

Answers to FAQs: "Introduction to ecoinvent version 3.10" Webinar (February 9, 2024)

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Below are answers to questions that were asked during the "Introduction to ecoinvent version 3.10" webinar.

For more information about the ecoinvent database, feel free to browse ecoinvent's [Knowledge Base](#).

Question	Answer
Does the increased footprint for crude, oil, NG trickles down to downstream products such as plastics and / or petrochemicals and bulk chemicals?	With the disaggregation of the steam cracker, producing the major chemical building blocks ethylene, propylene, butadiene, BTX, and more, the increased IEA methane emission in the oil and gas production now propagate through the supply chain. There are a few aggregated LCIs remaining where the increased emissions do not propagate yet, we are actively working on replacing these. All of them are further down the supply chain (i.e. polybutadiene, polystyrene, PMMA, nylon).
What are the "pre-allocated" datasets for TDI and MDI in ecoQuery?	The datasets with then ending of ', ISOPA' in the activity name are based on the LCI published by the European trade association for producers of diisocyanates and polyols, available here . In this ecoProfile, a different background database as well as different allocation was applied than the unit process, which is available in ecoinvent as well. You can read about all the modelling details in the ecoProfile (see link above).
Are there plans to include other packaging such as beverage aluminium cans?	<p>We are continuously improving the scope and quality of the database. However, due to uncertainty factors, we cannot share information of upcoming datasets before their release.</p> <p>Please keep in mind that we do not create data on demand. In cases where specific datasets are unavailable in the database, ecoinvent can serve as a valuable foundation for creating custom datasets, such as aluminium cans.</p> <p>To get an overview of the available activities and products in the database, please refer to the Database Overview file.</p>
Is there any data regarding EV and charging column data?	For the moment being, ecoinvent covers only an average electric car. In the future we plan to increase our coverage of EV including their recharging infrastructure.

Are you able to show how to find the specific data for specific product or process in the database?

In ecoQuery, select the version of the database you want to browse and the system model you are interested in, by clicking "Switch version" on the top left of the page.

In the following pop-up windows, you will be able to select the version and the system model of your choice.

To search the database, you can use the search field and type the name of the activity/product you are looking for. You may also customize your search further, by adding one of the available filters:

- Sector: datasets are classified into sectors (defined by ecoinvent) according to their ISIC classification and their main output.
- Geography: each activity present in the ecoinvent has a geographic location.
- Activity type: activities can be ordinary transforming activity, market activity, import activity or market group.
- ISIC section: broad ISIC category to which the ISIC classification belongs.
- ISIC class: datasets are classified according to their main output. ISIC refers to the International Standard Industrial Classification of all Economic Activities (ISIC), Rev. 4 by the United Nations Statistics Division available online:
https://unstats.un.org/unsd/publication/SeriesM/serie_sm_4rev4e.pdf.

For further support in searching the database, you can refer to the database overview files which are available for download in the document & files sections of the respective data releases page. These files provide the list of all datasets available in the database for the respective system model and ecoinvent version. The database overview supports users in choosing the correct activity and product names to find the corresponding dataset in ecoQuery.

You can find further guidance in our recently launched knowledge base under: [Getting Started](#).

Can we search ecoQuery by CAS number?

The search for CAS numbers is not yet implemented in ecoQuery. For the time being, we recommend using our [Database Overview](#) for this.

Is there a plan to add more data regarding small and medium electronics components ?

We understand the importance of the electronic sector in quantifying the environmental impact of products. Therefore, we are constantly working on improving our coverage in this sector for each release of the database. Currently we do not have a specific project on this sector.

Some information is not visible in the new ecoQuery page. For example, previously users could see more detailed info about the wood datasets – dry mass, wet mass, etc. Is this somehow still available?

To find the properties of the exchanges, please follow the following steps:

1. Search in the Search for an activity field for the needed activity and go on details.
2. After selecting the Exchanges section on the left, the properties are found on the 3 dots right to the exchange.

By clicking the three dots at the right side of the exchange you can access additional information (where relevant): Classification (cut-off and CPC classification), Comment, Data Quality, Uncertainty, Production Volume, and Properties.

Since v3.10, we have also provided an Excel file for dry mass and carbon content, titled: 'Dry Mass and Carbon Content Properties v3.10', which can be found in the '[Files](#)' section at the top right in ecoQuery.

Is it possible to access the undefined datasets prior to allocation in ecoQuery like in previous versions?

Undefined datasets will soon be fully integrated into our currently overhauled [ecoQuery](#). In the meantime, you can download undefined datasets in PDF format from the "Export" tab of the respective datasets.

For additional information about the updates, please download our [step-by-step guide](#).

Can you go into more detail on the wind turbines for Germany? It was briefly mentioned.

For this update, we have introduced a small-scale wind turbine dataset for Germany. This addition aims to provide more detailed and specific data for smaller wind turbine systems, complementing the existing datasets for larger-scale turbines. You can find more detailed information about this new dataset by accessing the documentation provided in [ecoQuery](#) or by accessing the source directly.

When is the next update of the electricity model planned for?

Theecoinvent team typically updates the electricity mixes annually to ensure that they reflect the latest available data and developments in the energy sector. You can find the reference years for each update on the [electricity page](#) of our knowledge base. The team works continuously to enhance the accuracy and relevance of the electricity models and technologies.

For electricity – is eGrid referring to the US EPA eGrid database? Is this used for the US electricity grid mix? Are there any plans to incorporate the eGrid regions for the US instead of the FERC regions?

Yes, we do refer to the US EPA eGrid database for electricity data. However, currently, we do not have any plans to incorporate eGrid regions for the US electricity grid mix.

Does the NORDEL electricity mix not exist anymore? Cannot find it in Ecoinvent.org v.3.10.

Correct, the NORDEL electricity mix is not included in the latest version (v3.10) of the ecoinvent database. The grids that were formerly part of the NORDEL network have been integrated into ENTSO-E, the European Network of Transmission System Operators. Therefore, the NORDEL association no longer exists.

I expected the Chinese electricity mix to have more renewables after your great update with 2022 data. What sources did you use? It is not so much difference from 2014 in v.3.9?

The ecoinvent electricity mixes are based on the latest available data sources. For China, the sources used for the electricity mix updates include official statistics. These updates aim to reflect the most current situation and developments in the energy sector.

Are the FLAG values only available for agricultural products or also for forestry products?

Currently, the FLAG emissions are only provided for the main agricultural products, forestry products and allocatable by-products of agricultural production are not included.

Are the FLAG factors only available in version 3.10? Are the factors shown separately for CO₂ (fossil), Land Use Change, Land Management CO₂ /non CO₂)?

ecoinvent provides a file with the FLAG emissions for v3.10, there is no plan of providing a mapping to earlier versions. The emissions are shown for CO₂, N₂O and CH₄. The three different types of emission are related to activities of clear cutting. The provided excel file only assesses land use change, not land management. Land management, e.g. direct N₂O emissions, are included directly in the dataset in the elementary exchanges. We are working on improving user comfort for reporting FLAG emissions.

How do you store your data internally? Are there any plans to make data available in formats other than ecoSpold/XML and spreadsheet? e.g. a SQL database backup file

ecoinvent data is stored in database servers. ecoinvent currently does not offer an API access to the database. Software products integrate the ecoinvent database through the ecoSpold files or the LCIA and LCI excel matrices published on our online portal [ecoQuery](#). The ecoinvent database is updated on an annual basis, so software providers usually also update their data once a year.

Are all datasets in ecoinvent in ILCD format? what's the difference between the data in ecoquery vs. the EF node?

ecoinvent was part of a consortium setting up datasets within the frame of the Product Environmental Footprint (PEF) project. Not all datasets created for this project were included in the ecoinvent database. The data can be accessed on the [ecoinvent node](#), please note the restrictions of use reported in the homepage. Please note that we do not recommend users to mix processes based on different methodologies (e.g. processes created for PEF and processes included in the cut-off system model of ecoinvent). ecoinvent datasets are published in ecoSpold02 format, not ILCD as the EF data.

Could you give insights into your data quality assurance process?

To understand how a data collection project usually works in ecoinvent, you can visit the related [webpage](#). In there, you can also find a link to our data quality guidelines, where we report the minimum quality to which a data can be accepted in ecoinvent. Furthermore, once a dataset enters the process of data integration, we have a series of internal and external loops where experts check the data and ask questions to the data provider to ensure the solidity and correctness of the data.

Could you provide the version matching for datasets between v3.9.1 and v.3.10?

Please find the correspondence file for versions 3.9.1 and 3.10 of the ecoinvent database from [here](#), under the header "Correspondence File".

Processes called "market for XXXX" include production from cradle? For instance, market for electricity includes production of the electricity, or just only distribution?

In the ecoinvent system models, individual unit processes (UPRs) are linked to each other to create supply chains. The life cycle impacts of the product are calculated across the entire supply chain. This is therefore also done for market activities. Market datasets transfer the product output of one or more producing (transforming) activities to activities that consume it as an input, e.g., from hard coal at the supplier to hard coal at the consumer. Although the market activities do not transform the products they transfer, they still carry the burdens of the supply chain of the product. In addition, market activities can account for transport and losses of the product. Hence, the boundaries of market activities are from cradle to consumer gate.

If you are interested in the modeling of the electricity sector, please have a look at the figure under the header "Transmission and Distribution" [here](#). It illustrates how the electricity sector is modeled in the ecoinvent database. In short, the market activities in the electricity sector include the impacts of production, transformation and transmission of electricity.

Could you explain how you determine which datasets should not be updated? Do you conduct a review of all datasets to assess their representativeness, or do you have a default validity period? How do you handle datasets that no longer accurately represent the materials they were intended to convey, e.g., because of improved production processes?

Generally, we update datasets every time we notice that they are no longer representative of the currently used production technologies. We regularly review the datasets by using a variety of strategies, which have different aims depending on the sector. Furthermore, we also take into consideration the feedback from users who highlight potentially outdated datasets. Another aspect is that the updates depend on the sector, for example, electricity is updated every year.

Is there a separate export of grid electricity emission factors available for Scope 2 and 3 GHG reporting with the new 3.10 update?

Separated scope 2 and 3 emission factors for electricity are available in the spreadsheet "electricity emission factors – scope 2 – 3 in ecoinvent v3.10.7z" file is on ecoQuery in the [Files](#) section -> Supporting documents.

For more details on utilizing ecoinvent data for GHG reporting, please visit the relevant section of our [Knowledge Base](#). It might also be interesting for you to take a look at our [webinar](#) on the electricity sector & the use of ecoinvent data for GHG reporting.

I'm interested in understanding how carbon uptake / biogenic carbon is accounted for in v3.10. Particularly in the IPCC 2021.

Carbon uptake and biogenic carbon are modeled in the ecoinvent database at the level of the inventory, but the flows are not characterized. In other words, when the datasets are built and all the amounts of inputs/outputs are registered, the respective amounts representing carbon uptake and biogenic carbon are accounted for in the inventory. However, there are no [Characterization Factors](#) (CFs) attributed to these flows. Therefore, the final scores do not include the impact/credit of carbon uptake and biogenic carbon. The only exception to this is the [EN15804 system model](#) that is to be used for [EPD studies](#). You can read more about this in the [LCIA methods implementation report](#).

Does the new version include the increased methane emissions as reported by IEA/ESU, i.e., all fugitive emissions?

Yes, the main aspects considered for regionalization of the extraction activities include emissions of methane (from gas venting and fugitive emission sources) and gas flaring, energy requirements, production data, and infrastructure inputs (borewell and pipeline distances). For v3.10, ESU (Meili, Jungbluth, & Bussa, 2023a) relied on the most recent versions of the main data sources available at the time of preparation, including BP (2022), IEA (2022), IOGP (2022), and The World Bank (2023).

Were the prices updated in v3.10?

You can find all the prices that were updated in the [report of changes](#), under Annex 1.

Any recommendation or suggestion to recalculate the SBTi voluntary commitments, since the fundamental oil & gas emissions value changed, all our emissions reductions gained are nullified overnight? What is the suggestion here?

As a background database, we are trying to ensure the latest available data reaches our database, which can lead to significant score changes, as it happened with the increased IEA methane emissions. To ensure accurate and reliable information on the recalculations, we recommend reaching out directly to the SBTi team. They possess the expertise and details needed to guide you through the appropriate baseline recalculation procedures.

Were any changes to the system models made?

The modeling assumptions of system models are still valid for version 3.10 and they have not been changed compared to version 3.9.1. For more information about the changes made for version 3.10 of the database, please refer to our [website](#).

Are the APOS models still available?

APOS model is available to the users of ecoinvent database and is updated in our yearly release. Please consult the [Database Overview](#) file version 3.10 for more details. Depending on what software do you use, the implementation time might differ.

How much time can we use datasets if they have not been updated?

In ecoinvent database, the fields of time validity (start and end date) are filled in by the author of a dataset at the moment of creation. This information intends to describe the timeline that the dataset would be valid. However, this should not be seen as an expiry date, but as an indication. Because of the peculiarities of certain datasets, it is always good practice to consult the general comment and the comments for the specific exchanges. If for example you take the dataset "heat production, at hard coal industrial furnace 1-10MW, GLO" the time period was set to be from 1988 to 1992. For the same activity but different geography "heat production, at hard coal industrial furnace 1-10MW, CA-QC" the time period is set to 1995-2005 with comment "Adapted from 1990's conditions and considered valid until 2015. Uncertainty has been modified accordingly". The time validity is therefore highly dependent on the dataset and the scope of your study; the choice of dataset is ultimately a user's choice.

One more thing to keep in mind is that the time period of the undefined unit process (UPR) is different from the one of the datasets in the linked and allocated (i.e. when you select a system model) form. The time period referred to in the linked and allocated datasets is the same shown in most of the software. The "Undefined" dataset keeps the original time period, as defined by the data provider. The end of the time period of the linked and allocated datasets is set to the year of the release of the selected ecoinvent version. This is the approach chosen by ecoinvent as for every release the scores of the database are reviewed. The unit process modelled in a dataset might have not changed (i.e. the dataset still asks X kg of Product A), but the supply chain has been updated.

Why did you make changes on the waste sector? Is there anything we should be aware on modelling?

The waste updates are related to the disaggregation of the waste sector. The project began in version 3.9 by being implemented in all the wastewater treatment processes, while it was completed in version 3.10 by taking care of the municipal incineration and sanitary landfill treatments. The new modelling approach increases the transparency and granularity of the data. You are now able to properly allocate emissions to each treatment process and meaningfully analyze the treatment supply chain. Moreover, transport was added between the different treatment steps for a more realistic modeling. This approach facilitates waste to be treated as resources and being reintroduced into a production process as secondary material. You can read more information in the [Report of Changes for v3.10](#).

In the graph, it shows that the new database has more waste data; does it mean that we can expect waste for different types of plastic will be available?

The update that took place in the waste sector has to do only with the datasets already in the database. Therefore, this affects the waste already modeled. We are working on collecting valuable data on plastic waste. We hope that we will be able to provide our users soon with new and updated data.

For the time being, you can get an overview of the datasets present in the database by looking at the activity overview sheets in the [Database Overview File](#), which provides a list of all datasets present in the current version of the database. You can filter by processes ("activity name") or products ("product name"), ISIC and CPC classification, geographies and more. In the tab "Intermediate exchanges" you can also filter for CAS number and synonyms. Moreover, the "Product Information" column provides a short description for each product/service in database, while giving information about its technical/physical characteristics, its possible application and how to use it properly. This feature is also implemented in various LCA software tools. [database overview](#)

If you have any
additional questions
about version 3.10,
contact our team:

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Data with purpose

