

SimaPro 9.3

What's new?

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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 nearly 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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1 Introduction

This document describes the changes in the SimaPro 9.3 software and database (compared to the previous release). The focus of the release has been on data and impact assessment methods - ensuring quality, consistency, and accuracy. In addition, a number of improvements and fixes have been implemented in the software.

We hope you have a smooth experience updating to SimaPro 9.3 and feel free to [reach to us](#) for feedback and further suggestions for improvements!

2 Software updates

Small improvements and bug fixes include:

- Fixed problem in the mapping of substances during CSV import
- Improved performance (speed) when appending substances
- Bug fix for font size scaling on 125% screen scaling
- For multi-user installations: Improved error message when trying to display the number of licenses used.

3 Data library changes

3.1 ecoinvent 3.8

The latest version of ecoinvent brings around 360 new and 700 updated datasets related to agriculture, bamboo, batteries, chemicals and plastics, electronics, metals, forestry and wood, transport, and electricity. It also includes the first results of the collaboration between Rede ACV and ecoinvent aiming at enhancing the coverage and accuracy of Brazilian data in the database. More details about this update can be found [here](#).

Please note we are only providing the three usual system models – with version 3.8, ecoinvent released an additional system model “allocation, cut-off, EN15804” but this will be available later as a separate download for interested users (at an additional cost).

3.2 Update of/New waste scenarios

We added new municipal waste scenarios to all ecoinvent libraries. Waste scenarios are used by product stages in SimaPro. They use the ecoinvent waste treatment processes of ecoinvent, but are not created by ecoinvent. Also note that the recycling waste treatment processes that are linked to from the scenarios were created by PRé Sustainability.

The municipal waste scenarios hold information for the recycling rates of different waste types and combine these with landfill and incineration rates for the respective countries. The scenarios

for European countries were modelled on Eurostat data and are representative for 2019. The sources and validity for other countries are mentioned in the comment field of the respective processes.

The former packaging waste scenarios have been made obsolete, but can still be used. Incineration and landfill scenarios for the respective countries model 100% incineration and landfill respectively and can be used to create your own scenarios.

4 Changes to impact assessment methods

For more details on each method, please see the comment section of the individual methods, or the methods manual in SimaPro (via Help > Data Manuals > Methods Manual).

4.1 New Methods

4.1.1 Freshwater eutrophication (Payen et al., 2021)

This is a state-of-the-art spatially differentiated impact assessment method to quantify impacts on freshwater eutrophication. The characterization factors are applicable for application to both nitrogen- and phosphorus-based diffuse emissions from soil and point emissions of nutrients to freshwater. In SimaPro, country-specific CFs were implemented.

4.1.2 LC-IMPACT

Multi-impact category method LC-IMPACT provides a global life cycle impact assessment methodology at endpoint (damage) level. It thereby addresses the three main areas of protection (human health, ecosystem quality and resources), and includes spatially differentiated information wherever necessary and feasible.

The implementation in SimaPro is based on LC-IMPACT version 1.0, retrieved from the LC-IMPACT website (<https://lc-impact.eu/>, visited 31 August, 2021). Full documentation of the method can be found on this website and in the scientific publication by Verones et al., 2020.

Eight versions of the method are implemented in SimaPro, one for each combination of the following value choices:

- Average or marginal modelling;
- Only certain impact or all impacts; and
- 100 years time horizon or infinite time horizon.

4.1.3 IPCC 2021

IPCC 2021 is the successor of the IPCC 2013 method, which was developed by the Intergovernmental Panel on Climate Change. This method is based on the final government distribution version of the **IPCC report "AR6 Climate Change 2021: The Physical Science Basis"**

The IPCC 2021 method provides different types of characterization factors, which results in six methods that quantify global warming potential (GWP) and two methods that quantify global temperature potential (GTP).

To accommodate for use with different standards, the IPCC 2021 method include versions considering CO₂ uptake and without uptake. Furthermore, for GWP there are three time horizons considered.

4.2 Updated USEtox

The latest version of the USEtox® method, the 2.12 corrective update, was implemented in SimaPro. It corresponds to the latest corrective release version USEtox, the UNEP/SETAC scientific consensus model for characterizing human toxicological and ecotoxicological impacts of chemical emissions in life cycle assessment released on 11 November 2019 at

<https://usetox.org/model/download>.

4.3 Methods updated to include new regionalized substances

We added newly-regionalized flows from the new methods to other LCIA methods. The table below provides a list of the regionalized substances included.

Raw materials	Airborne emissions	Waterborne emissions	Emissions to soil
Occupation, annual crop	Ammonia	BOD5 (Biological	Nitrogen
Occupation, forest, extensive	Nitrogen dioxide	Oxygen Demand)	Phosphorus
Occupation, forest, intensive	Nitrogen monoxide	COD (Chemical	
Occupation,	Nitrogen oxides	Oxygen Demand)	
grassland/pasture/meadow	NMVOC, non-methane	Nitrate	
Occupation, permanent crop	volatile organic	Nitrogen	
Occupation, urban	compounds	Phosphate	
Transformation, from annual crop	Sulfur dioxide	Phosphorus	
Transformation, from forest,	Sulfur oxides		
extensive	Sulfur trioxide		
Transformation, from forest,			
intensive			
Transformation, from			
grassland/pasture/meadow			
Transformation, from permanent			
crop			
Transformation, from urban			
Transformation, to annual crop			
Transformation, to forest, extensive			
Transformation, to forest, intensive			
Transformation, to			
grassland/pasture/meadow			
Transformation, to permanent crop			
Transformation, to urban			

Some of the methods were also spatially differentiated so spatially differentiated CFs for these, where applicable, were adopted:

- European
 - EF Method (adapted)
 - EF 3.0 Method (adapted)
 - EN 15804 + A2 Method
- Global
 - IMPACT World+ (midpoint and endpoint)
 - ReCiPe 2016 (all midpoint and endpoint versions)

For other methods, the new regionalized substances were added but all with the same characterization as the not region-specific substance:

- European
 - CML-IA baseline
 - CML-IA non-baseline
 - Ecological scarcity 2013
 - Environmental Prices
 - EPD (2018)
 - EPS 2015d
 - EPS 2015dx
- North American
 - BEES+
 - TRACI 2.1
- Single issue
 - Selected LCI results

4.4 Superseded

A number of methods were moved to the Superseded section and will no longer be maintained:

- EF Method (adapted): EF 3.0 Method (adapted) is its successor and should be used instead
- IPCC 2013: IPCC 2021 methods are the successors and should be used instead

5 Contact us

We hope you have a smooth experience updating to SimaPro 9.3! Please contact us or your [local partner](#) if you have questions about these changes in the SimaPro software or database, or if you have any other questions related to the update.

- Website: <https://support.simapro.com>
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