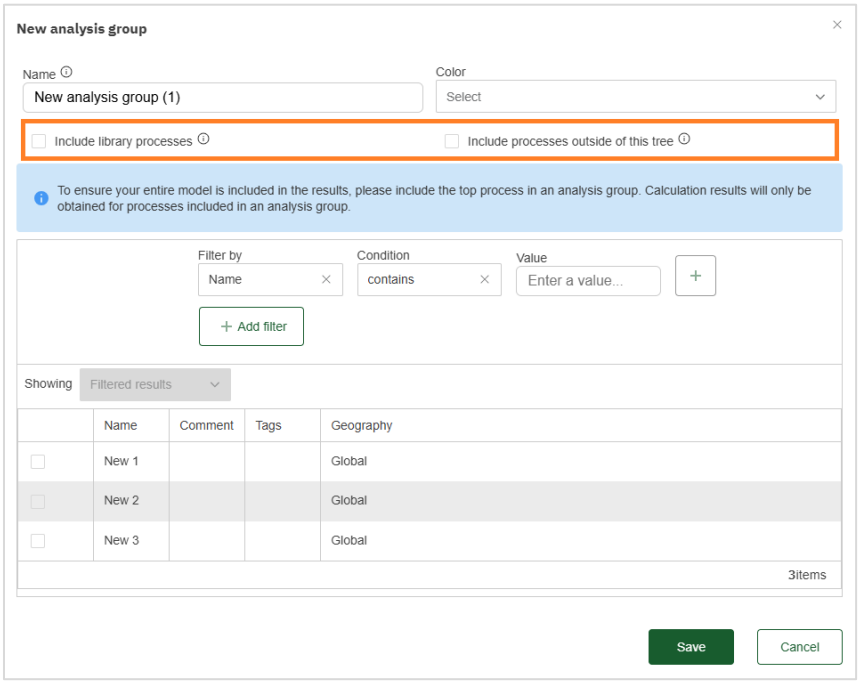


Figure 31: Analysis groups settings

- *Include library processes* - refers to if the library processes will be shown in the process list below or not.

- *Include processes outside of this tree* - refers to whether the processes which are not connected to the top process will be shown in the search list below or not. This option can be useful if you want to include a process (which is not connected to a top process you selected) in an analysis group. Later on, you will be able to use this process when using API .

- Filtering section: Here you can filter the search list by name, tags or geography.

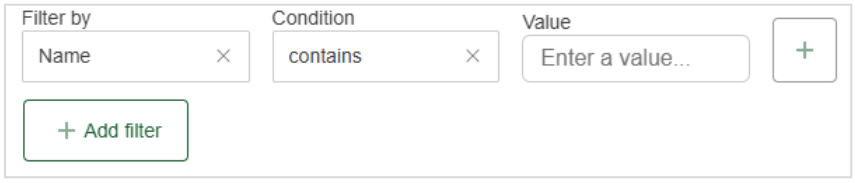


Figure 32: Filtering processes

- Search list: Here you can select the processes you want to include in the current group, as well as see if the process is already included in another group.

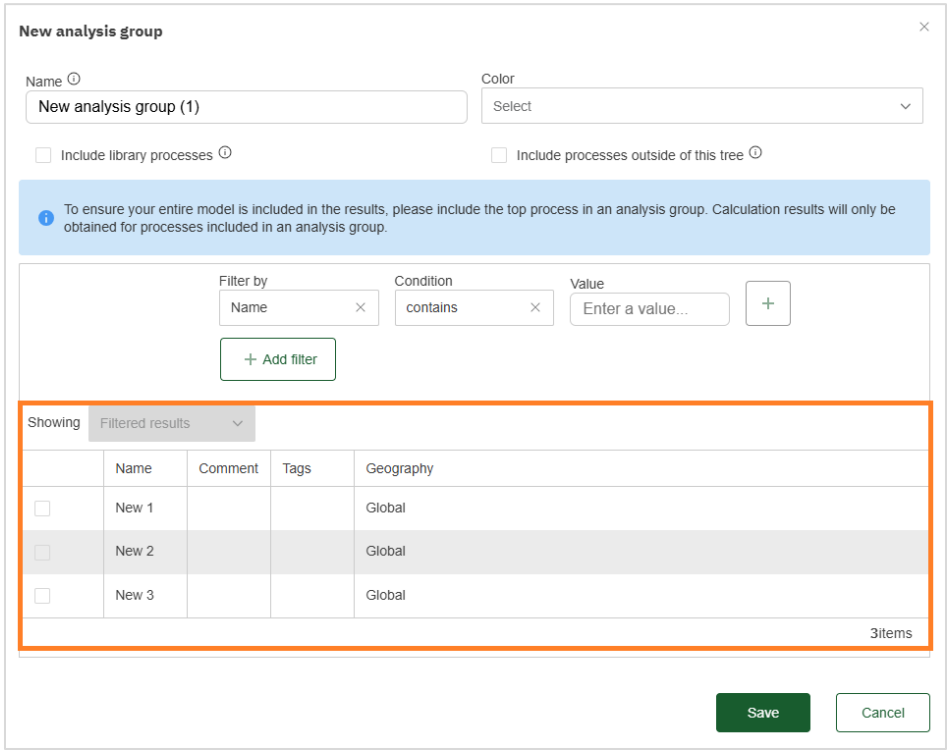


Figure 33: Including processes in analysis groups

5. When you have created a few groups by using the filters and the search list, you can *'Save'* a calculation setup as default if you wish and click *'Calculate'*.
6. In the *'Impact assessment'* tab, you will see calculation results with the process contribution per analysis group.

Analysis group Tip!

Tip!: If you wish to modify existing analysis groups, you can do it by adding new analysis groups, editing the existing ones, or deleting analysis groups.

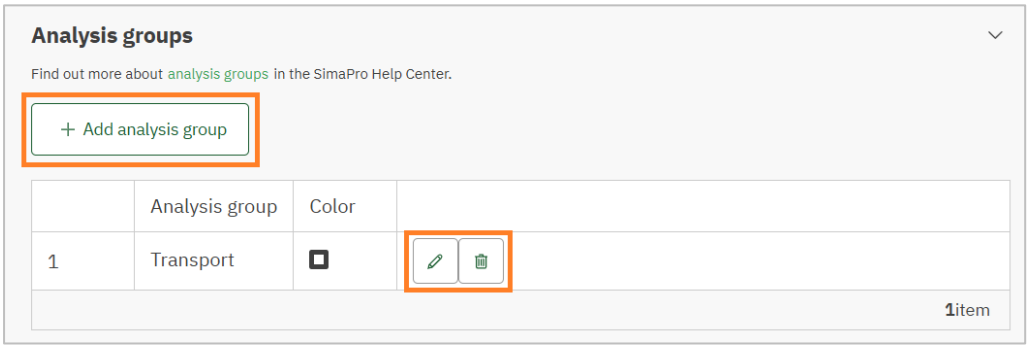


Figure 34: Modifying analysis groups

8.3 Advanced options

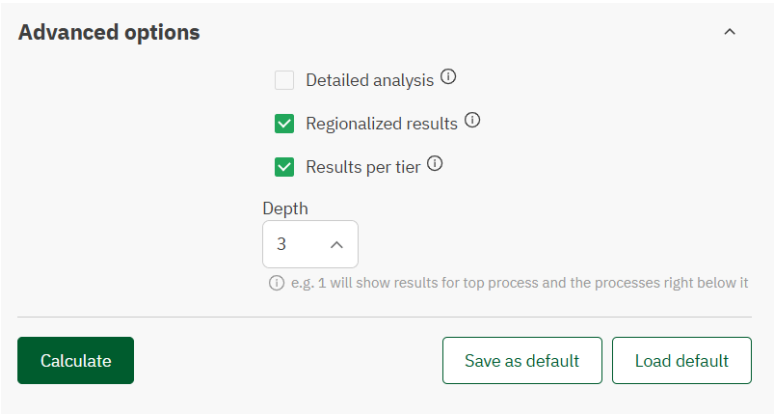


Figure 35. Calculations advanced options

Detailed analysis – Use this option to see the process contribution of all the library processes used in the calculation. The calculation will take longer to complete.

Regionalized results – Use this option to get regionalized results when using a regionalized method (containing regionalized elementary flows). The *'Regionalized results'* option should be selected when using a regionalized method (AWARE, IMPACT World+ Endpoint, Environmental Footprint 3.1, for example).

Results per tier – In the *'Depth'* field, you can decide how detailed you want your results to be shown. When calculating tier zero, you see the impact assessment results of a final product. When calculating tier 1, you see the contribution of the first level of input products. With tier 2 and onwards, you can analyze even deeper into background processes. Give it a try and compare the results to grasp the idea.

8.4 Calculation results

After calculating the results, the *Impact Assessment* tab will open. It shows the characterized LCA results in several levels of detail, depending on the choices you made in the calculation setup.

Figure 36: Calculation results

The graph *'Cumulative process contributions per impact category, %'* shows the cumulative process contribution and the process contribution to each LCIA indicator. The graph always shows tier 1 calculation results.

The corresponding table shows the characterized results (numerical values) and the process contribution to each LCIA indicator. By default, the table shows 2 tiers, but this can be edited in Calculation setup (see *'Depth'* field).

After the calculation is done, you will see graphs and tables with the results. The results overview will vary, depending on the impact assessment method you selected. Below is a short explanation of the most important results, including damage assessment, normalization, weighting and single score. These different results each correspond to a tab on the calculation page.

- **Damage Assessment**: Aggregates impact category indicators into damage categories (e.g. human health, resources, ecosystems).
- **Normalization**: Relates impact results to a reference (e.g. regional or global averages) to understand their relative significance. After normalization, the impact category indicators all have the same unit.
- **Weighting:** Assigns relative importance to different impact categories. The impact category indicator is multiplied by the weighting factor.
- **Single Score**: Combines weighted impacts into a single value.

9 Configuring API in the user interface

Certain API configuration features in the SimaPro Synergy user interface are visible to all users; however, they are only functional when utilizing one of our API products. Without a valid subscription, users will not be able to access or utilize these API features.

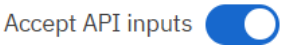
The following sections will guide you in configuring the API features in the user interface.

9.1 Allowing API inputs

A configurable model in SimaPro Synergy is a model that accepts two kinds of user inputs: parameters and processes. With the API, you can modify the value of a parameter, as well as insert additional processes into the model.

A configurable model can also have static parts that are created manually via the SimaPro Synergy user interface. These static values and processes in the model cannot be modified via the API.

You can manually enable the parts of the model that can accept API inputs:

1. Go to the '*Processes'* list page or the '*Model builder'.*
2. Click on the process you want to accept API inputs.
3. Then, go to '*API'* tab.
4. Toggle the slider to accept API inputs. 

5. Select the targeted primary data library.
6. Click *'Save'.*
7. Repeat for each configurable process.

To enable parameters to accept API inputs:

1. Go to the '*Parameters'* page.
2. Search for the parameter you want to enable.
3. Toggle the slider of that parameter to be configurable and accept API inputs. 

9.2 Data mappings

This page is related only to Configuring the primary data library. On this page, you can link a commodity that has been set up by the SimaPro Synergy API to a process from a Primary data library.

Commodities can be configured by the API request. For more information, please refer to the External Model Calculator – API user guide. The commodities will be listed on this page and will have to be mapped to a process individually (by selecting an available library process in the '*Mapped Process'* column).

Then, you can also verify the mappings that have been checked ('*Verification status'* column).

If you want to add additional details about a commodity, you can add specifications in the API request, specifications will be reflected on the '*Data mappings'* page.

Commodities can be sorted (alphabetically, by commodity number or commodity name), filtered (by specifications, mapping and verification status) and searched (by commodity number or commodity name).

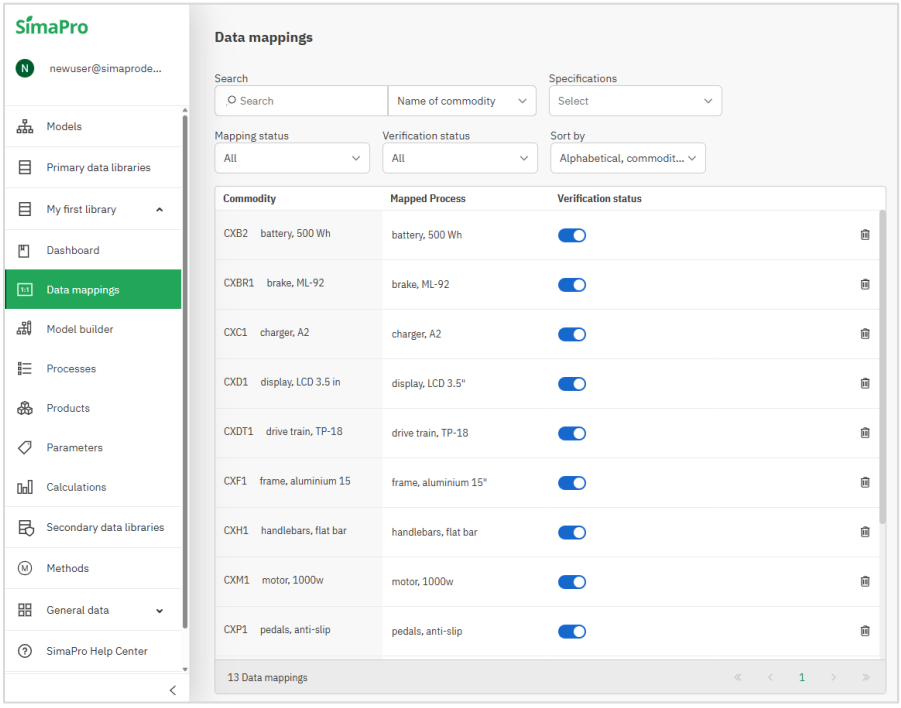


Figure 37: Data mappings page

If you copied a primary data library within the organization, you can sync the data mappings of a copied library with the data mappings of a source library. This means that the new commodities will be mapped with the corresponding processes in the new library, as they were in the source primary data library. To sync the data mappings, click on '*Sync with source'*.

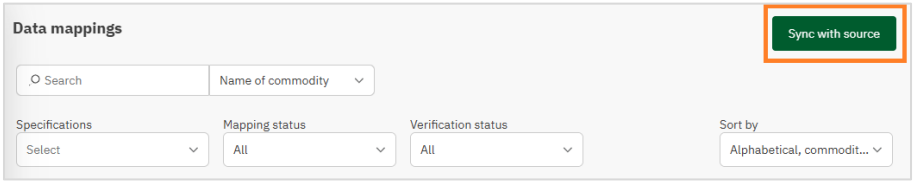


Figure 38: Syncing data mappings

Good luck and enjoy SimaPro Synergy!

For additional support, please visit the SimaPro Help Center