LCI Review report (reviewed against "ILCD Data Network - entry-level requirements")

Draft template

Table 1:   General review reporting items

REVIEW REPORTING	
General information	
Data set name	**PP production mix, at plant**
Data set UUID and version number	To be determined
Data set locator (e.g. Permanent URI, URL, contact point, or database name and version, etc.)	
Data set owner	**Polyolefins Group/ PlasticsEurope**
Review commissioner(s)	**PlasticsEurope/ Polyolefins Group**
Reviewer name(s) and affiliation(s), contact	**Matthias Schulz, Dr.-Ing. Ivo Mersiowsky** **DEKRA Consulting GmbH**
Review type applied	**Independent external**
Date of review completion (DD/MM/YYYY)	**03/03/2014**
Reviewed against / Compliance system name	**ILCD Data Network - Entry-level requirements**
Reviewer assessment:	

Aspect	Yes	No	Comments
Quality compliance (aspects of ISO 14040 & 14044) fulfilled (see table 2)	X		
Method compliance (as in ISO 14040 & 14044) fulfilled and documented in data set	X		
Nomenclature compliance (see table 3) fulfilled	X		
Documentation compliance (see table 3) fulfilled	X		
Review compliance (Independent external review OR independent internal review + review report) fulfilled	X		
Overall compliance with ISO 14040 & 14044	X		
Overall compliance with "Compliance system"	X		
Date, location, reviewer signature	Stuttgart, 03/03/2014		

Table 2: Specific/detailed review reporting items for LCI data set: Quality compliance (ISO 14040 & 14044). Please note that for aggregated LCI result data sets, this includes key processes in the background system.

ITEMs	Comments
Time-related coverage/representativeness: "age of data and the minimum length of time over which data should be collected" "qualitative assessment of the degree to which the data set reflects the true population of interest"	**Very Good** Foreground: 12 month averages representing the year 2011. Background: 2005—2010, Electricity grid-mixes from 2011 Exception ship transport from 1999 Maximum temporal validity until end of 2016. (p.25)
Geographical coverage/representativeness: "geographical area from which data for unit processes should be collected to satisfy the goal of the study" "qualitative assessment of the degree to which the data set reflects the true population of interest"	**Good** European production average (data from 35 polypropylene sites from 7 companies). (p.25)
Technology coverage/representativeness: "specific technology or technology mix" "qualitative assessment of the degree to which the data set reflects the true population of interest"	**Good** Technology mix representing European production (see above). 76.7% of the European polypropylene production capacity (EU-27 + EFTA) in 2011. The specific technologies of the polyolefin production of the companies, (i.e. different reactor types, reaction phases or catalysts) are considered. (p.24-25)
Precision: "measure of the variability of the data values for each data expressed (e.g. variance)"	**Very Good** Relevant foreground data is primary data, or modelled based on primary information sources of the owners of the technologies. (p. 29)
Completeness: "percentage of flow that is measured or estimated"; assessed on level of process	**Good** In general, the collected and applied data can be stated as complete, because no flows are omitted or substituted. However, for some production sites it was not possible to obtain detailed emission data due to site-specific measurement and recording practices. In order to compensate missing information on certain important inputs and outputs, average values (calculated based on the data reported by other production sites of the same polyolefin type and weighted by product output) were used in cases where no

ITEMs	Comments
	data was given. For commodities with a total input of less than 4 wt.-% (solvents, catalysts, initiators, additives) generic datasets from the LCA database Ecoinvent v 2.2 [**Fehler! Verweisquelle konnte nicht gefunden werden.**] have been used. In Ecoinvent datasets, waste for recycling is generally cut off. Furthermore, expenses for capital equipment were not considered in this Eco-profile. (p.26, 29)
Consistency: "qualitative assessment of whether the study methodology is applied uniformly to the various components of the analysis"	**Very Good** To ensure consistency only primary data of the same level of detail and background data from the databases mentioned under 'data sources' were used. While building up the model, cross-checks concerning the plausibility of mass and energy flows were continuously conducted. The methodological framework is consistent throughout the whole model as the same methodological principles are used both in foreground and background system. (p.30)
Sources of the data; Appropriateness of use primary/secondary data source	The main data source was a primary data collection from European polypropylene producers, providing site-specific gate-to-gate production data for processes under operational control of the participating companies. Data concerning the monomer feedstock, i.e. propene, was taken from the recently published EPD and Eco-profile of steam cracker products. For the share of propylene feedstock produced by catalytic cracking (FCC), an IFEU-internal model of petroleum refinery was used. Data for other upstream supply chains until the precursors are taken from various databases as indicated in the report. (p.26-27)
Uncertainty of the information (e.g. data, models and assumptions).	Variation of single data was not recorded. Variation of the model/dataset not applicable due to vertical average of production lines and technologies. Reliability of the collected primary data can be considered very high due to almost exclusively measured data across the entire sample. Furthermore, the background data can be considered very precise. (p.28)
Others	

Table 3:   Specific/detailed review reporting items for LCI data set: Nomenclature and Documentation

ITEMs	Comments
Nomenclature	
Correctness and consistency of applied nomenclature (Preferred use of ILCD flows etc.; Correct nomenclature of other flows; Exclusion of not permissible waste flows, sum indicator elementary flows etc.)	Yes – database format is aligned and compatible with ILCD requirements (consistent nomenclature) -- conducted spot checks on the LCI (xls and ILCD xml)
Documentation	
Appropriateness of documentation (see Document "Documentation of LCA data sets")	Yes – meta-data completed and appropriate; documentation aligned with ILCD standards.
Appropriateness / correctness of documentation form (ILCD Format)	Yes – Database format is aligned and compatible with ILCD requirements (consistent format of meta-data and content) -- spot checks were conducted on dataset.