



Algemene gegevens	
TKI-Nummer	AF-EU-14014 / BO-31.03-007-001
Titel	ENREMILK
Topsector (A&F of T&U)	A&F
Projectleider (onderzoek)	Volkert Beekman
Werkelijke startdatum	01-01-2014
Werkelijke einddatum	31-12-2017
Korte omschrijving inhoud	DLO ontwikkelt een procesmodel waarmee het water- en energieverbruik in de melkpoeder- en mozzarella productie kan worden gemonitord onder huidige omstandigheden, dan wel met gebruik van innovatieve technologieën.

Highlights
<p><u>Task 11.1 Goal and scope</u></p> <p>Progress of work: Most of the goal and scope have remained the same after incidental checks with the key project partners. The allocation procedure was evaluated critically from January 2016 to June 2016, and changes for the mozzarella baseline were implemented in the LCI model of task 11.2. Some efforts were put in continuing alignment with WP9 and WP10.</p> <p>Clearly significant results:</p> <ul style="list-style-type: none">- All methodological choices have been coordinated with developments in the field, in which the PEF Dairy Pilot and the release of the IDF standard on GHG reporting are important contributions.- The allocation approach was revised, and the findings of the study and the comparison were presented on the LCA Food 2016 conference in Dublin (Link to conference abstract) <p><u>Task 11.2 Life cycle inventory</u></p> <p>Progress of work: The data was collected in RP2 as planned, complying to the data collection plan from RP1. The data from questionnaire responses from process experts and secondary data from EcoInvent was completed. The latest EcoInvent version, 3.1, was used instead of 3.0, and the latest version will be used in 2017. Basic primary data was collected for both baseline and scenarios and implemented in the WP2 process model.</p> <ul style="list-style-type: none">- First version of primary data for the baseline scenario was collected from the WP2 Process model and from scientific papers. A draft LCA model was filled with this data to determine a first baseline LCI for both mozzarella and skim milk powder, which enabled a first hotspot identification.- The output format for the data from the WP2 Process model was defined and developed for quick datatransfer from the WP2 process model to the LCA model for LCI construction of the innovation scenarios.- No data on the innovation scenarios was transferred from the WP2 Process model to the LCA Model, since the Process model was continuously updated for the baseline and the innovation scenarios through several interactions with the

relevant project partners.

In the DOW, task 11.3 was planned to run from Q3 to Q15. The bulk of the time spent in an LCA goes to collecting the data and developing the model. Task 11.2 should in fact run from Q3 to Q15.

Expected results: First version of basic primary data was collected from the WP2 Process model and from scientific papers. A conceptual LCA model was filled with this data to determine a first baseline LCI for both mozzarella and skim milk powder. This gives a first indication of the sustainability performance of the baselines.

Clearly significant results: The LCI of mozzarella was used for the presentation at the LCA Food 2016 conference in Dublin.

Task 11.3 Life cycle impact assessment

Progress of work: None, except for the LCIA aspects of the baseline LCIs; please refer to task 11.2. Task 11.3 consists of a limited effort, as it is a conversion of the LCI list into LCIA indicators. The state of art in LCIA will be used; it is expected the new version of ReCiPe will be released in 2017.

Expected results: The LCIA for the baseline was trialed, and the characterization of the mozzarella baseline LCI into Global Warming Potential was published at the presentation.

Task 11.4 Interpretation

Progress of work: Data quality management and alignment with WP9 and WP10 has gone as planned so far. Additional efforts in improving the baselines and scenarios in the WP2 Process Model will ease interpretation and sensitivity. The LCA model was parameterized fully in task 11.2, so that sensitivity and uncertainty analyses are enabled through the (parameterized) Process Model and the defined output format to the LCA model. This will facilitate a robust interpretation. The interpretation phase will also consist of a qualitative discussion of mitigations options and possibilities for upscaling State-of-the-Art process technologies.

Aantal opgeleverde producten in 2016			
Wetenschappelijke artikelen	Rapporten	Artikelen in vakbladen	Inleidingen/ workshops/ invited lectures
-	-		LCA Food 2016 conference in Dublin

Bijlage: Titels van de producten of een link naar de producten op een openbare website

Roel Helmes1*, Tommie Ponsioen1, Robbert Robbemon1 - **Allocation choices strongly affect technology evaluation in dairy processing, 2016 Dublin**