LCI Review report (reviewed against "ILCD Data Network - entry-level requirements compliance" and the additional call for tender "ENV.B.1/SER/2016/0035vl")

Table 1: General review reporting items

REVIEW REPORTING	
General information	
Data set name	**Animal meal, pig, from dry rendering, at plant/RER Economic System**
Data set UUID and version number	**e414ed35-6a54-49a1-8211-2a1285956b9b**
Data set locator (e.g. Permanent URI, URL, contact point, or database name and version, etc.)	**http://lcdn.blonkconsultants.nl/Node/**
Data set owner	**Agri-footprint B.V.**
Data set provider	**FEFAC**
Review commissioner(s)	**European Commission**
Reviewer name(s) and affiliation(s), contact	**Reviewer 1 (internal): Jens Lansche (Agroscope)** **Reviewer 2 (internal): Xavier Bengoa (Quantis)** **Reviewer 3 (internal): Katarzyna Cenian (PRé Sustainability)** **Reviewer 4 (external, panel chair): Theun Vellinga (Wageningen UR)**
Review type applied (see table 2)	**Type 1**
Date of review completion (DD/MM/YYYY)	**10-05-2017**
Reviewed against / Compliance system name	**ILCD Data Network - Entry-level requirements *and* Review requirements from the call for tenders: 'ENV.B.1/SER/2016/0035vl'**

Reviewer assessment:

Aspect	Yes	No	Comments
Quality compliance (aspects of ISO 14040 & 14044) fulfilled (see table 3)	X		
Method compliance (as in ISO 14040 & 14044) fulfilled and documented in data set	X		
Nomenclature compliance (see table 5) fulfilled	X		
Documentation compliance (see table 5) fulfilled	X		
Review compliance (Independent external review OR independent internal review + review report) fulfilled	X		

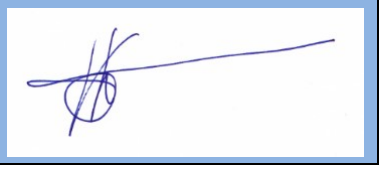
Overall compliance with ISO 14040 & 14044	X		
Overall compliance with 'ILCD Data Network - Entry-level' and the additional review requirements from the call for tender 'ENV.B.1/SER/2016/0035vl'	X		
Date, location, reviewer signatures May 5, Wageningen, The Netherlands	**Reviewer 1 (internal):** **Jens Lansche (Agroscope)**  **Reviewer 2 (internal):** **Xavier Bengoa (Quantis)**  **Reviewer 3 (internal):** **Katarzyna Cenian (PRé Sustainability)**  **Reviewer 4 (external, panel chair):** **Theun Vellinga (Wageningen UR)** 		

Table 2: Review typology based on call for tender 'ENV.B.1/SER/2016/0035vl'

Review typology	
Type 1	Panel of at least 3 independent reviewers, with at least one external
Type 2	Two independent reviewers, with at least one external reviewer
Type 3	Two independent internal reviewers
Type 4	One independent external reviewer
Type 5	One independent internal reviewer

Table 3: Specific/detailed review reporting items for LCI data set: Quality compliance (ISO 14040 & 14044).

ITEMs	Quality rating is compliant to the data quality criteria in table 4 and formula 1		Comments
	Yes	No	
(TiR) Time-related representativeness:	X		
(GR) Geographical representativeness:	X		
(TeR) Technology representativeness:	X		
(P) Precision / uncertainty:	X		
(EoL) Implementation of End of Life Formula			Not assessed
(DQR) Data Quality Rating	X		
ITEMs	**Comments**		
Methodological appropriateness and consistency	The methodology, as described in the report, is consistent and correct. It is in line with the PEF requirements. The calculations in the basic data reflect the description of the methodology report.		

Table 4: Quality level and rating for the data quality criteria

	Activity data				Production		Combustion/Conversion	
Score	P	TiR	TeR	GeR	Tir	Ter	Tir	Ter
1	Measured/calculated and verified	The data (collection date) can be maximum 2 years old with respect to the "reference year" of the dataset.	Technology aspects have been modelled exactly as described in the title and metadata. without any significant need for improvement	The processes included in the dataset are fully representative for the geography stated in the “location” indicated in the metadata	The "reference year" of the tendered dataset falls within the time validity of the secondary dataset	Technology aspects have been modelled exactly as described in the title and metadata. without any significant need for improvement	The "reference year" of the tendered dataset falls within the time validity of the secondary dataset	Technology aspects have been modelled exactly as described in the title and metadata. without any significant need for improvement
2	Measured/calculated/literature and plausibility checked by reviewer	The data (collection date) can be maximum 4 years old with respect to the "reference year" of the dataset.	Technology aspects are very similar to what described in the title and metadata with need for limited improvements. For example: use of generic technologies’ data instead of modelling all the single plants.	The processes included in the dataset are well representative for the geography stated in the “location” indicated in the metadata	The "reference year" of the tendered dataset is maximum 2 years beyond the time validity of the secondary dataset	Technology aspects are very similar to what described in the title and metadata with need for limited improvements. For example: use of generic technologies’ data instead of modelling all the single plants.	The "reference year" of the tendered dataset is maximum 2 years beyond the time validity of the secondary dataset	Technology aspects are very similar to what described in the title and metadata with need for limited improvements. For example: use of generic technologies’ data instead of modelling all the single plants.
3	Measured/calculated/literature and plausibility not checked by reviewer OR Qualified estimate based on calculations plausibility checked by reviewer	The data (collection date) can be maximum 6 years old with respect to the "reference year" of the dataset.	Technology aspects are similar to what described in the title and metadata but merits improvements. Some of the relevant processes are not modelled with specific data but using proxies.	The processes included in the dataset are sufficiently representative for the geography stated in the ““location” indicated in the metadata. E.g. the represented country differs but has a very similar electricity grid mix profile.	The "reference year" of the tendered dataset is maximum 3 years beyond the time validity of the secondary dataset	Technology aspects are similar to what described in the title and metadata but merits improvements. Some of the relevant processes are not modelled with specific data but using proxies.	The "reference year" of the tendered dataset is maximum 3 years beyond the time validity of the secondary dataset	Technology aspects are similar to what described in the title and metadata but merits improvements. Some of the relevant processes are not modelled with specific data but using proxies.

4	Qualified estimate based on calculations. plausibility not checked by reviewer	The data (collection date) can be maximum 8 years old with respect to the "reference year" of the dataset.	Technology aspects are different from what described in the title and metadata. Requires major improvements.	The processes included in the dataset are only partly representative for the geography stated in the “location” indicated in the metadata. E.g. the represented country differs and has a substantially different electricity grid mix profile	The "reference year" of the tendered dataset is maximum 4 years beyond the time validity of the secondary dataset	Technology aspects are different from what described in the title and metadata. Requires major improvements.	The "reference year" of the tendered dataset is maximum 4 years beyond the time validity of the secondary dataset	Technology aspects are different from what described in the title and metadata. Requires major improvements.
5	Rough estimate with known deficits	The data (collection date) is older than 8 years with respect to the "reference year" of the dataset.	Technology aspects are completely different from what described in the title and metadata. Substantial improvement is necessary	The processes included in the dataset are not representative for the geography stated in the ““location” indicated in the metadata.	The "reference year" of the tendered dataset is more than 4 years beyond the time validity of the secondary dataset	Technology aspects are completely different from what described in the title and metadata. Substantial improvement is necessary	The "reference year" of the tendered dataset is more than 4 years beyond the time validity of the secondary dataset	Technology aspects are completely different from what described in the title and metadata. Substantial improvement is necessary

Formula 1: $$DQR = \frac{TiR + TeR + GR + P}{4}$$

Table 5: 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.)	The only issues encountered were described in the EF package validation issues by the European Commission (04/04/2017). Nomenclature of elementary flows was reviewed using the ILCD Validation Tool 1.3.2, profile ILCD 1.1 Entry Level (EL) (V1.0.3a).
Documentation	
Appropriateness of documentation (see Document "Documentation of LCA data sets")	The dataset was generated in ILCD format using SimaPro Data Converter and reviewed using ILCD Validation Tool 1.3.2, profile ILCD 1.1 Entry Level (EL) (V1.0.3a).
Appropriateness / correctness of documentation form (ILCD Format)	See above

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Research

DATE
May 10, 2017

SUBJECT
review feed database

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HANDLED BY
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Dear Mr Martin,

As agreed in the tender specification for the provision of "*feed*" process-based product environmental footprint-compliant life cycle inventory datasets (contract number No ENV.A.1/SER/2016/0035VL), an independent review has been performed by a team of 4 reviewers, testing on compliance with the methodology requirements as set in the methodology report and with the ILCD requirements. The review team consisted of Jans Lansche, Agroscope; Xavier Bengoa, Quantis International; Katarzyna Cenian, PRé Sustainability and myself.

In the first phase of the review, the involved reviewers already concluded that after minor revisions, the dataset is compliant with the methodology report v1.0 of April 2017.

In the second phase the metadata compliance and ILCD entry-level compliance have been reviewed. In addition, the calculation of the DQR has been checked on accordance with the methodology report.
After making minor revisions, it can be concluded that the metadata are compliant with the requirement, the datasets are compliant with ILCD entry-level requirements and that the DQR is representative for the LCI and has been calculated in accordance to the methodology document.

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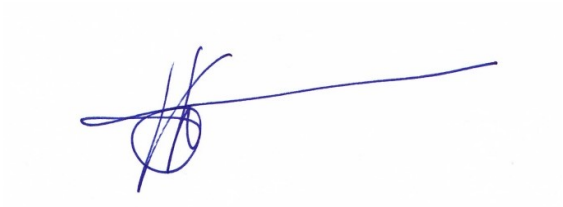
On behalf of the review team, I'm pleased to conclude that, the dataset is compliant with all requirements as defined in the tender specification for the **provision of "*feed*" process-based product environmental footprint-compliant life cycle inventory datasets** (contract number No ENV.A.1/SER/2016/0035VL) and the draft Product Environmental Footprint Category Rules guidance document v6.1.

Yours sincerely,



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senior researcher livestock systems and environment

C.C.
Xavier Bengoa, Quantis International
Jens Lansche, Agroscope
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