

Generic EPD – a reasonable solution for Locks- and Hardware Products?



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Content



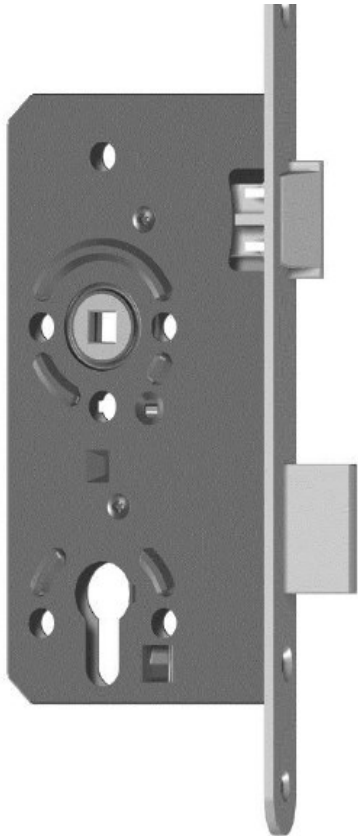
1. Goal of EPD for the ARGE
2. Pragmatic Approach
3. Benefits for ARGE
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Key goals of the EPD-Project



- Creating EPDs for 230 member organisations in 14 countries with maximum effect and minimum cost
- Satisfy customers' needs of reliable environmental & health information for the building certification process
- The EPDs shall be based on EN15804 and enable the customer to potentially show compliance with the BWR No. 7 and 3 in the CPR
- Achieve broad acceptance of the documents in Europe through ECO Platform

Pragmatic approach



Drawing up EPD can be greatly simplified, by using ready made LCA calculation tools thus saving resources, human and economic!

- **Average EPD**
- **EPD templates / i-reports**

Simplified EPD at IBU

1. Declaration of one Manufacturer :

- 1a) Declaration of a specific product from one manufacturer's plant
- 1b) Declaration of a specific product as an average from several of one manufacturer's plants
- 1c) Declaration of an average product from one manufacturer's plant
- 1d) Declaration of an average product as an average from several of 1 manufacturer's plants

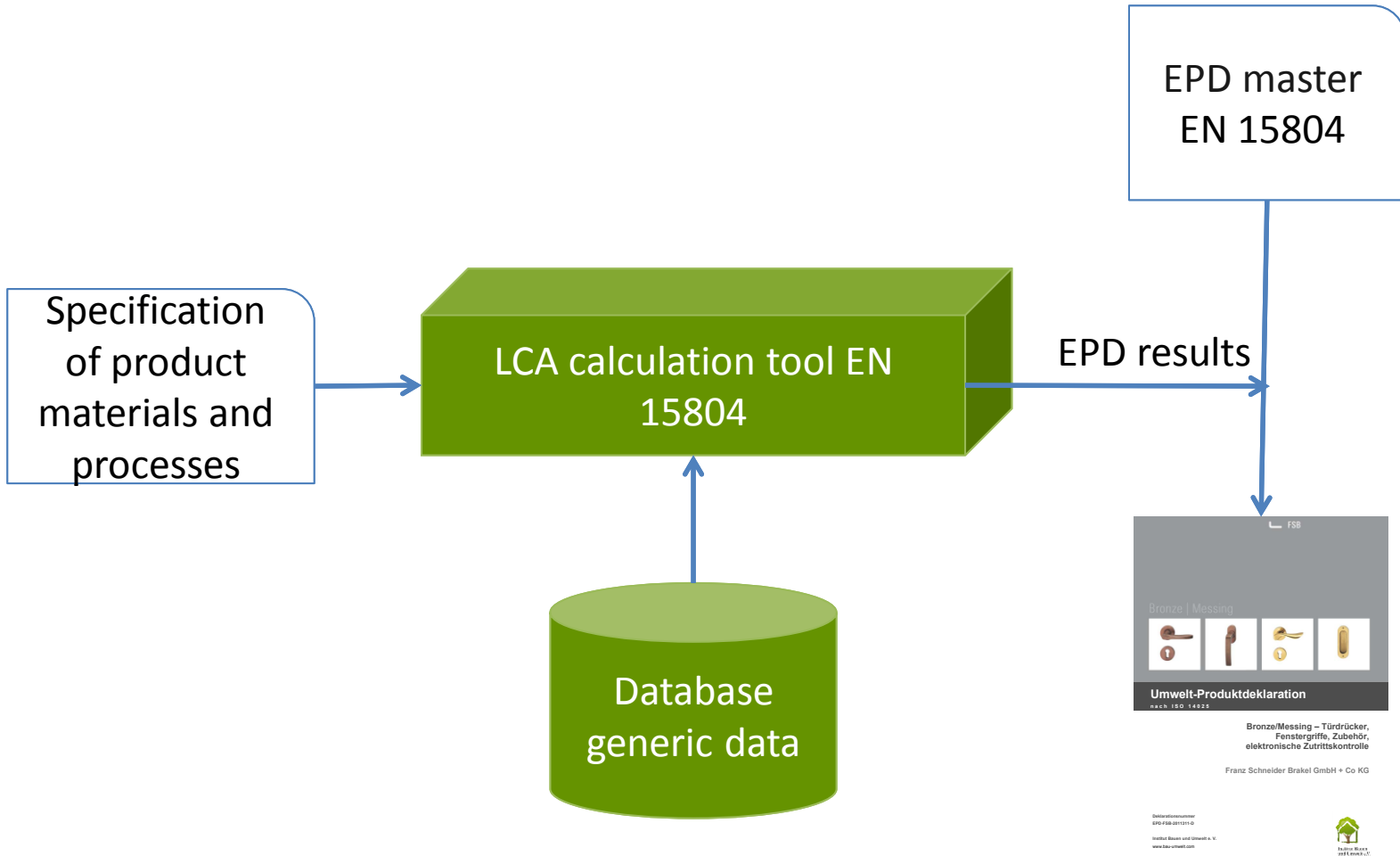
2. Declaration of a group of Manufacturers :

- 2a) Declaration of an individualised product as an average from several manufacturers' plants
- 2b) Declaration of an average product as an average from several manufacturers' plants

3. A standard or reference product:

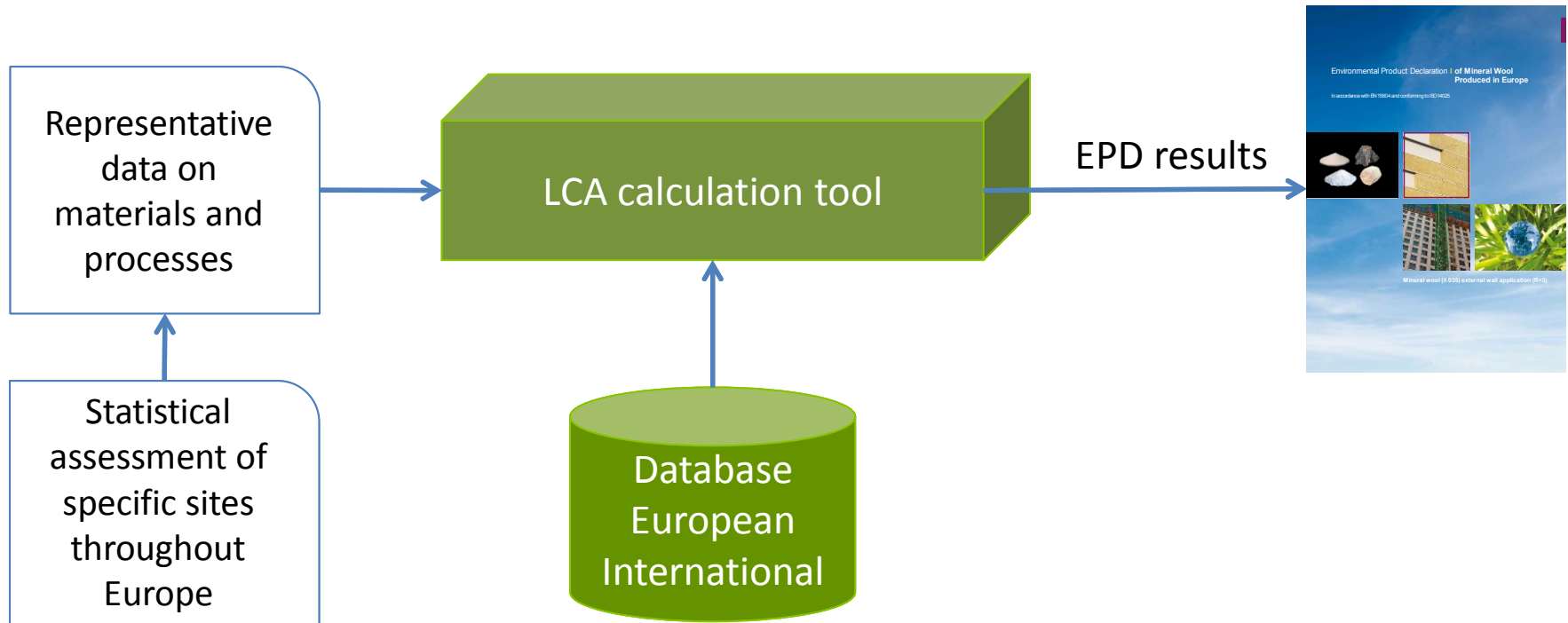
Declaration of a specific (usually typical) product

LCA simplifying software



LCA simplifying software

Example Average EPD European mineral wool



LCA tool for average EPD, manufacturer's end

- Average European EPD: ensure good representation by considering
 - At minimum 50 % production volume, include manufacturers from a diversity of European regions in order to capture
 - All relevant processes weighted by production volume to include 95% of environmental impact
 - Distribution of sites in EU for correct distribution of energy provision data
 - Distribution of raw material and commodity provision among sites, in order to capture regional production traditions

LCA tool for average EPD, manufacturer's end

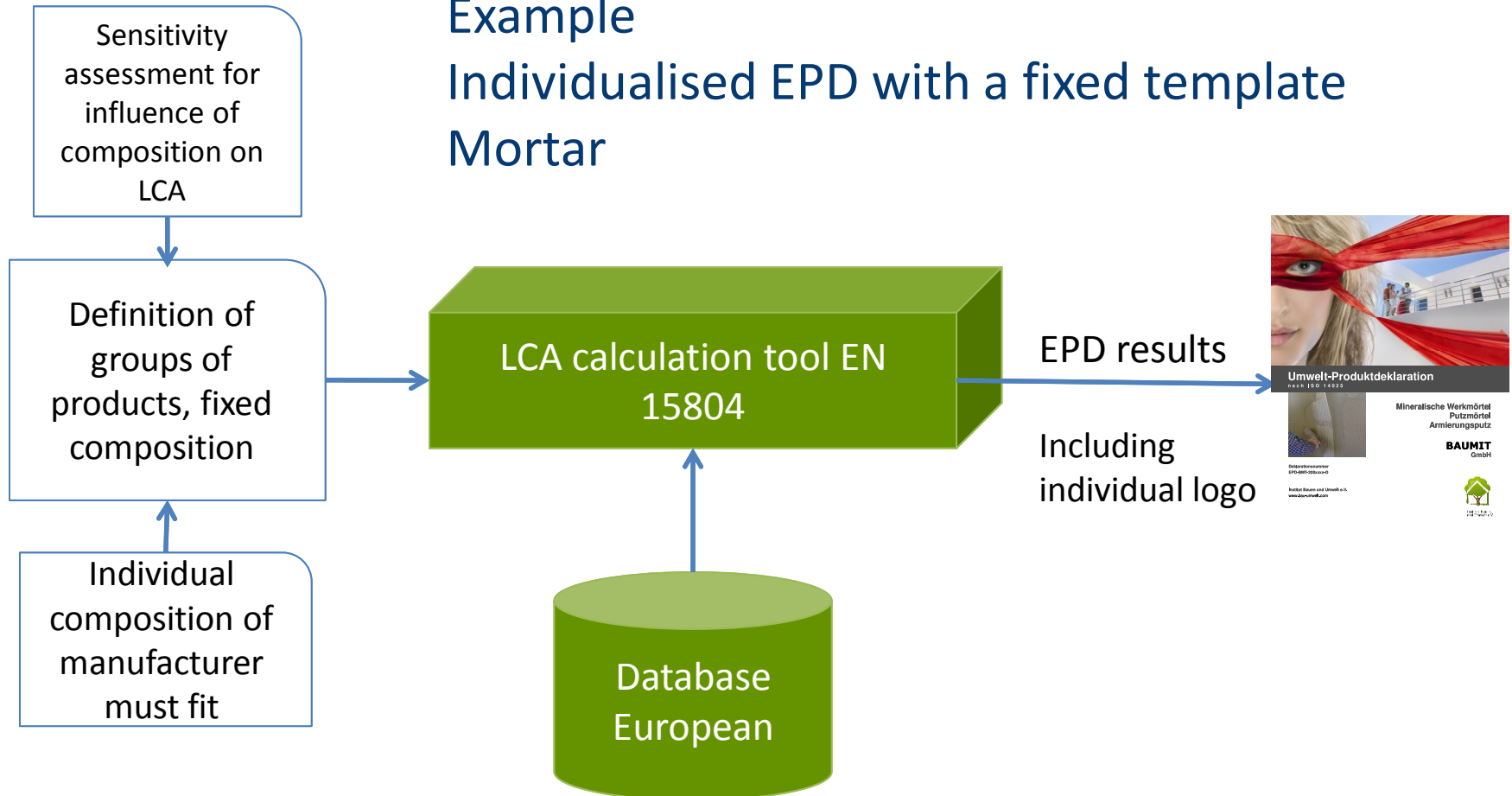
- Average European EPD:

- Unit 1 kg of product
- for easier communication product groups should match with tangible properties: function, appearance.
- Describe end of life scenario in order to capture recycling benefits for metals



LCA simplifying software

Example Individualised EPD with a fixed template Mortar

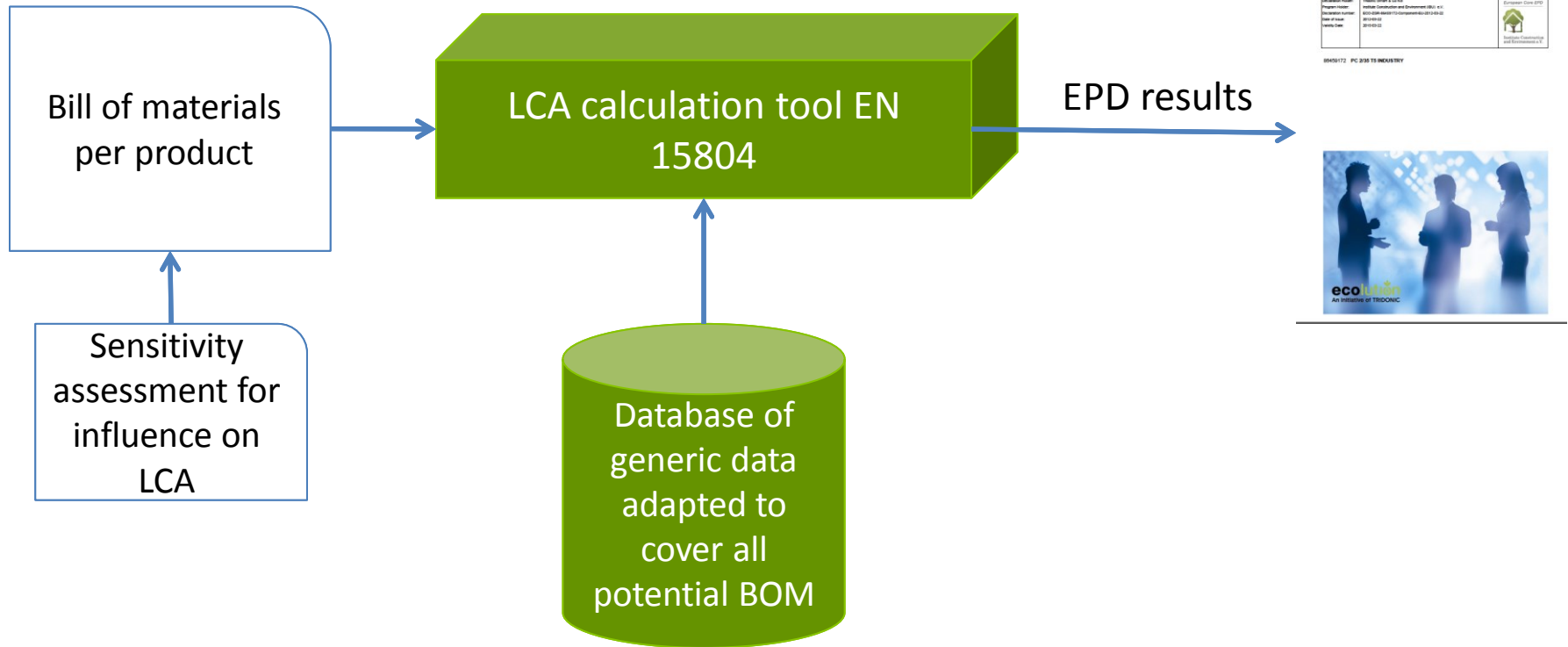


LCA tool for average EPD, manufacturer's end

- Template EPD : ensure matching of products and templates
 - Unit: 1 kg of product
 - Define sensitivity of composition to LCA in order to understand and later control which compositions fit and which do not fit
 - Products should be grouped according to those processes that dominate the results. With locks and fittings: provision of raw materials / commodities, energy?
 - for easier communication product groups should match with tangible properties: function, appearance.
 - Describe end of life scenario in order to capture recycling benefits for metals

LCA simplifying software

Example
Individualised EPD template
Lighting systems



Individualised LCA tool, manufacturer's end

- Template EPD lighting system example: LCA program tool provides data sets for all materials and proper grouping
 - Web based tool
 - Manufacturer enters his own composition
 - Tool should be verified as such + verification of EPD or
 - EPD states composition, in that case only the tool needs to be verified, random sample verifications

A pragmatic approach..

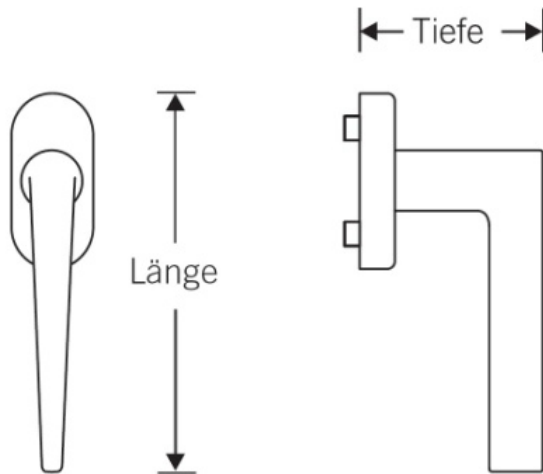
- Define the product groups to create average type EPDs which cover many products at once - while the data quality stays robust.
- Minimize the effort for data collection by focussing on processes that are of relevant environmental importance
- Collect data from the most contributing companies by product volume
- Use and expand already existing LCA models and LCA background data to reduce work & costs.



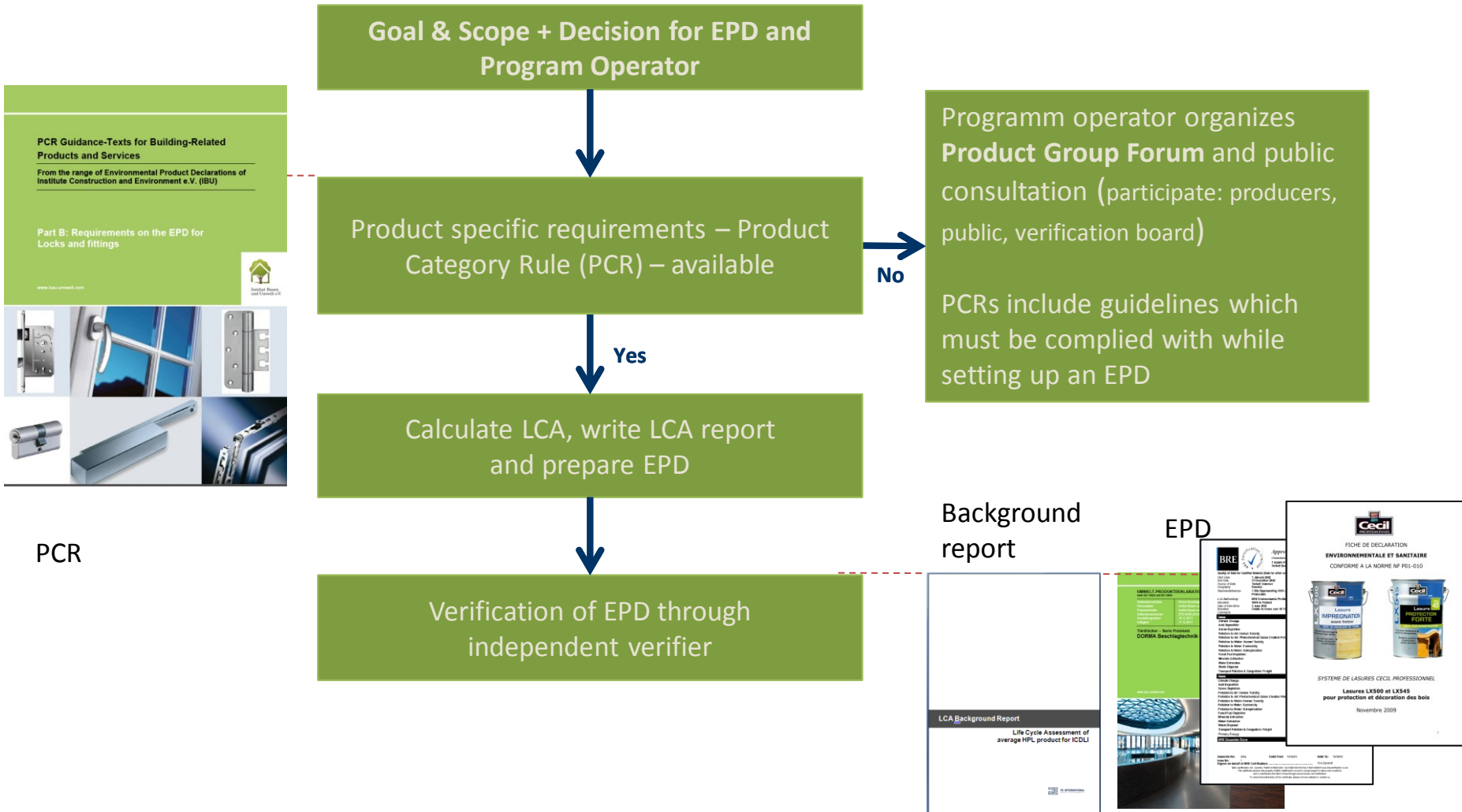


Benefits for ARGE

- ARGE can build on work that has already been accomplished for the German Fachverband Schlösser und Beschläge.
- Using the knowledge about the technical specialties of the products and the production lines for which LCAs are to be carried out.
- Get a baseline for an Environmental Assessment Tool, which could be further used to e.g. assess the variance of alternative scenarios for defined environmental parameters.



General Process



Step 1: Defining scope and study boundaries

- Pragmatic approach first defines the general representative product types, based on market shares (e.g. different door closer types, sales share of these types in Europe).
- Then for the defined types, representative material compositions will be identified, based on data from at least 50 % of the products sold to the market.
- Research as well as surveys on association and company level, preferably during face to face meetings is needed.
- **Deliverable of this step should be the definition of product families for the PCR and the selection of product types for the EPDs.**

Step 2: Selecting the EPD Program Operator

- The selection of the program operator should be based on the following criteria:
 - High recognition in ARGE's member companies' target markets.
 - Active membership in the ECO Platform.
 - Reasonable verification cost and other fees in accordance with good additional services for members or EPD holders.
 - Experiences and references in EN 15804 compliant EPD verifications.
 - Preferably already disclosed EN 15804 compliant Product Category Rules document (PCR) for locks and builders hardware.

Deliverable of this step is the application for registering the EPDs to be developed at the chosen EPD program operator.

Step 2: ECO Platform



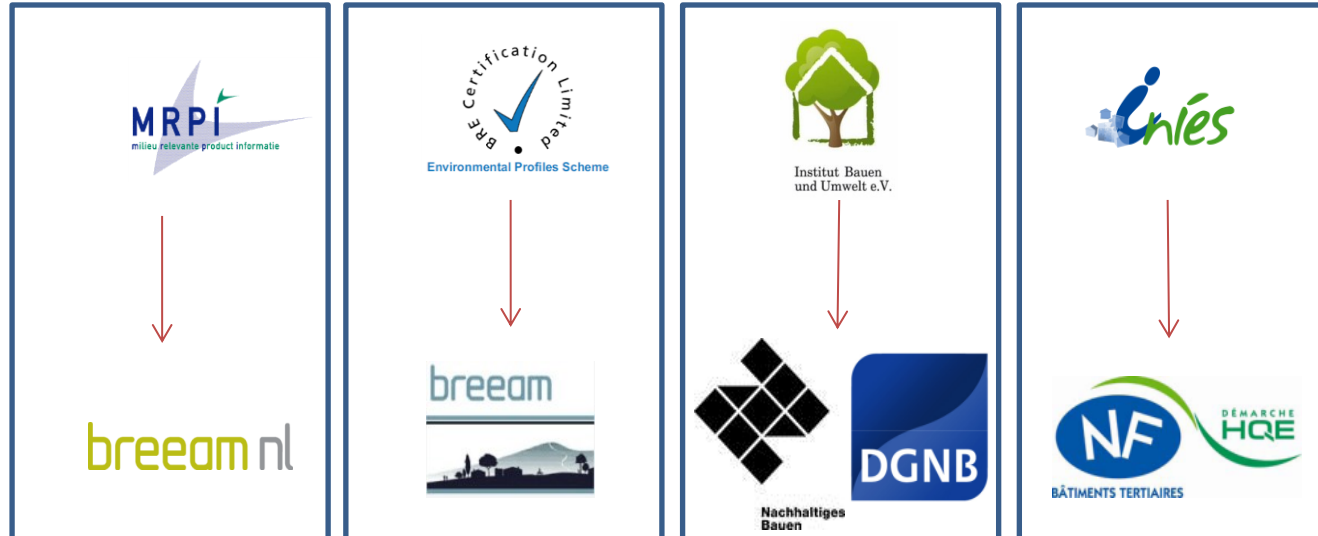
- Platform for EPD program holders, founded as European association June 4th 2013
- Members:
 - 11 European program operators as full members
 - European Associations
 - LC practitioners and other experts
- Mission:
 - mutual agreements on European core EPD
 - Reduced effort for industry by harmonisation



ECO Platform

- Input for Rating Schemes from products via EPDs (original situation)

EPDs



Green Building Rating Schemes

ECO Platform



- Input for Rating Schemes from products via EPDs (aspired situation)

EPDs



Green Building Rating Schemes

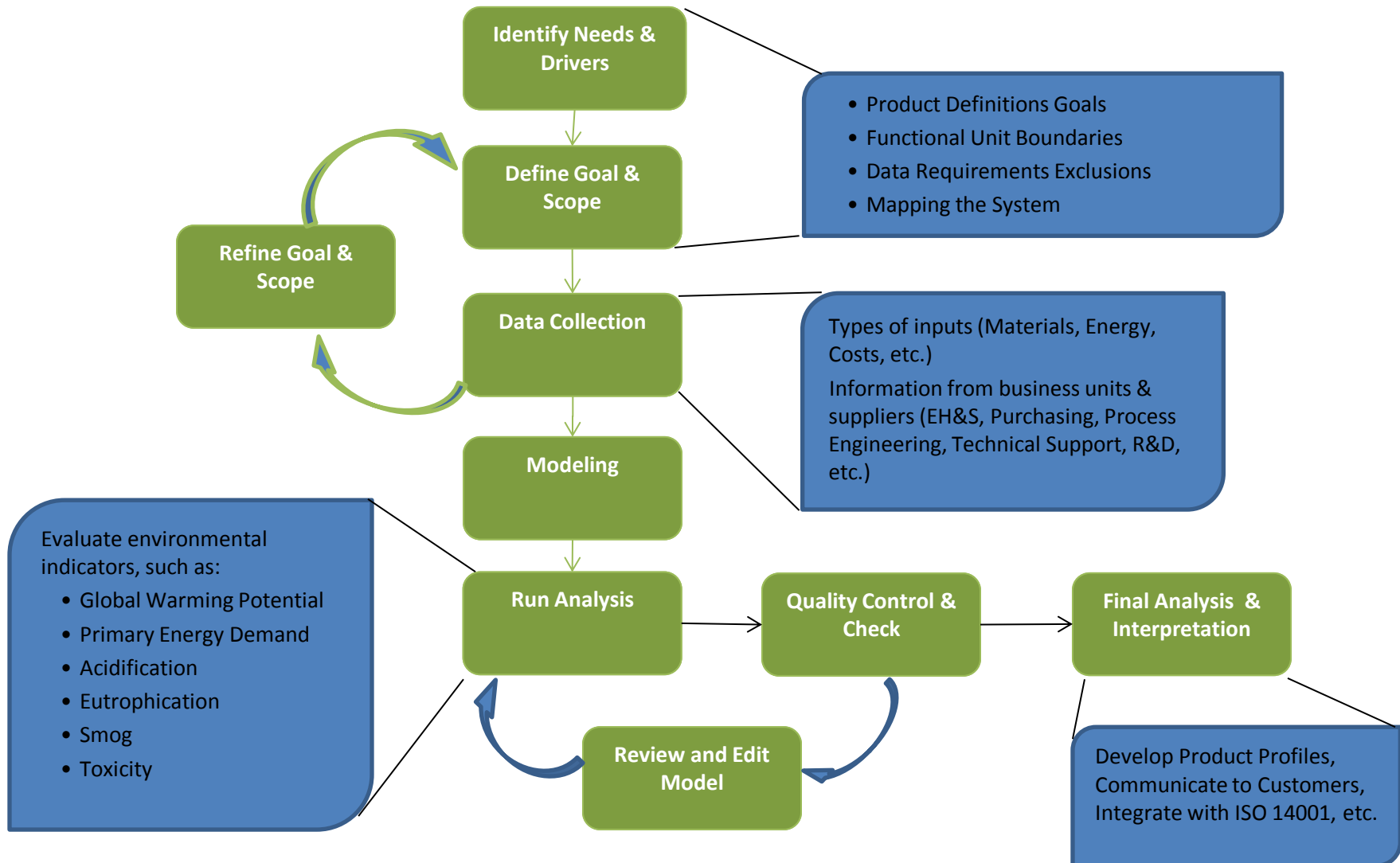
Step 3: Developing the PCR

- The Product Category Rules define the requirements for EPDs of specified product categories. It supports transparency and comparability between different EPDs based on the same PCR.
- Goal is:
 - to have one single PCR for all ARGE products representing ARGE's manufacturing activities
 - To open the possibility of a seed document for the appropriate CEN Technical Committees for BWR 7 and 3
- **Deliverable of this step is one single PCR for all declared products.**

Step 4: **Collecting data** and calculating LCA results

- Data collection can be done online by using specialised data collection tools.
- sector specific knowledge is needed to reduce the number of technical data that is required from companies.
- To further minimize the effort of data collection, only the most contributing companies - measured on the production volume - will have to deliver data.

Step 4: Collecting data and calculating LCA results



Step 4: Collecting data and calculating LCA results

- **Deliverable of this step are tables with LCA results for the defined product types and the definition of number of EPDs to be generated. The results are presented to ARGE in an intermediate meeting.**

Step 5: Generating EPD

- Written documents:
 - the LCA sections for the EPD
 - the project report that includes all details of the LCA calculation and
 - support verification documentation.
- To be decided: 1 average EPD for all products at ARGE, or a product family
- When verified, an XML dataset for any national database should be created, (like Ökobau.dat LCA database the only 15804 based publicly available national data base today).
- **Deliverables of this optional step are: verified EPD and XML dataset.**

Option: Generating an online environmental assessment tool

- The LCA model could be expanded into a tool, which could be applied to generate specific EPD for individual member companies
- The proposed approach for data collection and averaging would not allow generating site specific EPDs with the tool (much more detailed data collection and LCA model specification required).