A joint initiative of the ETH domain and Swiss Federal Offices
ecoinvent
a common platform for your LCI datasets

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ecoinvent data v3

Linked single-product datasets

Cumulative LCI Data

LCIA Results

Allocation approach

System Expansion approach

Allocation

System expansion

Matrix inversion

Data supply

Data use

Multiplication with LCIA factors

Unlinked multi-output datasets
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Introduction
ecoinvent v1 – «harmonisation» & «concentration»

- Before 1996: Different institutes (ETH, ...), each with their database
- 1997-1998 / Pilot project: system specification and first draft version of quality guidelines
- 2000-2004 / Project „ecoinvent 2000“:
  - finalisation of ecoinvent quality guidelines
  - establishing the database ecoinvent v1 (~ 2700 unit processes)
- 2005-2008 / Project ecoinvent v2:
  - update and extension of ecoinvent database from v1 to v2 (~4,000 unit processes)
→ All data work lead by the institutes of ecoinvent Centre.

EMPA SG
- Plastics
- Paper & Board
- Basic chemicals
- Detergents
- Waste treatment (*)

agroscope
- Agriculture

EMPA Dü
- Metals
- Construction Mat.
- Woods
- Basic chemicals (*)

Central Database

PSI
- Energy supply (*)
  -> Fuels
  -> Electricity prod.
  -> Heat production

ETH UNS
- Transports

ETH LTC
- Basic chemicals

*) supported by Consultant companies (ESU, Doka, Chudacoff-Ökoscience)

→ Funding: Swiss Federal Offices & in-kind contributions.
Introduction
ecoinvent v2 – «maintaining» & «extension»

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Data work lead by institutes & by selected consultant companies (coordinated by the ecoinvent management).

Funding: Swiss Federal Offices (of selected projects!) & in-kind contributions.
Introduction
ecoinvent v3 – «flexibility» & «simplicity»

- [..]

- 2005-2008 / Project ecoinvent v2:
  - update and extension of ecoinvent database from v1 to v2 (~4'000 unit processes)

- 2008-2012 / Project ecoinvent v3:
  - Broad revision of the technical system (and with this, of the structure) of our database
  - selective update / extension of content, as well as an adaptation of the existing content to the new database structure

[→ see subsequent presentations this morning …]
Overview of new data

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(Future) Data Strategy

ecoinvent — a common platform for your LCI datasets

R. Hischier
ecoinvent Centre, St. Gallen (Switzerland)
(Future) Data Strategy

“share your research results in our database”

Ecoinvent is independent; one of the most trusted sources of LCA data due to thorough review structure, and the full transparency and documentation of all datasets.
How does this work?

- ecoinvent makes it easier for 3rd parties to contribute;
- we would like to get a broader support for new datasets and/or corrections of existing datasets;
- … and all data stay subject to our very strict quality control, review, and validation procedure.

- Hence (as in case of a contribution to a scientific journal) by submitting, you share your environmental data with experts all around the world;
- your name will be visible in the dataset and as “active author” questions and/or suggestions reach you!
How does this work?

**Reasons for providing data:**

- independence and thorough review procedure guarantee a broad acceptance of data;
- review process is for free, i.e. **low costs** for submitting datasets;
- since providing data to ecoinvent is free, the ecoinvent Centre has no financial interest in the **results** of such studies and is therefore a **very trustworthy source of LCA** results.
How does this work?

Reasons for providing data:

- companies can provide data in a form that respects concerns about confidentiality issues (e.g. via industry associations);
- Providing data to an initiative like ecoinvent demonstrates the environmental commitment of a company & it greatly simplifies future inquiries about the sustainability standards of a company.
When supplying a dataset to the ecoinvent database, the data provider confirms that the data are free from prior copyright, & transfers (a non-exclusive !) right of use to ecoinvent Centre.

In general, all ecoinvent datasets are subject to copyright. However, with assistance of sponsors it has become possible for some ecoinvent datasets to be provided as open access datasets, which can be freely shared. Use of these open access datasets is still subject to the normal rules for citation.
Available tools

- EcoEditor
- Quality Guidelines
- International Editorial Board
- EcoSpold v2 format
Available tools

(i) the Quality Guidelines

Aims to ensure a **coherent data acquisition & reporting** across the various activity areas & data providers involved.

- encompasses definitions of …
  - different types of datasets,
  - level of detail required,
  - how completeness is ensured,
  - good practice for documentation,
  - naming conventions, and
  - rules for the reporting of uncertainty.

- covers the procedures for …
  - validation, review, and embedding new datasets into the database;
  - calculation of attributional & consequential models, and
  - arriving at accumulated results of product systems.

Available tools

(ii) ecoSpold v2 format

… in order to **take advantage of all the new developments**, this revision of the ecoSpold format has become necessary.

- Structural changes
- Facilitating DB maintenance and extension, e.g. by:
  - parent-child relationships between activity datasets;
  - geographical information via GIS coordinates;
  - formulas and variables in numerical fields;
  - Use of UUIDs for internal references;
- Better support for alternative modelling options and data exchange with the ILCD format;
- Support for mass balances, energy balances and monetary balances;
- Support for language versions;
- Support for better documentation.
Available tools

(ii) ecoSpold v2 format

- Example “Geography”
Available tools
(iii) editorial board

... performs the review, validation and editing of the ecoinvent datasets before inclusion in the ecoinvent database.

- Under the **supervision of LCI Expert Group** (which is maintaining ecoinvent data quality guidelines and software systems);
- each editor is responsible for a **specific expertise area** (as activity, geographical, language, inventory-indicator, metadata or LCIA editor);
- in each case, a lead editor and one/more co-editors share the work.
Activity Editor:

- responsible for reviewing of data for a specific industry, technology or other human activity.
- is the main reviewer for a dataset; she/he is the first to receive a submitted dataset, and the last to accept it for final upload to the current beta-version of the database.
- typically leading (LCA) experts within their activity area.
- divide the work between them according to the ISIC (Rev. 4, ecoinvent-amended) codes of the datasets.
- in principle responsible for all datasets within an activity area, disregarding any geographical differences (to ensure global consistency of activity datasets).
Available tools

(iii) editorial board

Up-to-date & complete list of Editorial Board:

http://www.ecoinvent.org/organisation/editorial-board
Available tools

(iv) ecoEditor tool

... for data suppliers and editors to **create, edit, review** & to **upload datasets** for ecoinvent database version 3

- Supports data supplier by ...
  - offering **access to the new features** of ecoinvent;
  - a **structured collection** of the necessary **data**;
  - built-in **help texts** in order to **guide** the collection process;
  - **validation** of entries.

[Link to official website](http://www.ecoinvent.org/ecoinvent-v3/ecoeditor-v2/)
Available tools

(iv) ecoEditor tool

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</table>

Production User: roland.hischier

Slide 25
Available tools

(iv) ecoEditor tool

Want to learn more about this tool?

→ on our website (→ ecoinvent v3 → ecoEditor for version 3)

→ in a ecoEditor workshop …
  @ important conferences
  across the whole year!

ecoEditor Workshop
June 14, 2012, 09:15-17:30h
Empa Dübendorf, NO209

You wanna participate?
→ please see me in one of the breaks during this day!
Conclusion

- ecoinvent offers you a **platform** together with a **complete toolbox** (incl. services) in order to establish and share life cycle inventory datasets of a high quality;

- … and since providing data to ecoinvent is free, the ecoinvent Centre has no financial interest and gets a very trustworthy source of LCA results.
... and a (very) last point!

- In order that the **same data** (e.g. from Industry Association) can be used in various databases, **gate-to-gate datasets** need to be provided; as only such data allow a **consistent & reliable use** in different environments (databases) …

... and ecoinvent offers you an ideal platform to do so …!
Thank you

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