

# Perspectives: The FORWAST method in the ecoinvent database

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# Content

- Limits of FORWAST – Can we do it better?
- Elements of the FORWAST model in theecoinvent database version 3
- Implementation

# Limits of FORWAST

- High level of aggregation
  - both in products and wastes
- Database difficult to maintain and document

## Can we do it better?

- Higher level of detail
- Continuous maintenance and updating

# The ecoinvent database

## – a continuously updated hybrid database?

- Currently 4000 activities / products
- Version 3:
  - Significantly expanded (activities/products)
  - Completeness – at a global scale
  - Updated several times a year
  - Mass and monetary balances per dataset
  - IO repository and support for hybrid datasets
  - Time series and macro-economic scenarios
  - Extensive automatic validation of data
  - Manual review by international domain experts

# Elements of the FORWAST model in the ecoinvent database version 3

- Multiple properties (monetary, mass, elementary composition)
- Completeness of the economy, also in material terms
- ISIC classification of activities
- Mass balances with wastes, stocks and emissions – possibly with use of transfer coefficients
- Geographically specific waste (treatment) scenarios as a special kind of market activities
- Store data as supply-use data, i.e. unlinked and unallocated.
- Spin-off: Identity of IO-technology models and LCA solutions to co-production (commodity  $\approx$  by-product technology = system expansion; industry technology = allocation)
  - both can be applied in parallel on the same data basis

# Implementation in ecoinvent

- Many properties for each product: Monetary, mass, elements, ...
- Repository for supply-use data – in the same format as detailed LCA data
- Production volume for all products
- Global default data, sometimes extrapolated, but with global production volume
- Calculation of residual IO-data (hybrid; completeness)
- Rest-of-World datasets and market pools for international trade
- Geography, time and scenarios as 3 dimensions of the data
- Linking via market activities
- Consequential and attributional versions: For LCA, LCC and MFA – based on the same data

# Questions?

Thank you for your attention!

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