Quantis

LIFE CYCLE ASSESSMENT

OF NURISHH PLANT-BASED PRODUCTS COMPARED WITH DAIRY CHEESE IN 15 MARKETS

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Technical summary of key findings and claims and equivalences construction

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NURISHH PLANT-BASED PRODUCTS COMPARED WITH DAIRY CHEESE CONTEXT AND OBJECTIVES

Bel knows that climate change and similar sustainability challenges can represent opportunities to disrupt existing mindsets and provide consumers with new options. With this in mind, Bel has introduced a contemporary and purposeful brand, Nurishh, which caters to flexitarians' aspirations and is entirely plant-based. To level up to its commitments, Nurishh has decided to assess the environmental impacts of all its products, in order to further enhance its recipes and to share the environmental benefits of plant-based food to its consumers.

To understand the environmental impacts of Nurishh products, Bel commissioned Quantis to perform a life cycle assessment (LCA) of all Nurishh products compared to their dairy cheese equivalents. This study covers 103 Nurishh scenarios covering 15 sales markets and 15 recipes with 1 or more packaging types. 1 kg of Nurishh product is compared to 1 kg of dairy cheese equivalent sold in the same market with the same packaging type. The LCA study conforms to the ISO 14040 and 14044 standards for public disclosure of results, including an independent peer review performed by three independent experts.
This document summarises the study's goals, scope, methodology, results and conclusions. It is intended to support Nurishh in communicating the study to various audiences in a clear and useful manner, and provide substantiation of their environmental claims.

METHOD: LIFE CYCLE ASSESSMENT

Life cycle assessment is a metric-based methodology used to assess environmental impacts resulting from, for example, greenhouse gas emissions, waste production, water consumption, land occupation, and energy consumption. Environmental impacts are calculated over the life cycle of a product, from the extraction of raw materials to the end of life, including packaging disposal after consumption by consumers at home.

METHODOLOGY

This study was conducted using the European Product Environmental Footprint (PEF) method. It follows the regionalised LCA methodology described by Liao et al. (2020) to compare the environmental impacts of 1kg of Nurishh product with the same amount of a type of dairy cheese, sold in the same market and in the same packaging type.

Data was collected with a cradle-to-grave approach, taking into consideration the sourcing of key ingredients for all products in each market, production facilities, packaging designs, energy required for production, transportation, and end-of-life scenarios at consumers' homes.

Spatially differentiated agricultural life cycle inventory data and land-use change emissions were generated for Nurishh to dairy cheese using an attributional approach as per PAS 2050 (BSI, 2012), aligned with the latest international standards for dairy products, published by the International Dairy Federation (IDF, 2015) and the European Dairy Association (EDA, 2016). All life cycle inventory data are from Ecoinvent v3.8.1 (Weidema et al., 2013), the World Food LCA Database v3.5 (Nemecek et al. 2019), and Agribalyse v3.0 (Koch & Salou 2016). The model was developed in SimaPro version 9.3 with Ecoinvent 3.8 to model individual datasets.

It is important to note that results from the study are likely to vary due to different energy mixes, modes of transportation and comparisons of country-specific dairy products amongst other factors.

CRITICAL REVIEW

This LCA is currently undergoing peer-review by a panel of three independent experts in May 2023. It should respect ISO 14040 and 14044 standards for public disclosure of comparative results, with the intention that it may be used to support comparative environmental claims for the Nurishh products described above in the 15 sales markets.

FUNCTIONAL UNIT

In LCA, the functional unit is a quantitative reference point for which all results are calculated and presented, allowing for comparison of products that may substitute one another in fulfilling a certain function for the consumer.

In the study, the functional unit for the comparison between Nurishh products and their dairy cheese equivalent is **1 kg of Nurishh product or the alternative dairy cheese equivalent, sold in the same packaging type and stored in the refrigerator at a consumer's home in up to 15 sales markets.**

Secondary functions, such as taste qualities or product branding, are not addressed in this study.

SCOPE OF THE LCA: FROM CRADLE-TO-GRAVE

The LCA considers activities identified across the product life cycle (cradle to grave) for Nurishh products and dairy cheese in the 15 markets (see **Figure 1**). This includes all necessary inputs to produce and transport the ingredients, including the use and end-of-life stages of the products. For the reference cases, Nurishh products include: Blend, Camembert, Cheddar, Emmental, Feta, Goat, Gouda, Hot Pepper, Mozzarella and Parmesan.

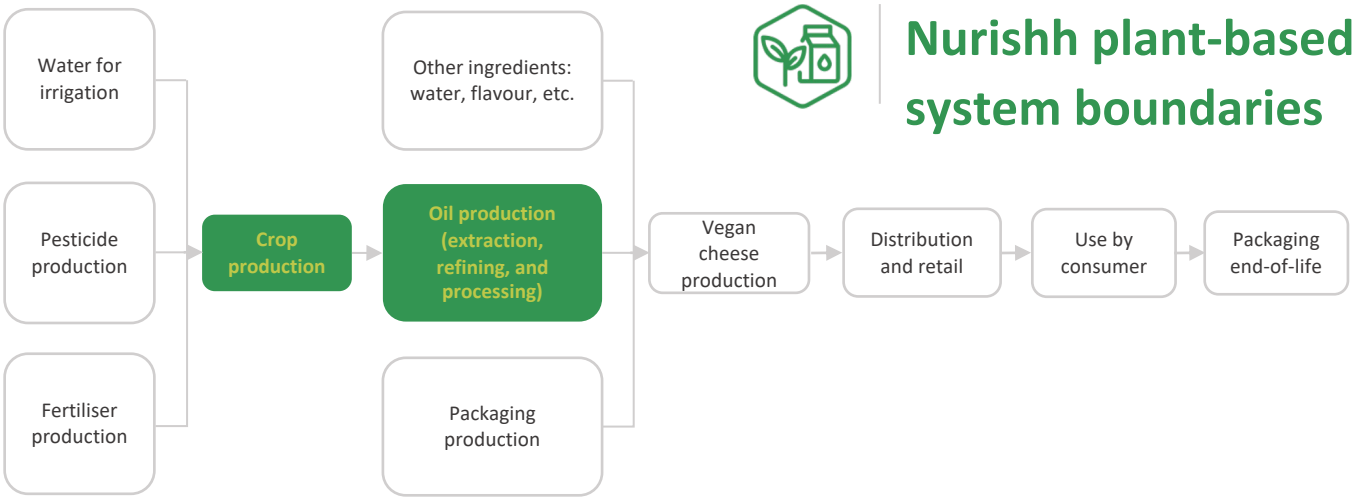
The sales markets are

- Belgium & Luxembourg
- Canada
- Eastern Countries
- France
- Lebanon
- UAE
- Germany
- Mauritius Island
- Netherlands
- Nordics & Iceland
- Portugal
- Spain
- Switzerland & Austria
- UK & Ireland
- South Africa

The study includes impacts from

- Farming (crop production including coconut, maize, potato, and tapioca, and cattle breeding for dairy cheese)
- Extraction or processing of raw materials
- Packaging manufacturing
- Distribution and retail
- Consumer use
- Packaging end-of-life

Given that the Nurishh product is produced in one location only, the raw materials sourcing (coconut oil, maize, potato, tapioca) is considered is the same for all markets. For dairy cheese, the sourcing of raw materials is considered local (the background of the European cheese dataset was adapted, using milk and cream from the respective markets, with cows fed regional feed mixes).



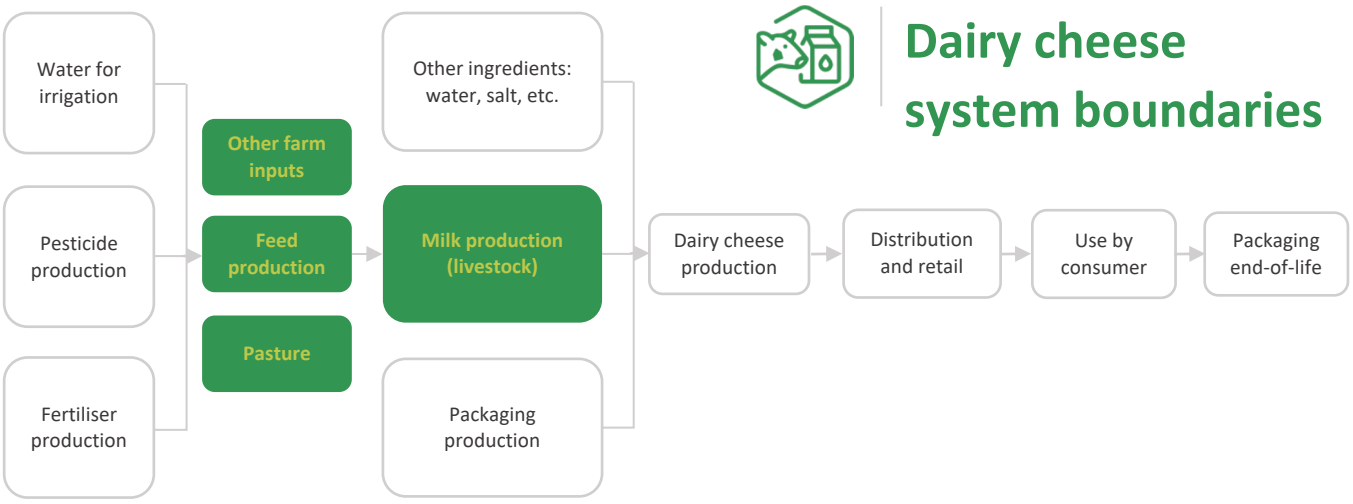


Figure 1. The assessed life cycle stages of Nurishh products (top) and dairy cheese (bottom)

The study does not include impacts from

- Capital goods at the distribution center and point of retail
- Labor, commuting of workers, administrative work, cattle insemination, and disease control processes
- Food loss and food waste during distribution, at retail points, and at the consumer's home
- Other environmental impacts associated with human activities such as noise, odours, and electromagnetic fields

DATA COLLECTION + MODELLING

- Nurishh products: Primary data from Bel on Nurishh recipe, production, packaging, and distribution were used. Different life cycle inventory databases were used to model crop production and oil processing in all relevant countries. Data was collected at the end of 2021 and in 2022 and remains up to date at the time of publication in April 2023.
- Dairy equivalents: Default data representative of European averages and published by the European Dairy Association and the European Commission in the PEF (Product Environmental Footprint) Category Rules for Dairy Products were used to model dairy processing, packaging and distribution.

RESULTS AND ENVIRONMENTAL IMPACT INDICATORS CONSIDERED FOR THE CLAIMS

For all scenarios, Nurishh products have lower impacts for 8 of the 16 indicators evaluated: climate change, land occupation, land use, photochemical ozone fermentation, particulate matter, acidification, marine eutrophication, and terrestrial eutrophication. For the 8 other indicators, the results are not significant enough to be used for communication.

To substantiate Nurishh claims, this document focuses on three of the environmental indicators evaluated: **climate change, land occupation, and water consumption**. These indicators were selected based on the life cycle impact assessment (LCIA), used to categorise LCA results into a selection of relevant environmental impact indicators and because they are robust and meaningful for comparisons amongst food products. For the Nurishh LCA, the choice of impact categories was made based on the PEF methodology and the PEFCR (Product Environmental Footprint Category Rules) for dairy products. In addition to 14 indicators from the European Commission Environmental Footprint (EF) 3.0, two inventory indicators were considered: land occupation (m^2.y), which reflects the total area of land required for human activities over one year, and water consumption (m^3), which reflects the total amount of freshwater directly consumed (ISO 14046).

Definitions of the three focus indicators are

- Climate change (kg CO_2 eq.): Climate change is the impact of all greenhouse gas emissions emitted throughout the life cycle of a product including carbon dioxide (CO_2), methane, (CH_4), or nitrous oxide (N_2O). All GHG are measured using the same unit: Greenhouse gas emissions are the main driver of global warming.

- Land use (occupation) (m^2 per year): The total area of land used over one year (e.g., forest occupation for wood products). Used to flag risks of land pressure but does not represent the impacts related to this pressure, for instance, on biodiversity. In communications, also referred to as the amount of land used.

- Water consumption (m^3): The volume of water extracted from natural systems, calculated as a sum of the water to air flows. Corresponds to water that is used and not returned to the environment due to human activities.

Belgium & Luxembourg

RESULTS AND DISCUSSION

BELGIUM & LUXEMBOURG

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 9 Nurishh products sold in Belgium & Luxembourg were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in Belgium & Luxembourg), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 9 products, Nurishh's impacts on climate change are between 3 to 6 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 120 Hot Pepper	**2.6**	**8.1**	**76%**
Dairy cheese equivalent	10.7		
Nurishh Powder Doypack 150 Parmesan	**2.2**	**10.9**	**83%**
Dairy cheese equivalent	13.1		
Nurishh Cubes Doypack 150 Feta	**2.2**	**7.1**	**76%**
Dairy cheese equivalent	9.3		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**1.8**	**6.4**	**78%**
Dairy cheese equivalent	8.2		
Nurishh Slices Tray 160 Cheddar	**2.4**	**9.0**	**79%**
Dairy cheese equivalent	11.4		
Nurishh Slices Tray 160 Emmental	**2.5**	**9.5**	**79%**
Dairy cheese equivalent	11.9		
Nurishh Shreds Doypack 150 Emmental	**2.4**	**9.4**	**79%**
Dairy cheese equivalent	11.8		
Nurishh Shreds Doypack 150 Mozzarella	**2.4**	**6.4**	**73%**
Dairy cheese equivalent	8.8		
Nurishh Coeur Fleuri Woodbox 140 Goat	**1.9**	**7.3**	**80%**
Dairy cheese equivalent	9.2		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in Belgium & Luxembourg (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 9 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation. For Nurishh Coeur Fleuri Woodbox 140 Goat and the Cubes Doypack 150 Feta, the sunflower oil also drives climate change impacts due to the use of fertilizers during the sunflower cultivation and the energy use for oil warming and milling.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 9 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

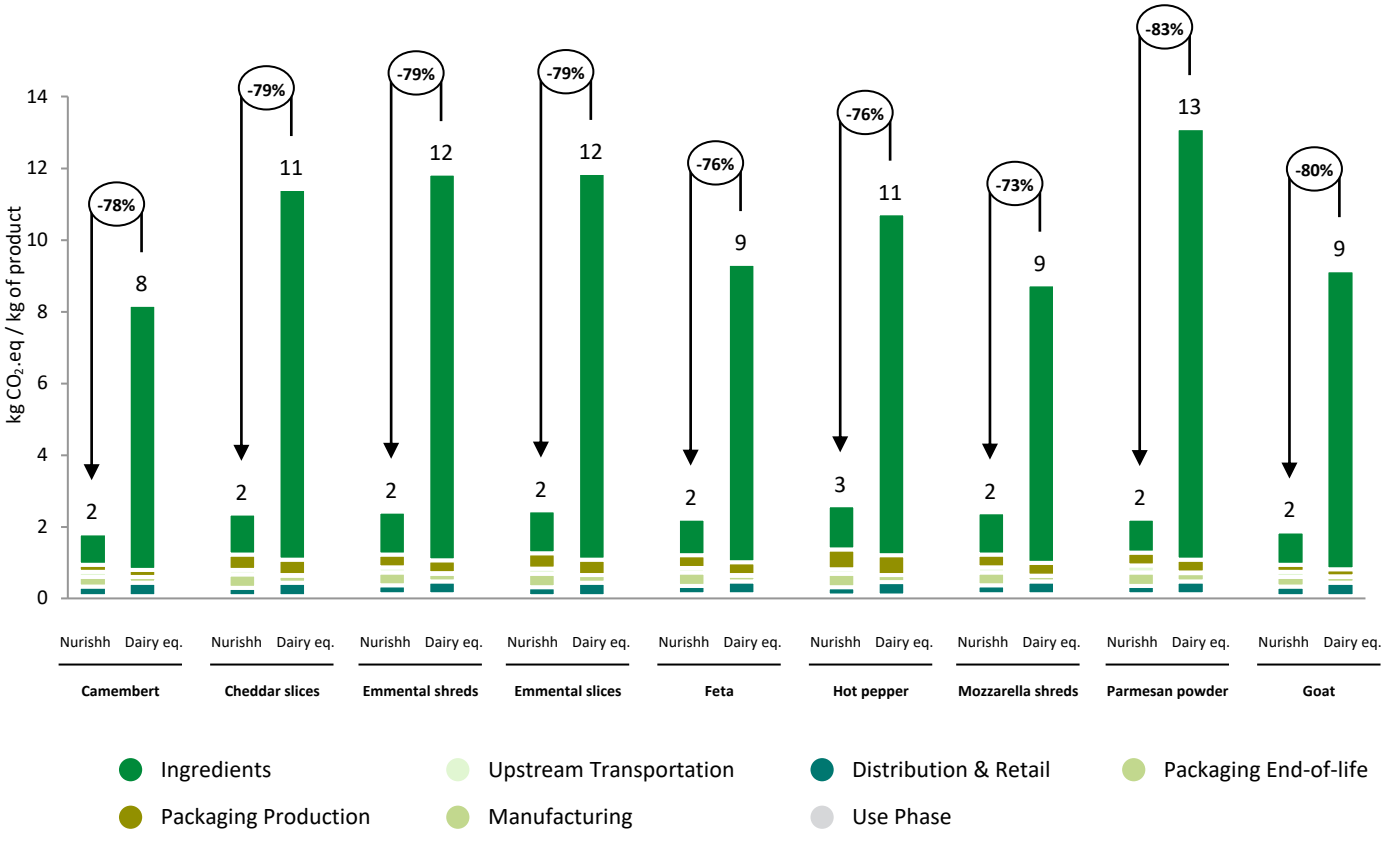


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in Belgium & Luxembourg; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 9 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 9 products, Nurishh's impact on land occupation are between 3 to 6 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 120 Hot Pepper	**1.9**	**7.7**	**80%**
Dairy cheese equivalent	9.6		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**10.6**	**87%**
Dairy cheese equivalent	12.2		
Nurishh Cubes Doypack 150 Feta	**2.3**	**6.3**	**73%**
Dairy cheese equivalent	8.6		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**5.6**	**74%**
Dairy cheese equivalent	7.6		
Nurishh Slices Tray 160 Cheddar	**1.7**	**8.6**	**84%**
Dairy cheese equivalent	10.3		
Nurishh Slices Tray 160 Emmental	**1.7**	**9.0**	**84%**
Dairy cheese equivalent	10.7		
Nurishh Shreds Doypack 150 Emmental	**1.9**	**9.1**	**82%**
Dairy cheese equivalent	11.0		
Nurishh Shreds Doypack 150 Mozzarella	**1.9**	**6.2**	**76%**
Dairy cheese equivalent	8.1		
Nurishh Coeur Fleuri Woodbox 140 Goat	**2.1**	**6.5**	**76%**
Dairy cheese equivalent	8.6		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in Belgium & Luxembourg (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

For Nurishh Coeur Fleuri Woodbox 140 Goat and the Cubes Doypack 150 Feta, sunflower oil used for Feta recipe, and in a smaller proportion for Goat recipe, is highly impacting on land occupation due to the surface occupied by the crop itself along with the yield of sunflower to sunflower oil.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

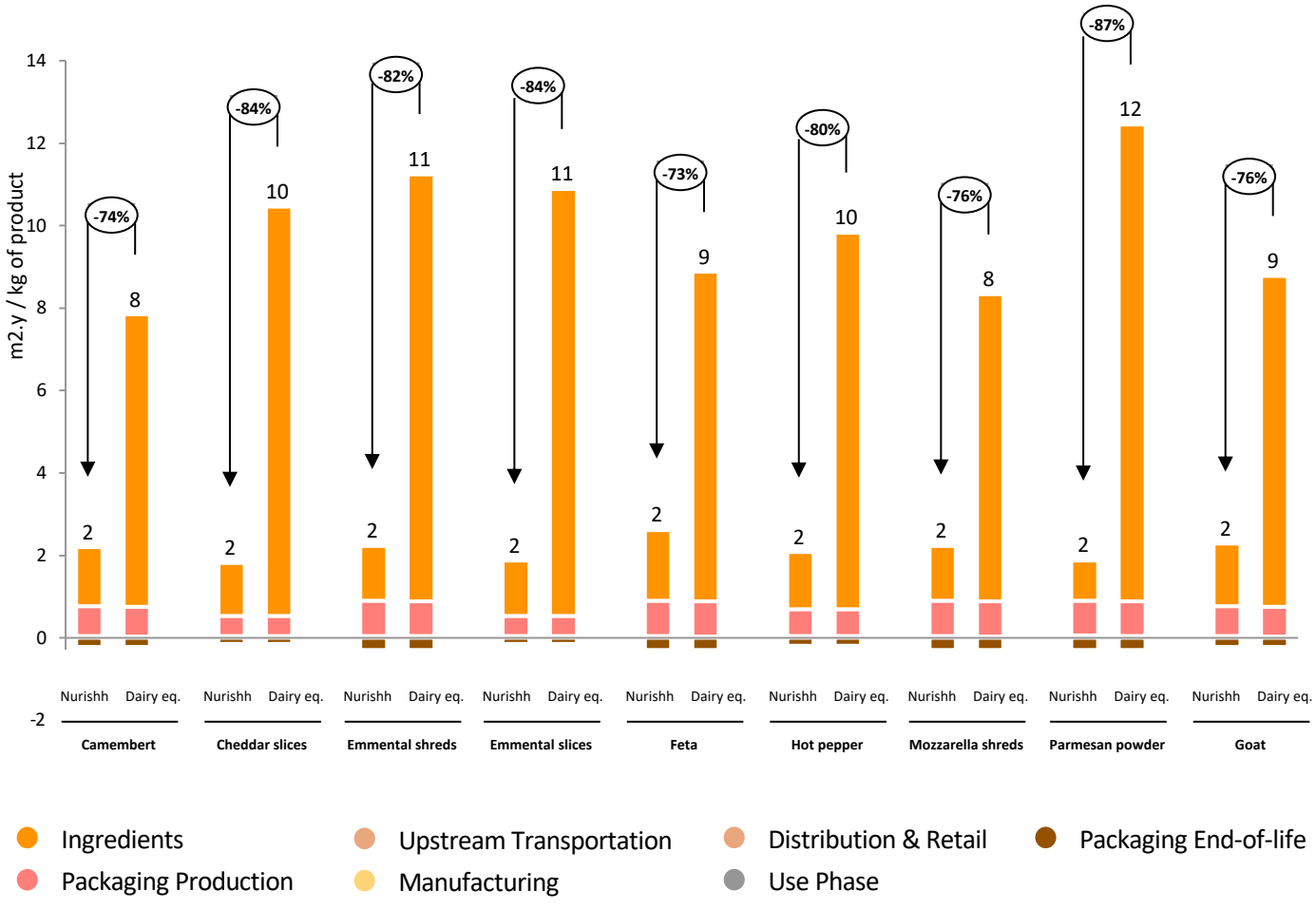


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in Belgium & Luxembourg; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 9 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across all the products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 120 Hot Pepper	**0.05**	**0.01**	**13%**
Dairy cheese equivalent	0.06		
Nurishh Powder Doypack 150 Parmesan	**0.05**	**0.02**	**34%**
Dairy cheese equivalent	0.07		
Nurishh Cubes Doypack 150 Feta	**0.04**	**0.01**	**33%**
Dairy cheese equivalent	0.05		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**0.03**	**0.01**	**35%**
Dairy cheese equivalent	0.04		
Nurishh Slices Tray 160 Cheddar	**0.05**	**0.01**	**24%**
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 160 Emmental	**0.05**	**0.02**	**24%**
Dairy cheese equivalent	0.07		
Nurishh Shreds Doypack 150 Emmental	**0.05**	**0.02**	**25%**
Dairy cheese equivalent	0.07		
Nurishh Shreds Doypack 150 Mozzarella	**0.05**	**0.00**	**0%**
Dairy cheese equivalent	0.05		
Nurishh Coeur Fleuri Woodbox 140 Goat	**0.03**	**0.02**	**43%**
Dairy cheese equivalent	0.05		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in Belgium & Luxembourg (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 9 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

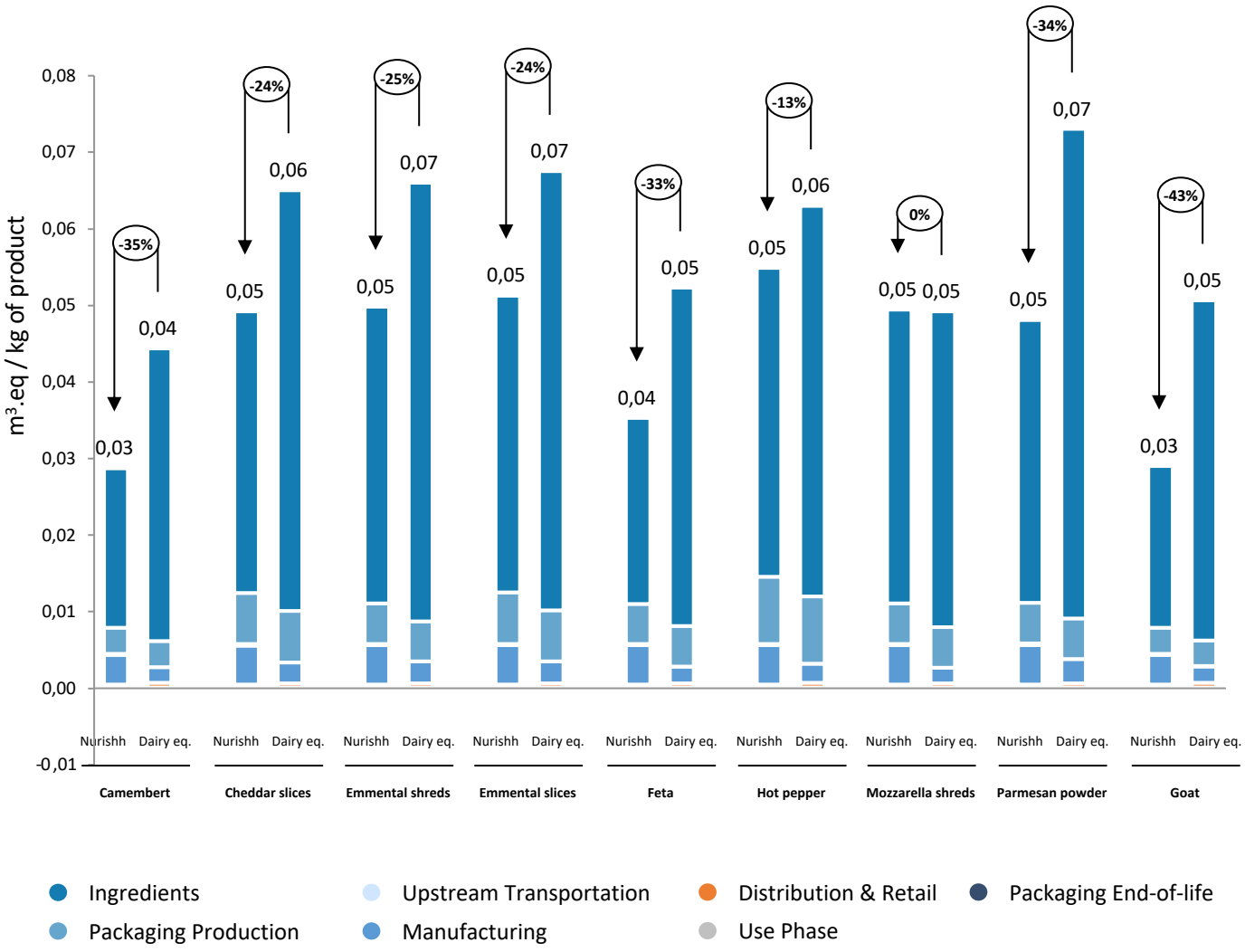


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in Belgium & Luxembourg; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 73% lower carbon footprint compared with dairy cheese equivalents in Belgium and Luxembourg. Regarding land occupation, Nurishh products occupy at least 73% less land for 1 kg of product in Belgium and Luxembourg. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN BELGIUM & LUXEMBOURG

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 120 Hot Pepper	25	2025 (84 days)	2700
Nurishh Powder Doypack 150 Parmesan	34	2725 (114 days)	3633
Nurishh Cubes Doypack 150 Feta	22	1775 (74 days)	2367
Nurishh Coeur Fleuri Woodbox 140 Camembert	20	1600 (67 days)	2133
Nurishh Slices Tray 160 Cheddar	28	2250 (94 days)	3000
Nurishh Slices Tray 160 Emmental	29	2375 (99 days)	3167
Nurishh Shreds Doypack 150 Emmental	29	2350 (98 days)	3133
Nurishh Shreds Doypack 150 Mozzarella	20	1600 (67 days)	2133
Nurishh Coeur Fleuri Woodbox 140 Goat	23	1825 (76 days)	2433

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in Belgium & Luxembourg

Canada

RESULTS AND DISCUSSION

CANADA

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 7 Nurishh products sold in Canada were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in Canada), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 7 products, Nurishh's impacts on climate change are between 2 to 4 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 160 Mozzarella	**2.6**	**4.6**	**64%**
Dairy cheese equivalent	7.2		
Nurishh Slices Tray 160 Cheddar	**2.5**	**6.8**	**73%**
Dairy cheese equivalent	9.3		
Nurishh Shreds Doypack 200 Mozzarella	**2.5**	**4.6**	**65%**
Dairy cheese equivalent	7.0		
Nurishh Shreds Doypack 200 Cheddar	**2.3**	**6.8**	**75%**
Dairy cheese equivalent	9.1		
Nurishh Shreds Doypack 200 Blend	**2.3**	**7.0**	**75%**
Dairy cheese equivalent	9.3		
Nurishh Powder Doypack 150 Parmesan	**2.6**	**8.0**	**75%**
Dairy cheese equivalent	10.6		
Nurishh Cubes Doypack 150 Feta	**2.6**	**5.0**	**65%**
Dairy cheese equivalent	7.6		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in Canada (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 7 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation. For Nurishh Cubes Doypack 150 Feta, the sunflower oil also drives climate change impacts due to the use of fertilizers during the sunflower cultivation and the energy use for oil warming and milling.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 7 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage. In Canada, the impact of distribution is more significant than in most other markets because of larger distances travelled via refrigerated trucks from the manufacturing plant in France to the market. This also means that the impact of the distribution of the Nurishh products is bigger than the one caused by the distribution of the dairy equivalent.

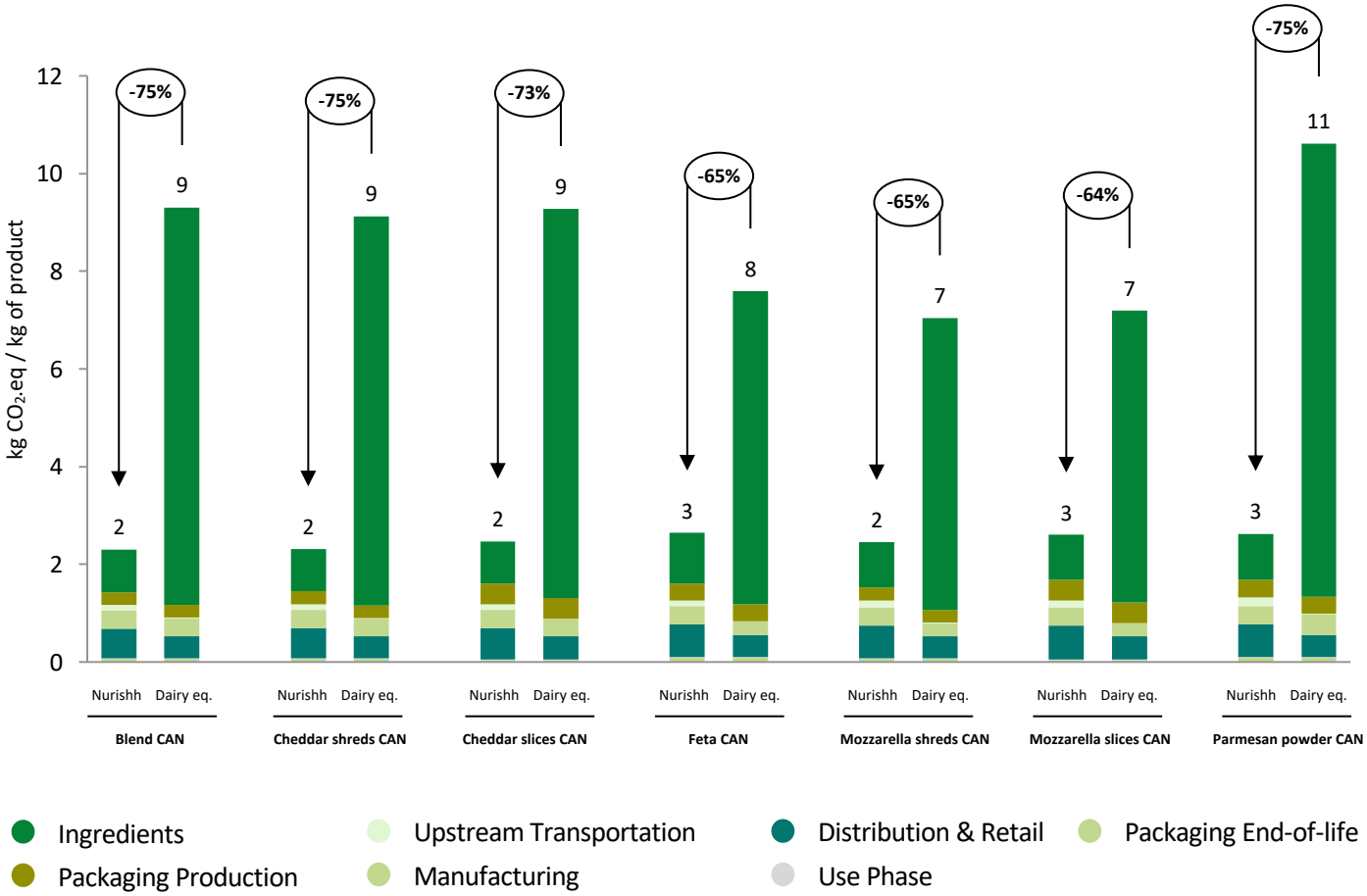


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in Canada; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 7 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 7 products, Nurishh's impact on land occupation are between 4 to 6 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 160 Mozzarella	**1.6**	**6.7**	**80%**
Dairy cheese equivalent	8.3		
Nurishh Slices Tray 160 Cheddar	**1.6**	**9.4**	**86%**
Dairy cheese equivalent	11.0		
Nurishh Shreds Doypack 200 Mozzarella	**1.8**	**6.7**	**79%**
Dairy cheese equivalent	8.5		
Nurishh Shreds Doypack 200 Cheddar	**1.7**	**9.4**	**85%**
Dairy cheese equivalent	11.1		
Nurishh Shreds Doypack 200 Blend	**1.7**	**9.7**	**85%**
Dairy cheese equivalent	11.4		
Nurishh Powder Doypack 150 Parmesan	**1.5**	**11.5**	**88%**
Dairy cheese equivalent	13.0		
Nurishh Cubes Doypack 150 Feta	**2.3**	**6.9**	**75%**
Dairy cheese equivalent	9.2		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in Canada (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

For Nurishh Cubes Doypack 150 Feta, sunflower oil used for Feta recipe is highly impacting on land occupation due to the surface occupied by the crop itself along with the yield of sunflower to sunflower oil.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

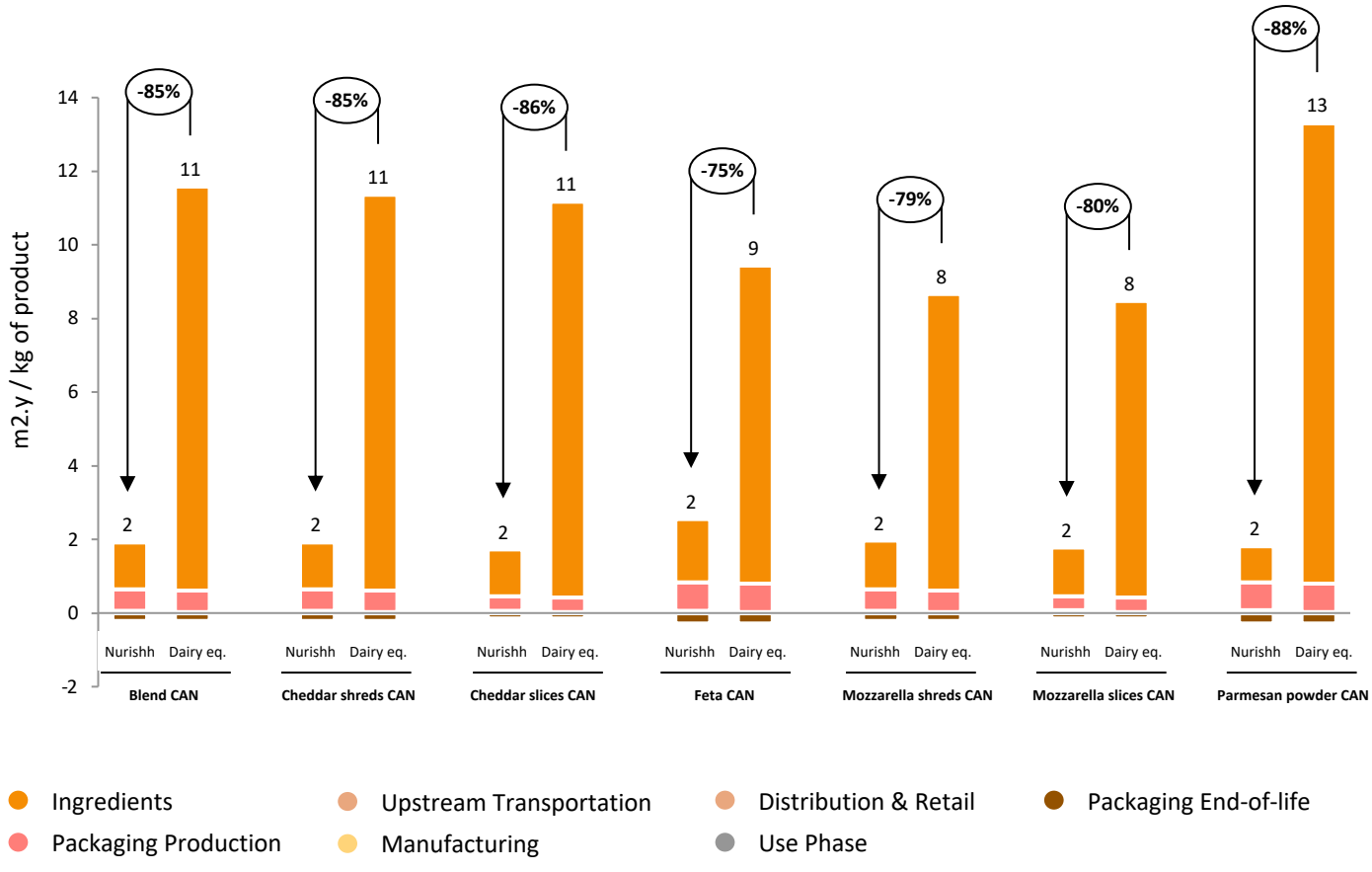


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in Canada; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 7 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across the majority of products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators. However, three recipes in Canada have a significantly lower water impact than their dairy equivalent, mainly because of the feed mix and the fact that Canadian recipes use a lower quantity of tricalcium citrate.

Results regarding water consumption are not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 160 Mozzarella	**0.04**	**0.02**	**37%**
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 160 Cheddar	**0.04**	**0.04**	**56%**
Dairy cheese equivalent	0.08		
Nurishh Shreds Doypack 200 Mozzarella	**0.04**	**0.02**	**39%**
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 200 Cheddar	**0.03**	**0.05**	**58%**
Dairy cheese equivalent	0.08		
Nurishh Shreds Doypack 200 Blend	**0.03**	**0.05**	**59%**
Dairy cheese equivalent	0.08		
Nurishh Powder Doypack 150 Parmesan	**0.05**	**0.04**	**46%**
Dairy cheese equivalent	0.09		
Nurishh Cubes Doypack 150 Feta	**0.04**	**0.03**	**44%**
Dairy cheese equivalent	0.06		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in Canada (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 7 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

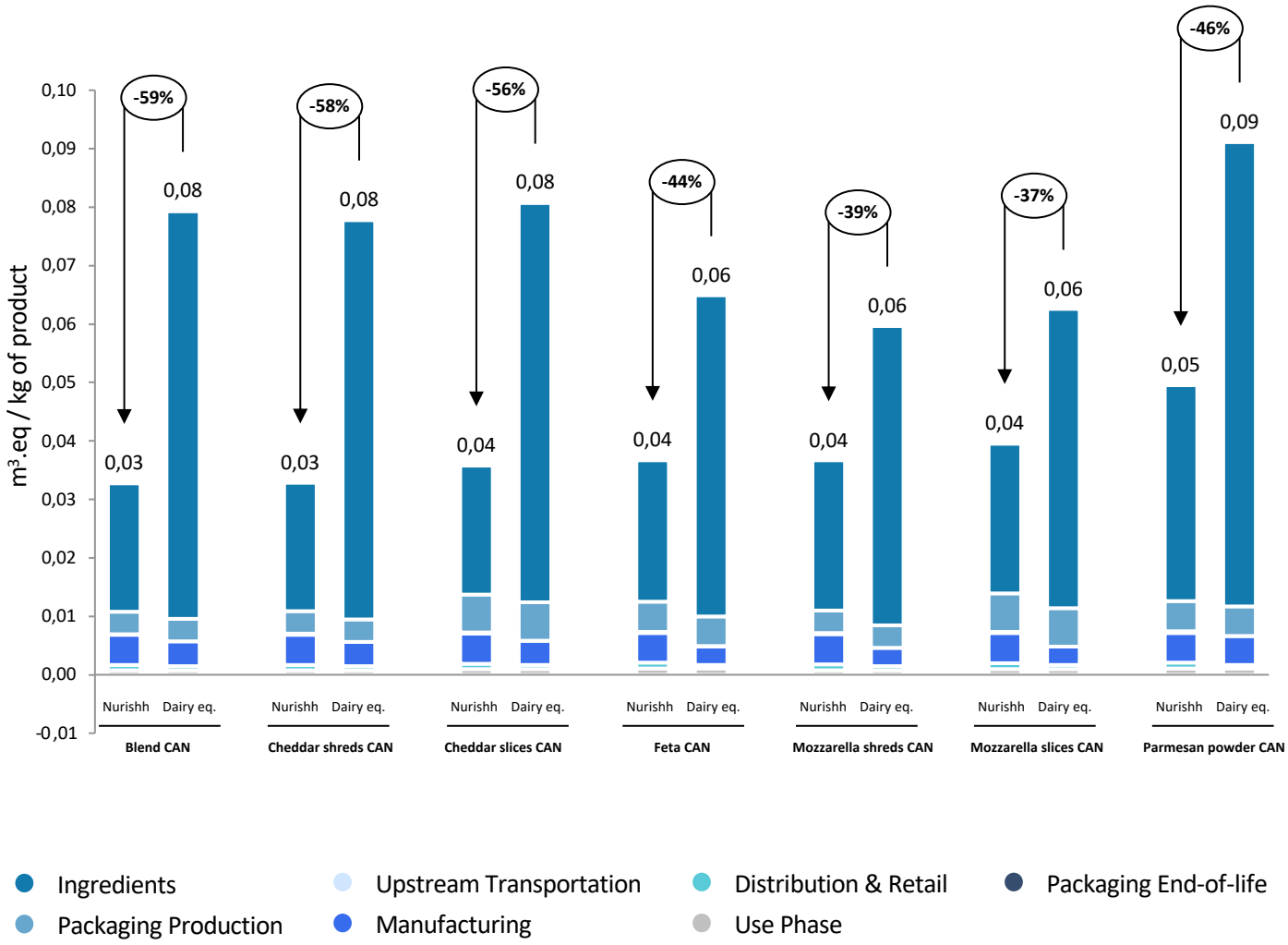


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in Canada; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 64% lower carbon footprint compared with dairy cheese equivalents in Canada. Regarding land occupation, Nurishh products occupy at least 75% less land for 1 kg of product in Canada. Regarding water consumption, impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN CANADA

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 160 Mozzarella	14	1150 (48 days)	1533
Nurishh Slices Tray 160 Cheddar	21	1700 (71 days)	2267
Nurishh Shreds Doypack 200 Mozzarella	14	1150 (48 days)	1533
Nurishh Shreds Doypack 200 Cheddar	21	1700 (71 days)	2267
Nurishh Shreds Doypack 200 Blend	22	1750 (73 days)	2333
Nurishh Powder Doypack 150 Parmesan	25	2000 (83 days)	2667
Nurishh Cubes Doypack 150 Feta	15	1250 (52 days)	1667

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in Canada

Eastern Countries

RESULTS AND DISCUSSION

EASTERN COUNTRIES

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 9 Nurishh products sold in Eastern countries were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in Eastern countries), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 9 products, Nurishh's impacts on climate change are between 3 to 5 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 120 Hot Pepper	**2.8**	**8.2**	**75%**
Dairy cheese equivalent	11.0		
Nurishh Slices Tray 120 Mozzarella	**2.8**	**6.3**	**69%**
Dairy cheese equivalent	9.1		
Nurishh Slices Tray 120 Emmental	**2.8**	**9.5**	**77%**
Dairy cheese equivalent	12.3		
Nurishh Slices Tray 120 Cheddar	**2.7**	**9.1**	**77%**
Dairy cheese equivalent	11.8		
Nurishh Shreds Doypack 150 Mozzarella	**2.6**	**6.3**	**71%**
Dairy cheese equivalent	8.9		
Nurishh Shreds Doypack 150 Emmental	**2.6**	**9.5**	**78%**
Dairy cheese equivalent	12.1		
Nurishh Shreds Doypack 150 Parmesan	**2.4**	**11.0**	**82%**
Dairy cheese equivalent	13.4		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**6.3**	**76%**
Dairy cheese equivalent	8.4		
Nurishh Slices Tray 120 Gouda	**2.8**	**8.0**	**74%**
Dairy cheese equivalent	10.8		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in Eastern countries (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 9 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 9 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

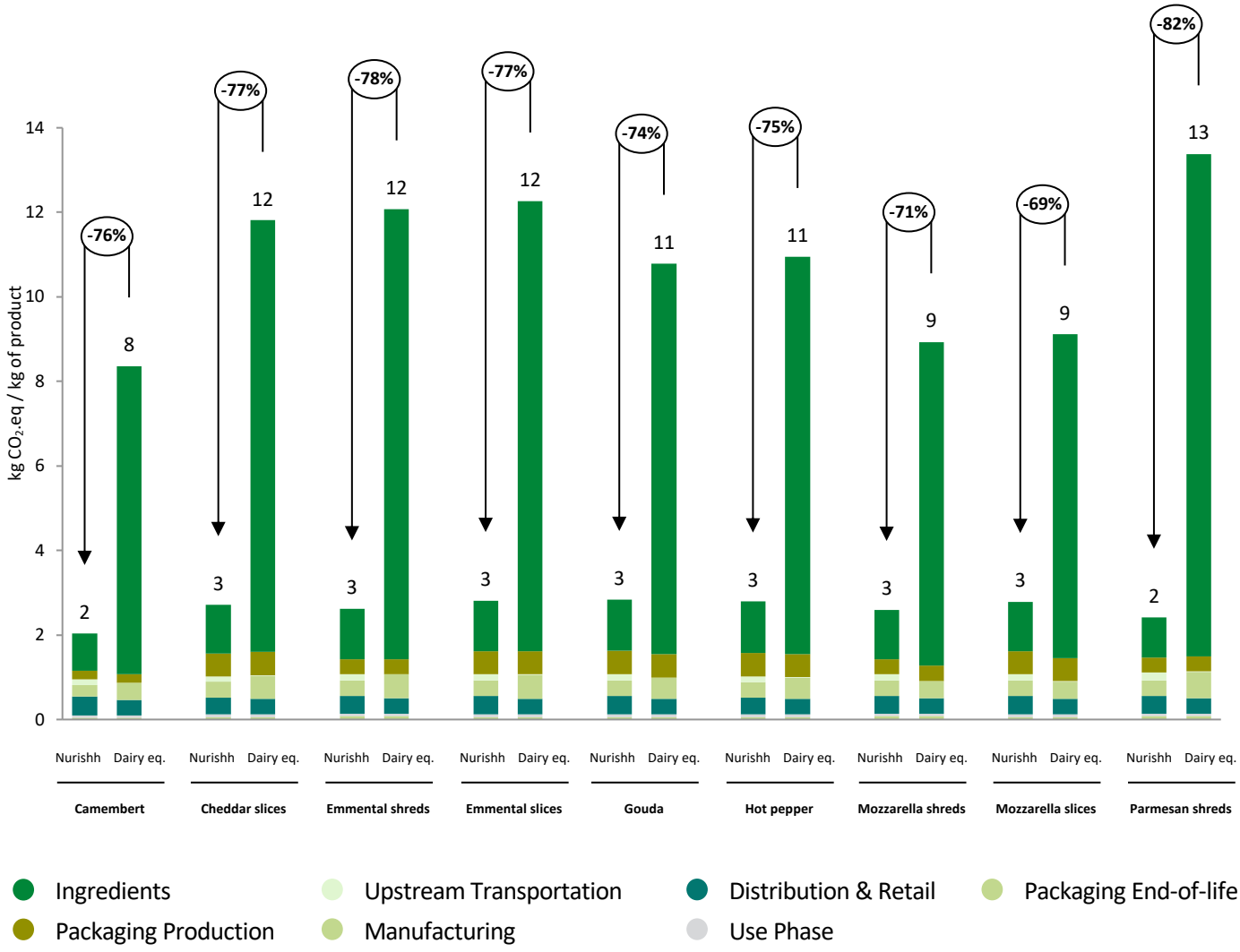


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in Eastern countries; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 9 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 9 products, Nurishh's impact on land occupation are between 6 to 12 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 120 Hot Pepper	**1.9**	**13.4**	**88%**
Dairy cheese equivalent	15.3		
Nurishh Slices Tray 120 Mozzarella	**1.9**	**10.8**	**85%**
Dairy cheese equivalent	12.6		
Nurishh Slices Tray 120 Emmental	**1.9**	**15.5**	**89%**
Dairy cheese equivalent	17.3		
Nurishh Slices Tray 120 Cheddar	**1.8**	**14.8**	**89%**
Dairy cheese equivalent	16.6		
Nurishh Shreds Doypack 150 Mozzarella	**1.9**	**10.8**	**85%**
Dairy cheese equivalent	12.7		
Nurishh Shreds Doypack 150 Emmental	**2.0**	**15.5**	**89%**
Dairy cheese equivalent	17.4		
Nurishh Shreds Doypack 150 Parmesan	**1.6**	**17.8**	**92%**
Dairy cheese equivalent	19.4		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**10.0**	**83%**
Dairy cheese equivalent	12.0		
Nurishh Slices Tray 120 Gouda	**1.9**	**13.3**	**88%**
Dairy cheese equivalent	15.1		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in Eastern countries (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in Eastern countries; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 9 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across more than half the products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 120 Hot Pepper	0.05	0.00	-5%
Dairy cheese equivalent	0.05		
Nurishh Slices Tray 120 Mozzarella	0.05	-0.01	-21%
Dairy cheese equivalent	0.04		
Nurishh Slices Tray 120 Emmental	0.05	0.00	7%
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 120 Cheddar	0.05	0.00	7%
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 150 Mozzarella	0.05	-0.01	-23%
Dairy cheese equivalent	0.04		
Nurishh Shreds Doypack 150 Emmental	0.05	0.00	7%
Dairy cheese equivalent	0.05		
Nurishh Shreds Doypack 150 Parmesan	0.05	0.01	19%
Dairy cheese equivalent	0.06		
Nurishh Coeur Fleuri Woodbox 140 Camembert	0.03	0.01	20%
Dairy cheese equivalent	0.04		
Nurishh Slices Tray 120 Gouda	0.05	0.00	-5%
Dairy cheese equivalent	0.05		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in Eastern countries (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 9 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

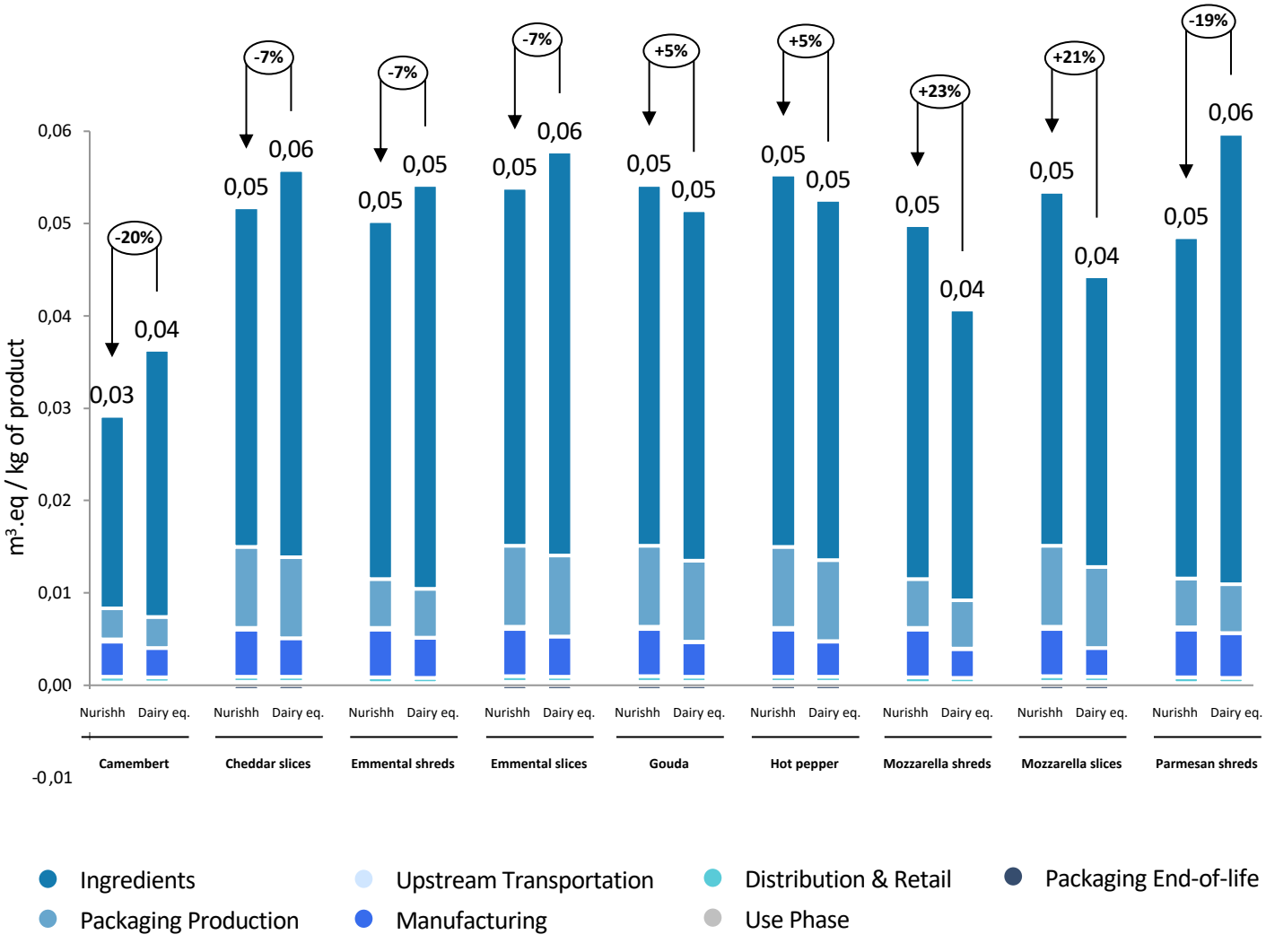


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in Eastern countries; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 71% lower carbon footprint compared with dairy cheese equivalents in Eastern countries. Regarding land occupation, Nurishh products occupy at least 83% less land for 1 kg of product in Eastern countries. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN EASTERN COUNTRIES

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 120 Hot Pepper	25	2050 (85 days)	2733
Nurishh Slices Tray 120 Mozzarella	19	1575 (66 days)	2100
Nurishh Slices Tray 120 Emmental	29	2375 (99 days)	3167
Nurishh Slices Tray 120 Cheddar	28	2275 (95 days)	3033
Nurishh Shreds Doypack 150 Mozzarella	19	1575 (66 days)	2100
Nurishh Shreds Doypack 150 Emmental	29	2375 (99 days)	3167
Nurishh Shreds Doypack 150 Parmesan	34	2750 (115 days)	3667
Nurishh Coeur Fleuri Woodbox 140 Camembert	19	1575 (66 days)	2100
Nurishh Slices Tray 120 Gouda	25	2000 (83 days)	2667

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in Eastern countries

France

RESULTS AND DISCUSSION

FRANCE

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 10 Nurishh products sold in France were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in France), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 10 products, Nurishh's impacts on climate change are between 3 to 5 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 200 Mozzarella	**2.3**	**6.2**	**73%**
Dairy cheese equivalent	8.5		
Nurishh Slices Tray 200 Emmental	**2.4**	**9.3**	**80%**
Dairy cheese equivalent	11.6		
Nurishh Slices Tray 200 Cheddar	**2.3**	**8.8**	**80%**
Dairy cheese equivalent	11.1		
Nurishh Shreds Doypack 200 Mozzarella	**2.3**	**6.2**	**73%**
Dairy cheese equivalent	8.5		
Nurishh Shreds Doypack 200 Emmental	**2.3**	**9.2**	**80%**
Dairy cheese equivalent	11.5		
Nurishh Shreds Doypack 200 Cheddar	**2.2**	**8.9**	**80%**
Dairy cheese equivalent	11.1		
Nurishh Powder Doypack 150 Parmesan	**2.2**	**10.7**	**83%**
Dairy cheese equivalent	12.9		
Nurishh Cubes Doypack 150 Feta	**2.2**	**6.9**	**76%**
Dairy cheese equivalent	9.2		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**1.8**	**6.2**	**77%**
Dairy cheese equivalent	8.0		
Nurishh Coeur Fleuri Woodbox 140 Goat	**1.9**	**7.1**	**79%**
Dairy cheese equivalent	9.0		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in France (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 10 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation. For Nurishh Cubes Doypack 150 Feta and Nurishh Coeur Fleuri Woodbox 140 Goat, the sunflower oil also drives climate change impacts due to the use of fertilizers during the sunflower cultivation and the energy use for oil warming and milling.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 10 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

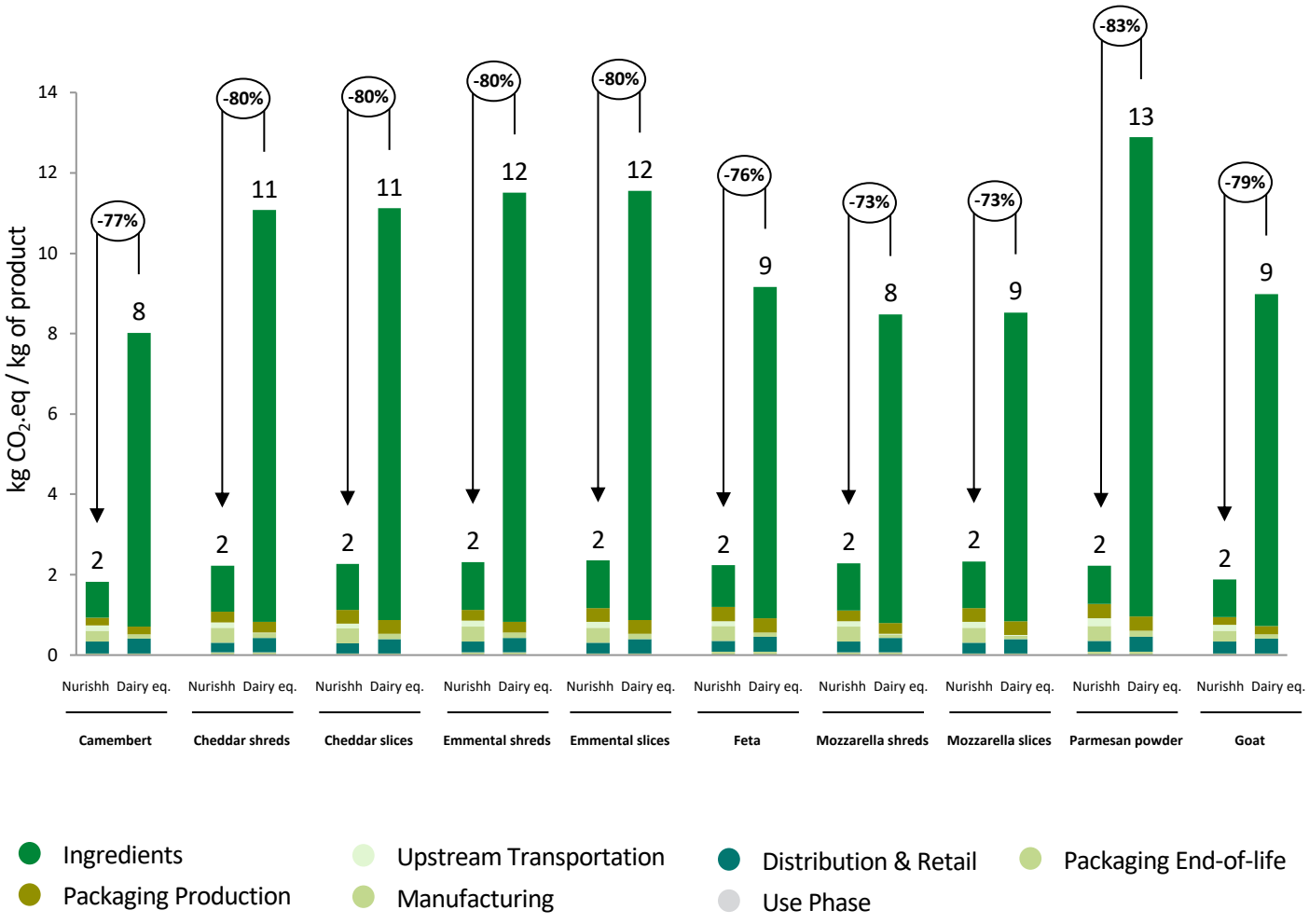


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in France; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 10 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 10 products, Nurishh's impact on land occupation are between 3 to 7 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 200 Mozzarella	**1.7**	**6.2**	**79%**
Dairy cheese equivalent	7.8		
Nurishh Slices Tray 200 Emmental	**1.7**	**9.0**	**84%**
Dairy cheese equivalent	10.7		
Nurishh Slices Tray 200 Cheddar	**1.6**	**8.7**	**84%**
Dairy cheese equivalent	10.3		
Nurishh Shreds Doypack 200 Mozzarella	**1.8**	**6.2**	**77%**
Dairy cheese equivalent	8.0		
Nurishh Shreds Doypack 200 Emmental	**1.8**	**9.1**	**83%**
Dairy cheese equivalent	10.9		
Nurishh Shreds Doypack 200 Cheddar	**1.8**	**8.8**	**83%**
Dairy cheese equivalent	10.5		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**10.6**	**87%**
Dairy cheese equivalent	12.2		
Nurishh Cubes Doypack 150 Feta	**2.3**	**6.3**	**73%**
Dairy cheese equivalent	8.6		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**5.7**	**74%**
Dairy cheese equivalent	7.7		
Nurishh Coeur Fleuri Woodbox 140 Goat	**2.1**	**6.6**	**76%**
Dairy cheese equivalent	8.6		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in France (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

For Nurishh Cubes Doypack 150 Feta and Nurishh Coeur Fleuri Woodbox 140 Goat, sunflower oil used for Feta recipe, and in a smaller proportion for Goat recipe, is highly impacting on land occupation due to the surface occupied by the crop itself along with the yield of sunflower to sunflower oil.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

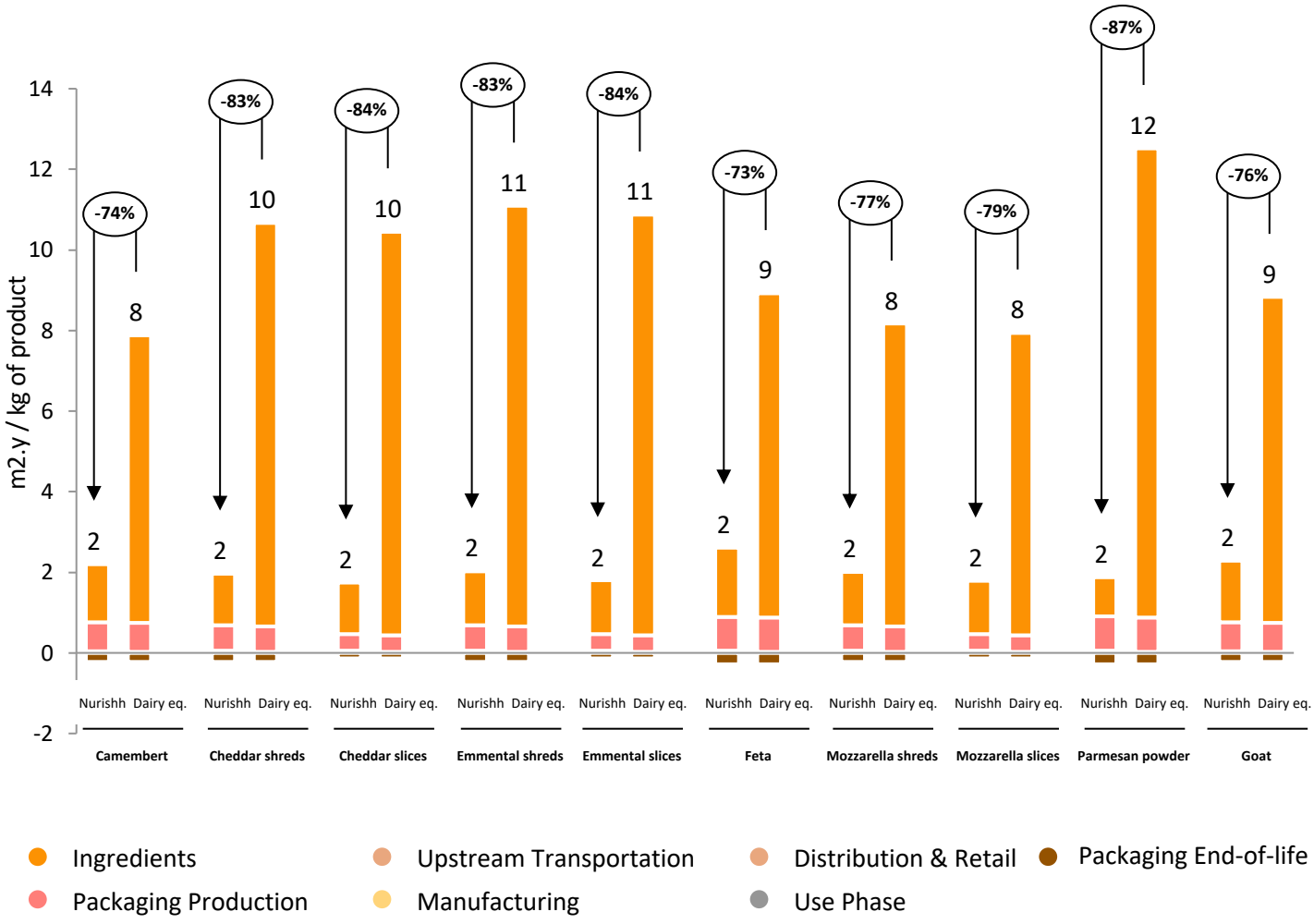


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in France; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 10 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across the majority of products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 200 Mozzarella	0.05	0.0	-4%
Dairy cheese equivalent	0.05		
Nurishh Slices Tray 200 Emmental	0.05	0.0	22%
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 200 Cheddar	0.05	0.0	22%
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 200 Mozzarella	0.05	0.0	-4%
Dairy cheese equivalent	0.05		
Nurishh Shreds Doypack 200 Emmental	0.05	0.0	22%
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 200 Cheddar	0.05	0.0	23%
Dairy cheese equivalent	0.06		
Nurishh Powder Doypack 150 Parmesan	0.05	0.0	32%
Dairy cheese equivalent	0.07		
Nurishh Cubes Doypack 150 Feta	0.04	0.0	30%
Dairy cheese equivalent	0.05		
Nurishh Coeur Fleuri Woodbox 140 Camembert	0.03	0.0	33%
Dairy cheese equivalent	0.04		
Nurishh Coeur Fleuri Woodbox 140 Goat	0.03	0.0	41%
Dairy cheese equivalent	0.05		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in France (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 10 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

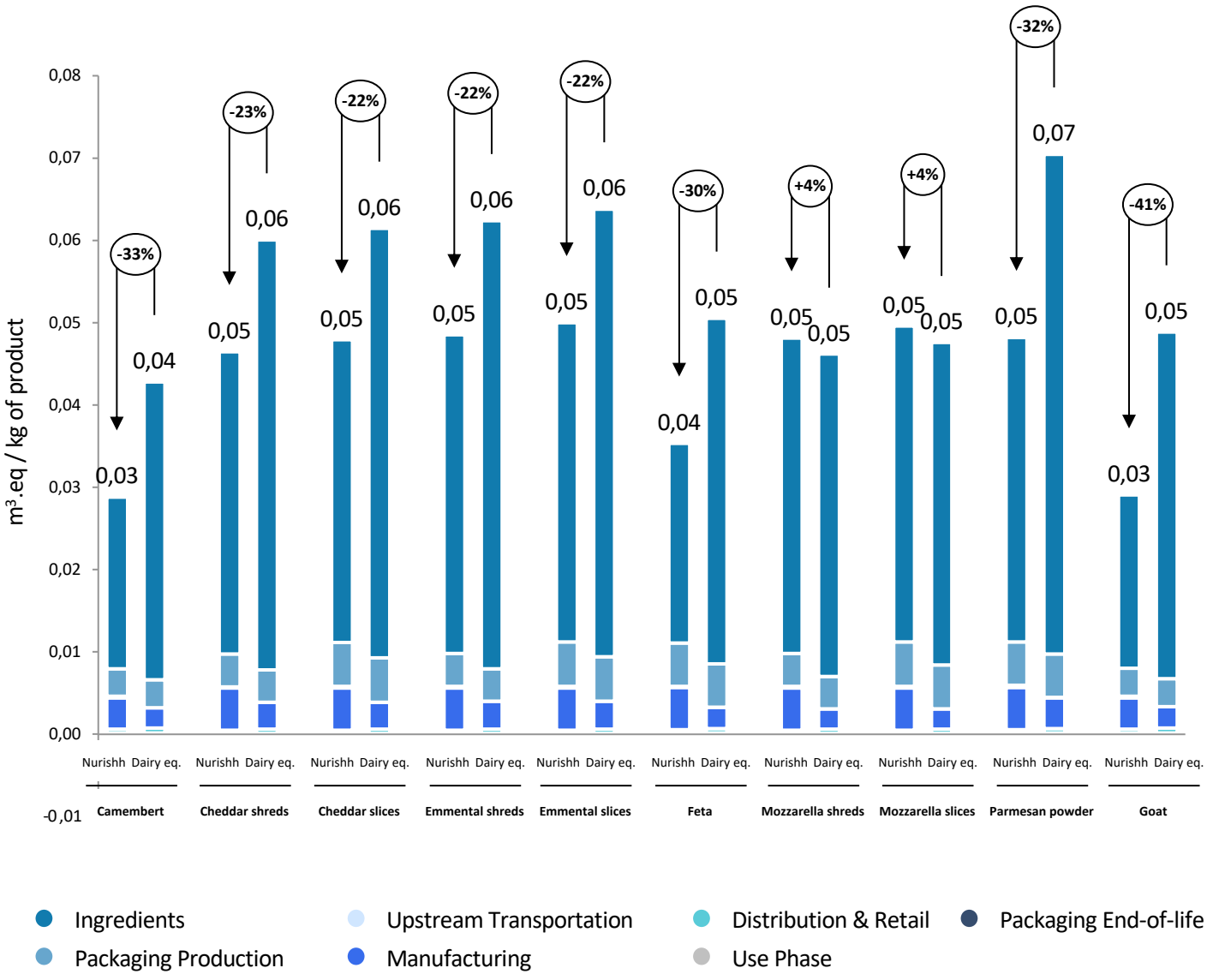


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in France; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 73% lower carbon footprint compared with dairy cheese equivalents in France. Regarding land occupation, Nurishh products occupy at least 73% less land for 1 kg of product in France. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN FRANCE

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 200 Mozzarella	19	1550 (65 days)	2067
Nurishh Slices Tray 200 Emmental	29	2325 (97 days)	3100
Nurishh Slices Tray 200 Cheddar	27	2200 (92 days)	2933
Nurishh Shreds Doypack 200 Mozzarella	19	1550 (65 days)	2067
Nurishh Shreds Doypack 200 Emmental	28	2300 (96 days)	3067
Nurishh Shreds Doypack 200 Cheddar	27	2225 (93 days)	2967
Nurishh Powder Doypack 150 Parmesan	33	2675 (111 days)	3567
Nurishh Cubes Doypack 150 Feta	21	1725 (72 days)	2300
Nurishh Coeur Fleuri Woodbox 140 Camembert	19	1550 (65 days)	2067
Nurishh Coeur Fleuri Woodbox 140 Goat	22	1775 (74 days)	2367

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in France

Lebanon

RESULTS AND DISCUSSION

LEBANON

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 5 Nurishh products sold in Lebanon were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and distribution distances from Europe to Lebanon have been taken into account for dairy products), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 5 products, Nurishh's impacts on climate change are between 3 to 6 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 120 Mozzarella	**2.5**	**6.0**	**71%**
Dairy cheese equivalent	8.5		
Nurishh Slices Tray 120 Cheddar	**2.4**	**8.7**	**78%**
Dairy cheese equivalent	11.1		
Nurishh Shreds Doypack 150 Blend	**2.4**	**8.7**	**78%**
Dairy cheese equivalent	11.1		
Nurishh Shreds Doypack 150 Mozzarella	**2.3**	**6.0**	**72%**
Dairy cheese equivalent	8.3		
Nurishh Powder Doypack 150 Parmesan	**2.1**	**10.5**	**83%**
Dairy cheese equivalent	12.6		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in Lebanon (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 5 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 5 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

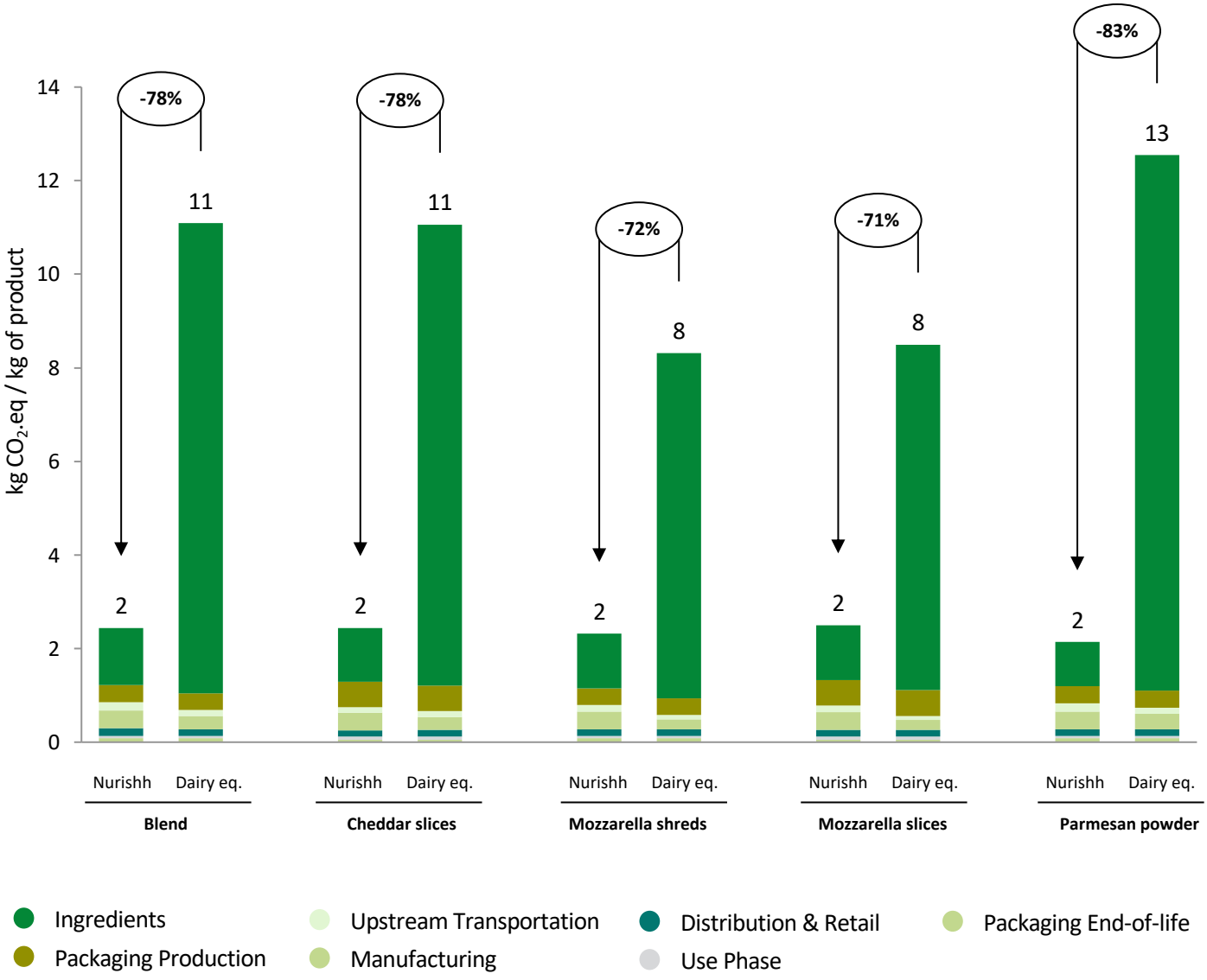


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in Lebanon; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 5 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 5 products, Nurishh's impact on land occupation are between 4 to 7 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 120 Mozzarella	**1.8**	**6.5**	**78%**
Dairy cheese equivalent	8.3		
Nurishh Slices Tray 120 Cheddar	**1.8**	**9.1**	**84%**
Dairy cheese equivalent	10.9		
Nurishh Shreds Doypack 150 Blend	**2.0**	**9.2**	**82%**
Dairy cheese equivalent	11.2		
Nurishh Shreds Doypack 150 Mozzarella	**1.9**	**6.5**	**77%**
Dairy cheese equivalent	8.4		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**11.1**	**88%**
Dairy cheese equivalent	12.7		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in Lebanon (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

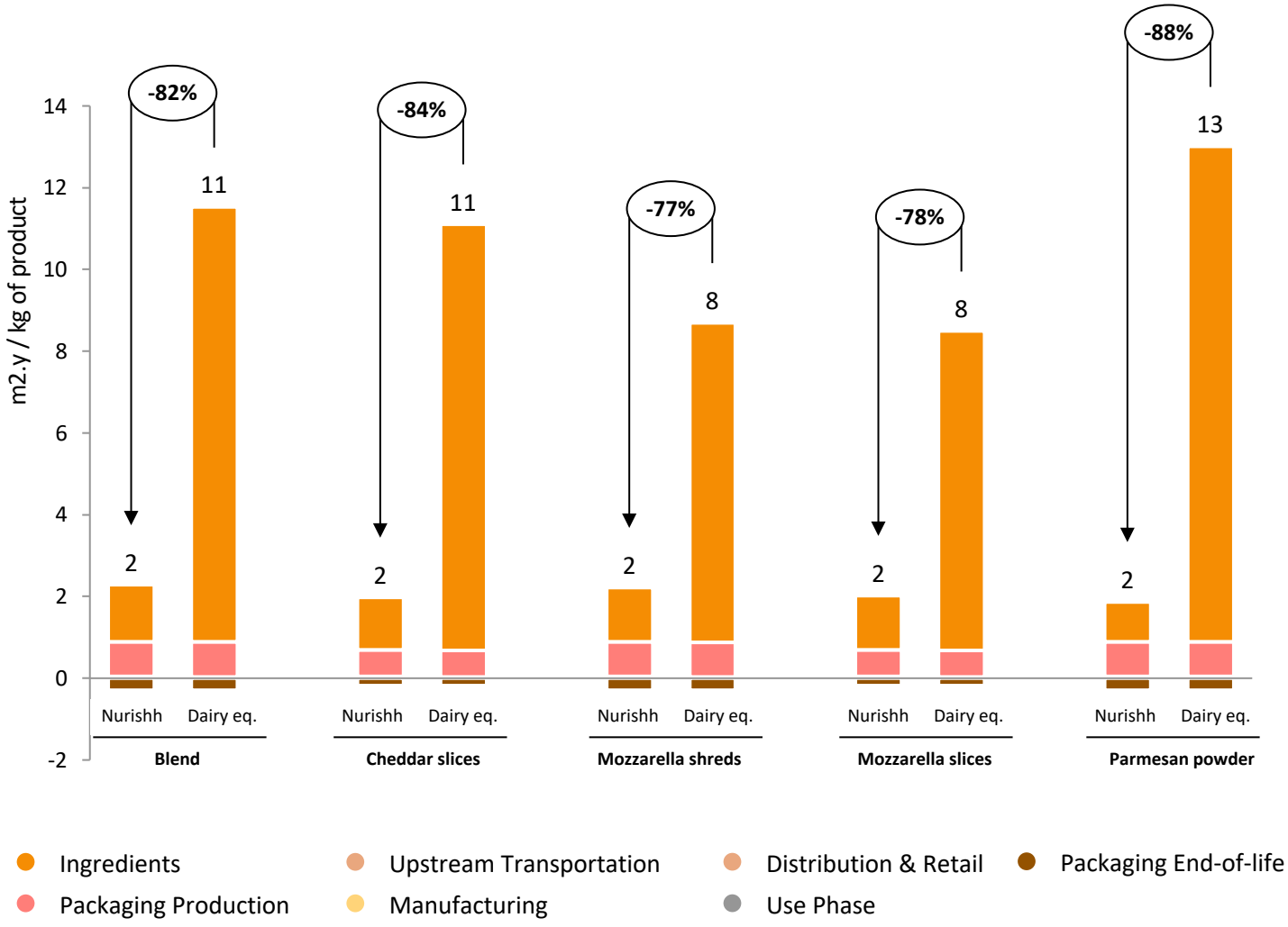


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in Lebanon; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 5 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across the majority of products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 120 Mozzarella	0.05	0.00	-3%
Dairy cheese equivalent	0.05		
Nurishh Slices Tray 120 Cheddar	0.05	0.01	22%
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 150 Blend	0.05	0.01	14%
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 150 Mozzarella	0.05	0.00	-3%
Dairy cheese equivalent	0.05		
Nurishh Powder Doypack 150 Parmesan	0.05	0.02	33%
Dairy cheese equivalent	0.07		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in Lebanon (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 5 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

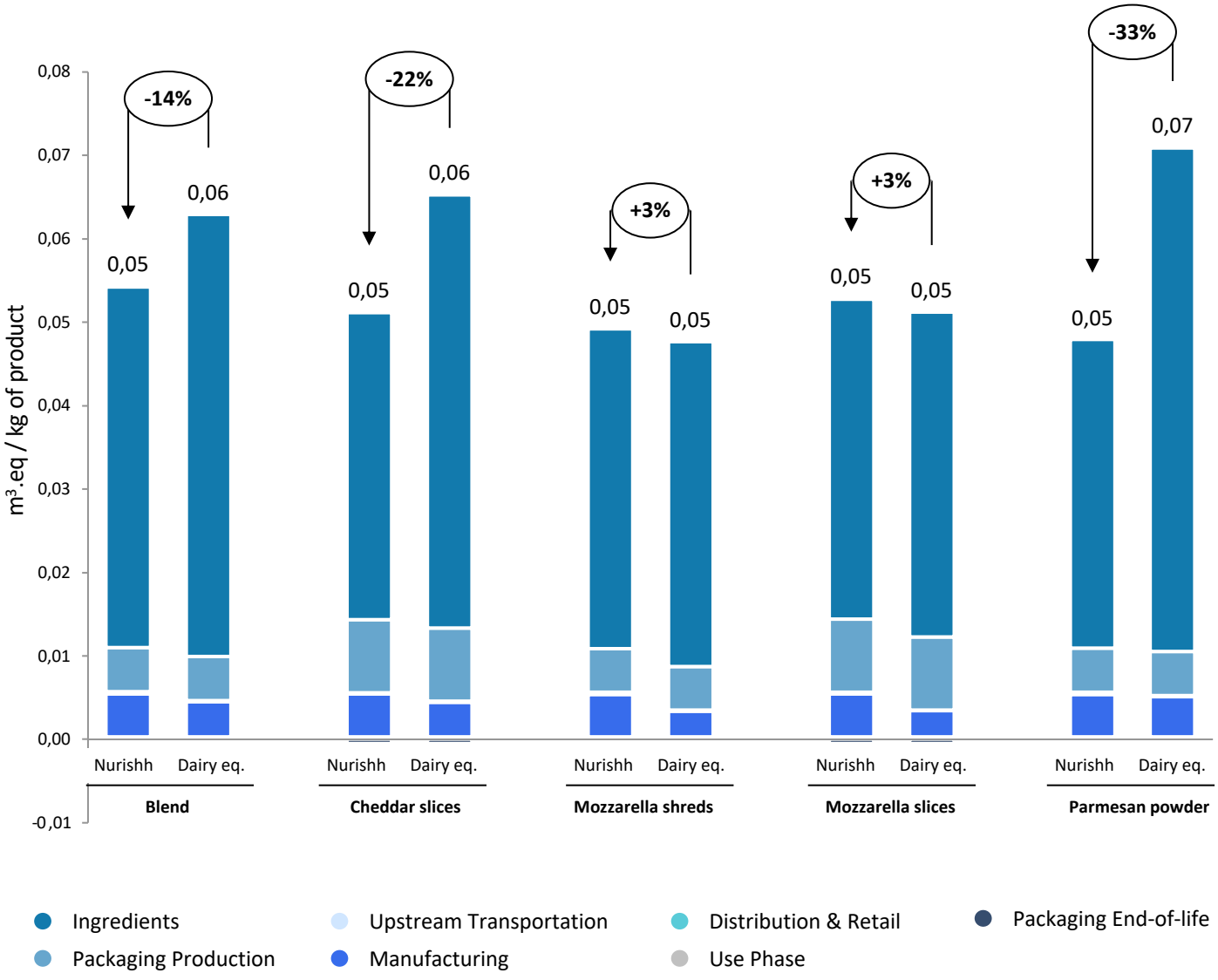


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in Lebanon; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 71% lower carbon footprint compared with dairy cheese equivalents in Lebanon. Regarding land occupation, Nurishh products occupy at least 77% less land for 1 kg of product in Lebanon. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN LEBANON

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 120 Mozzarella	19	1500 (63 days)	2000
Nurishh Slices Tray 120 Cheddar	27	2175 (91 days)	2900
Nurishh Shreds Doypack 150 Blend	27	2175 (91 days)	2900
Nurishh Shreds Doypack 150 Mozzarella	19	1500 (63 days)	2000
Nurishh Powder Doypack 150 Parmesan	32	2625 (109 days)	3500

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in Lebanon

UAE

RESULTS AND DISCUSSION

UAE

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 5 Nurishh products sold in the UAE were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and distribution distances from Europe to the UAE have been taken into account for dairy products), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 5 products, Nurishh's impacts on climate change are between 3 to 5 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint ($kg\ CO_2$ eq.)	Emission reduction ($kg\ CO_2$ eq.)	Emission reduction (%)
Nurishh Slices Tray 120 Mozzarella	**2.5**	**6.0**	**71%**
Dairy cheese equivalent	8.5		
Nurishh Slices Tray 120 Cheddar	**2.4**	**8.7**	**78%**
Dairy cheese equivalent	11.1		
Nurishh Shreds Doypack 150 Blend	**2.5**	**8.6**	**78%**
Dairy cheese equivalent	11.1		
Nurishh Shreds Doypack 150 Mozzarella	**2.3**	**6.0**	**72%**
Dairy cheese equivalent	8.3		
Nurishh Powder Doypack 150 Parmesan	**2.2**	**10.5**	**83%**
Dairy cheese equivalent	12.6		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in the UAE ($kg\ CO_2$ eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 5 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 5 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

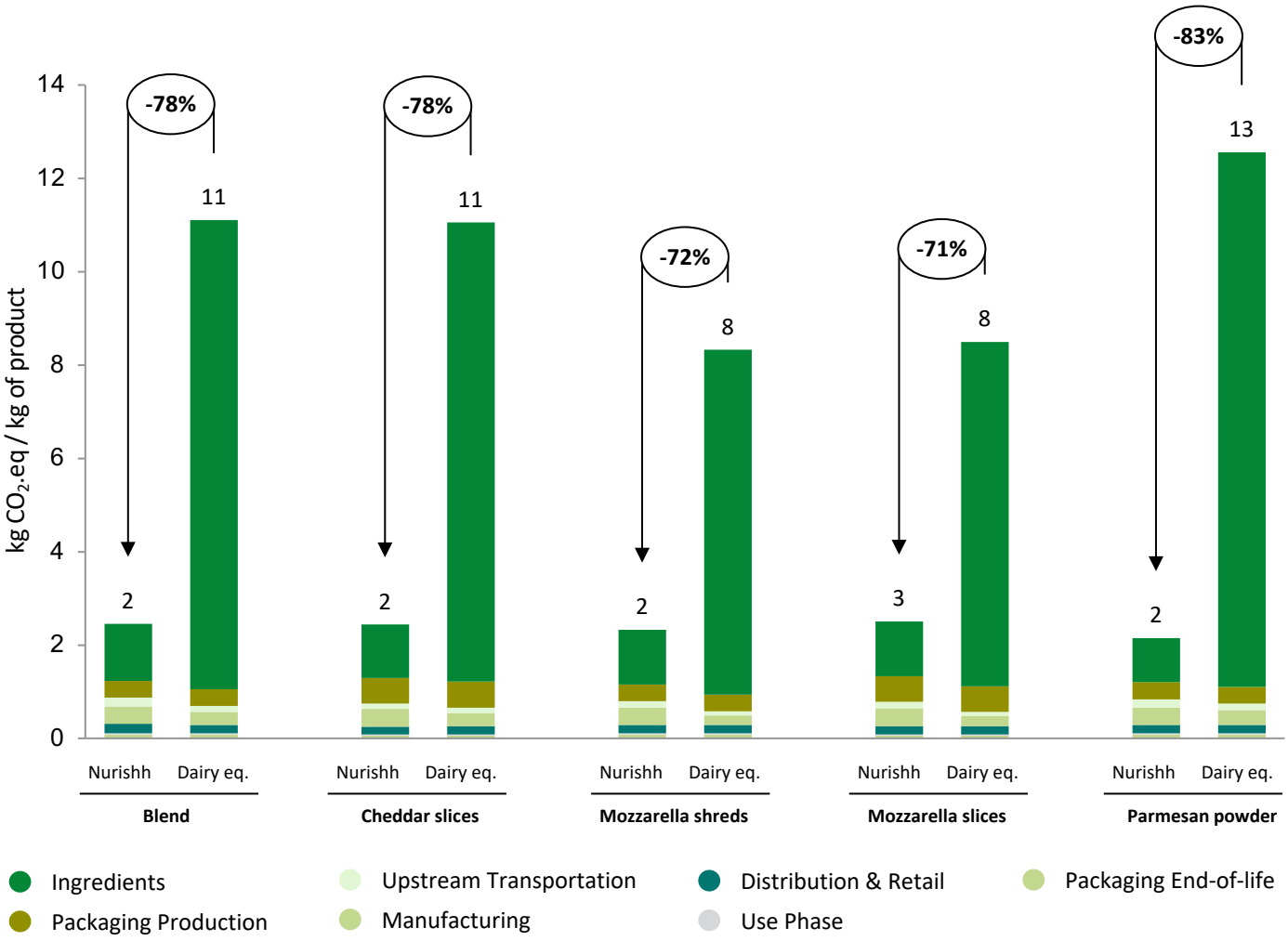


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in the UAE; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 5 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 5 products, Nurishh's impact on land occupation are between 4 to 7 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 120 Mozzarella	**1.8**	**6.5**	**78%**
Dairy cheese equivalent	8.3		
Nurishh Slices Tray 120 Cheddar	**1.8**	**9.1**	**84%**
Dairy cheese equivalent	10.9		
Nurishh Shreds Doypack 150 Blend	**2.0**	**9.2**	**82%**
Dairy cheese equivalent	11.2		
Nurishh Shreds Doypack 150 Mozzarella	**1.9**	**6.5**	**77%**
Dairy cheese equivalent	8.4		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**11.1**	**88%**
Dairy cheese equivalent	12.7		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in the UAE (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

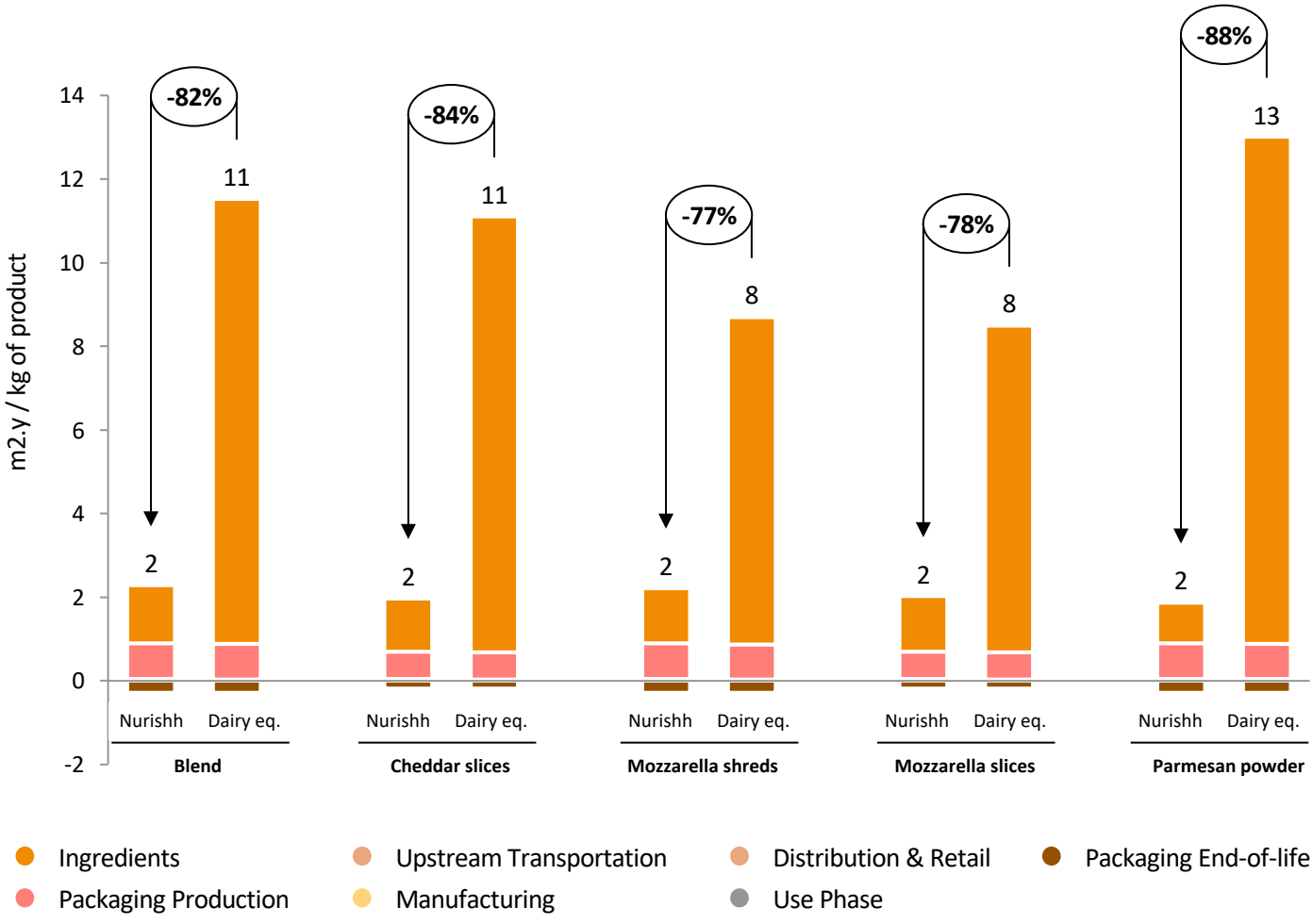


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in the UAE; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 5 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across the majority of products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 120 Mozzarella	**0.05**	**0.00**	**-3%**
Dairy cheese equivalent	0.05		
Nurishh Slices Tray 120 Cheddar	**0.05**	**0.01**	**22%**
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 150 Blend	**0.05**	**0.01**	**14%**
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 150 Mozzarella	**0.05**	**0.00**	**-3%**
Dairy cheese equivalent	0.05		
Nurishh Powder Doypack 150 Parmesan	**0.05**	**0.02**	**33%**
Dairy cheese equivalent	0.07		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in the UAE (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 5 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

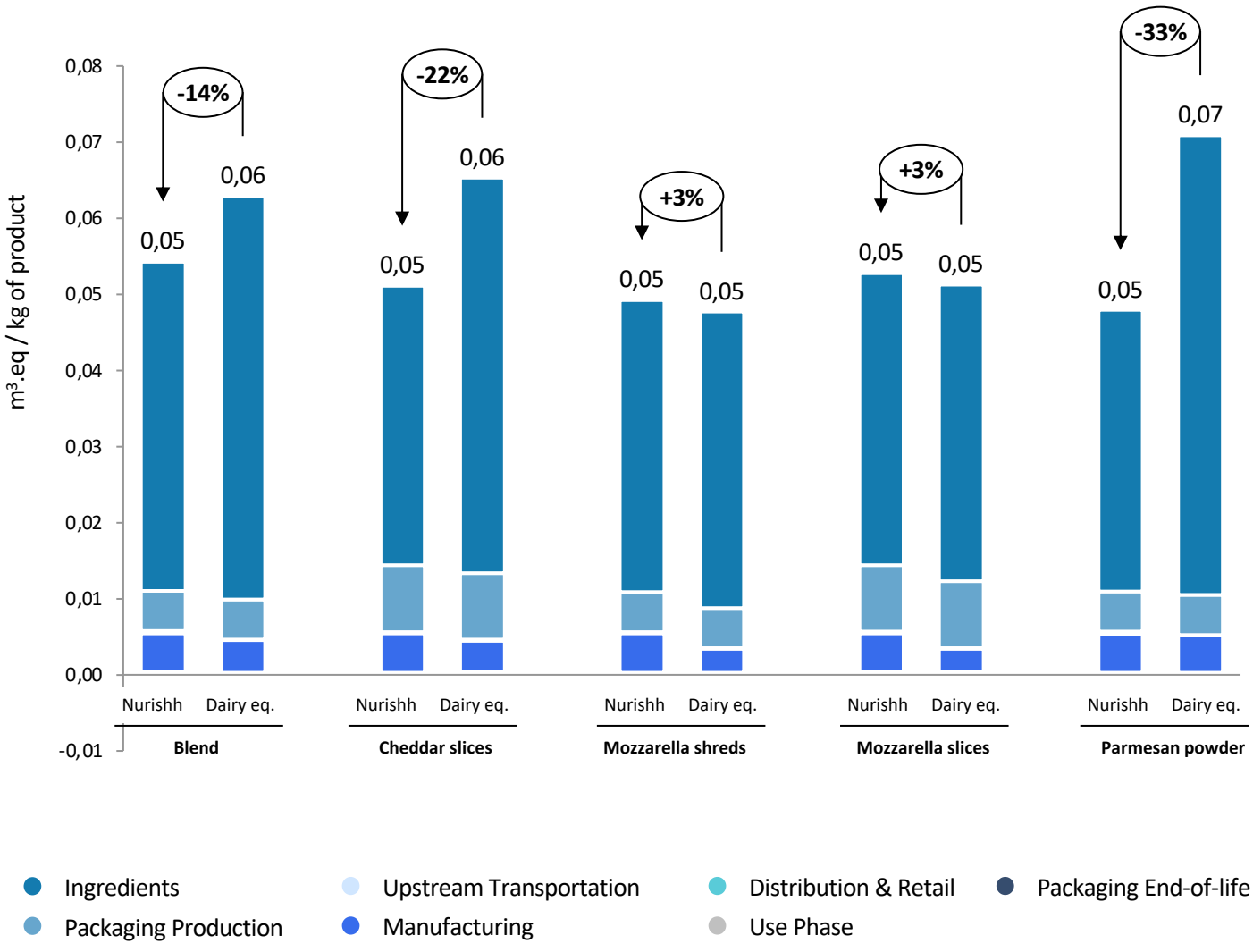


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in the UAE; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 71% lower carbon footprint compared with dairy cheese equivalents in UAE. Regarding land occupation, Nurishh products occupy at least 77% less land for 1 kg of product in UAE. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN THE UAE

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 120 Mozzarella	19	1500 (63 days)	2000
Nurishh Slices Tray 120 Cheddar	27	2175 (91 days)	2900
Nurishh Shreds Doypack 150 Blend	27	2150 (90 days)	2867
Nurishh Shreds Doypack 150 Mozzarella	19	1500 (63 days)	2000
Nurishh Powder Doypack 150 Parmesan	32	2625 (109 days)	3500

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in the UAE

Germany

RESULTS AND DISCUSSION

GERMANY

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 8 Nurishh products sold in Germany were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in Germany), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 8 products, Nurishh's impacts on climate change are between 3 to 4 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 120 Cheddar	**2.7**	**7.8**	**75%**
Dairy cheese equivalent	10.5		
Nurishh Slices Tray 120 Hot Pepper	**2.8**	**7.0**	**72%**
Dairy cheese equivalent	9.8		
Nurishh Slices Tray 120 Gouda	**2.8**	**6.9**	**71%**
Dairy cheese equivalent	9.6		
Nurishh Powder Doypack 150 Parmesan	**2.4**	**9.5**	**80%**
Dairy cheese equivalent	11.9		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**5.5**	**73%**
Dairy cheese equivalent	7.4		
Nurishh Slices Tray 120 Emmental	**2.8**	**8.1**	**75%**
Dairy cheese equivalent	10.9		
Nurishh Shreds Doypack 150 Emmental	**2.6**	**8.2**	**76%**
Dairy cheese equivalent	10.8		
Nurishh Dices Doypack 150 Feta	**2.4**	**6.1**	**72%**
Dairy cheese equivalent	8.5		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in Germany (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 8 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation. For Nurishh Dices Doypack 150 Feta, the sunflower oil also drives climate change impacts due to the use of fertilizers during the sunflower cultivation and the energy use for oil warming and milling.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 8 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

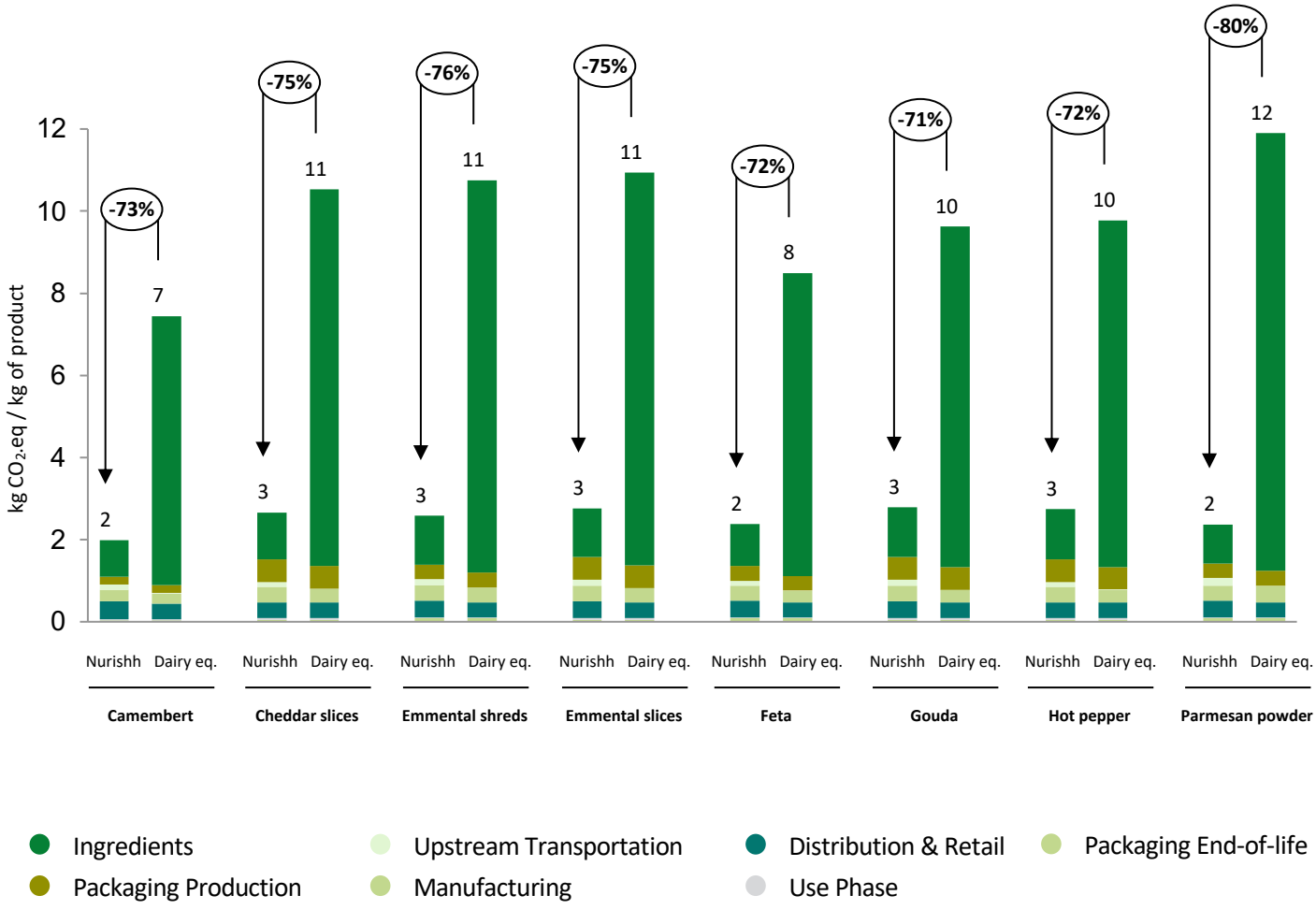


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in Germany; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 8 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 8 products, Nurishh's impact on land occupation are between 3 to 6 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 120 Cheddar	**1.8**	**7.2**	**80%**
Dairy cheese equivalent	9.0		
Nurishh Slices Tray 120 Hot Pepper	**1.9**	**6.4**	**77%**
Dairy cheese equivalent	8.3		
Nurishh Slices Tray 120 Gouda	**1.9**	**6.3**	**77%**
Dairy cheese equivalent	8.2		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**8.9**	**85%**
Dairy cheese equivalent	10.5		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**4.6**	**70%**
Dairy cheese equivalent	6.6		
Nurishh Slices Tray 120 Emmental	**1.9**	**7.5**	**80%**
Dairy cheese equivalent	9.4		
Nurishh Shreds Doypack 150 Emmental	**2.0**	**7.5**	**79%**
Dairy cheese equivalent	9.5		
Nurishh Dices Doypack 150 Feta	**2.3**	**5.1**	**69%**
Dairy cheese equivalent	7.4		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in Germany (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

For Nurishh Dices Doypack 150 Feta, sunflower oil used for Feta recipe is highly impacting on land occupation due to the surface occupied by the crop itself along with the yield of sunflower to sunflower oil.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

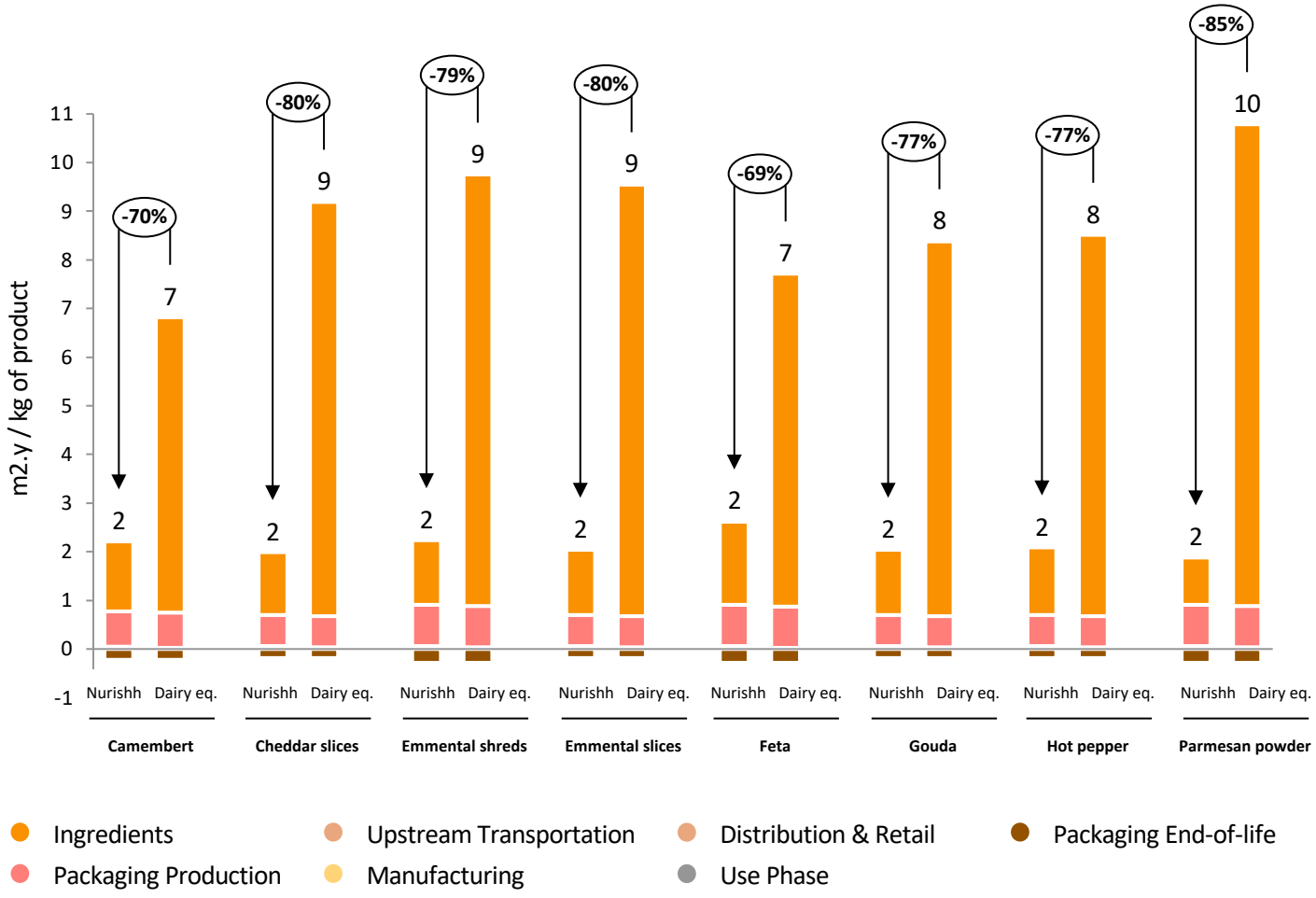


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in Germany; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 8 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across all the products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 120 Cheddar	**0.05**	**0.01**	**20%**
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 120 Hot Pepper	**0.05**	**0.01**	**9%**
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 120 Gouda	**0.05**	**0.01**	**9%**
Dairy cheese equivalent	0.06		
Nurishh Powder Doypack 150 Parmesan	**0.05**	**0.02**	**31%**
Dairy cheese equivalent	0.07		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**0.03**	**0.01**	**32%**
Dairy cheese equivalent	0.04		
Nurishh Slices Tray 120 Emmental	**0.05**	**0.01**	**20%**
Dairy cheese equivalent	0.07		
Nurishh Shreds Doypack 150 Emmental	**0.05**	**0.01**	**21%**
Dairy cheese equivalent	0.06		
Nurishh Dices Doypack 150 Feta	**0.04**	**0.01**	**29%**
Dairy cheese equivalent	0.05		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in Germany (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 8 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

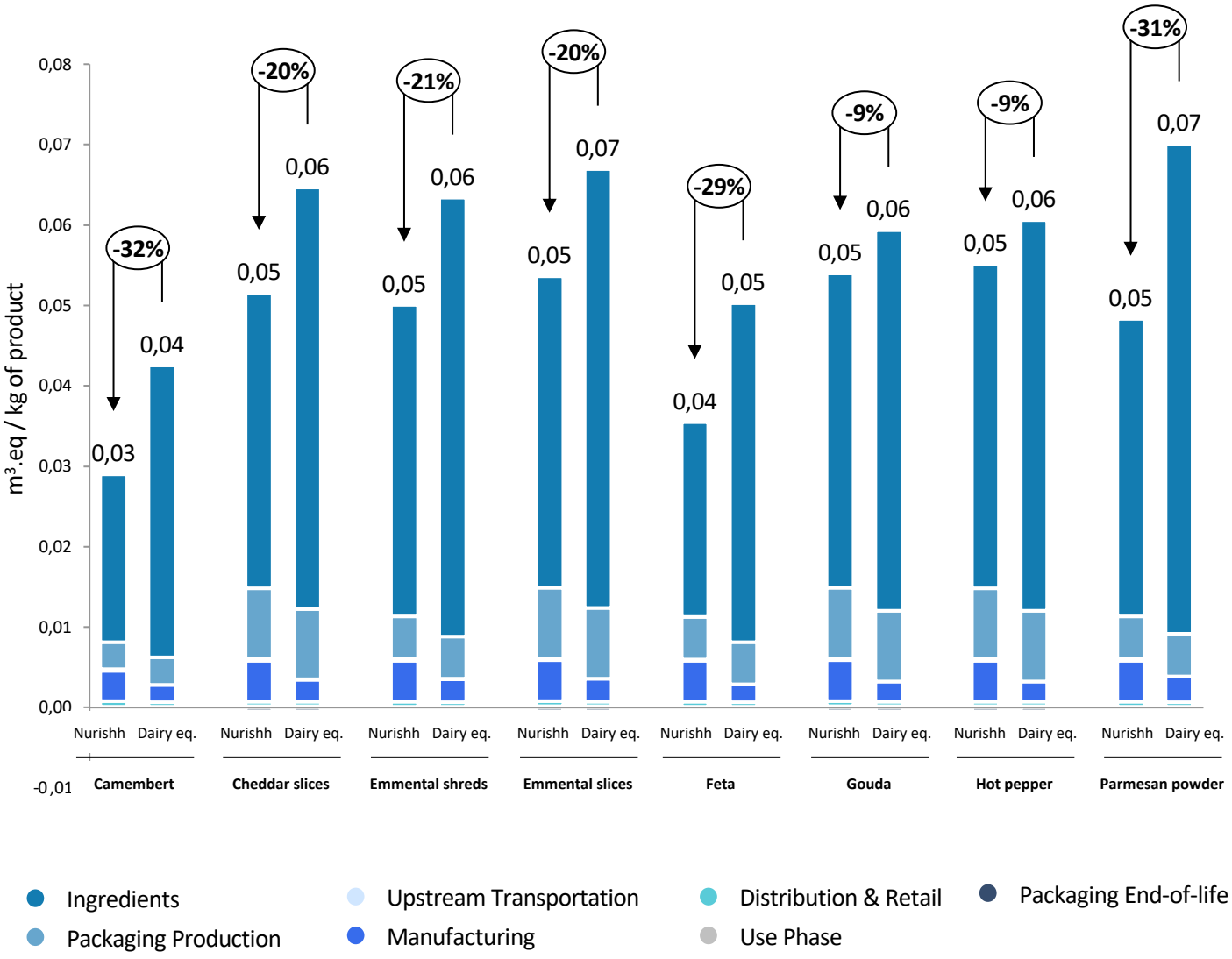


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in Germany; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 71% lower carbon footprint compared with dairy cheese equivalents Germany. Regarding land occupation, Nurishh products occupy at least 69% less land for 1 kg of product in Germany. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN GERMANY

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 120 Cheddar	24	1950 (81 days)	2600
Nurishh Slices Tray 120 Hot Pepper	22	1750 (73 days)	2333
Nurishh Slices Tray 120 Gouda	21	1725 (72 days)	2300
Nurishh Powder Doypack 150 Parmesan	29	2375 (99 days)	3167
Nurishh Coeur Fleuri Woodbox 140 Camembert	17	1375 (57 days)	1833
Nurishh Slices Tray 120 Emmental	25	2025 (84 days)	2700
Nurishh Shreds Doypack 150 Emmental	25	2050 (85 days)	2733
Nurishh Dices Doypack 150 Feta	19	1525 (64 days)	2033

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in Germany

Mauritius Island

RESULTS AND DISCUSSION

MAURITIUS ISLAND

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 5 Nurishh products sold in Mauritius Island were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and distribution distances from Europe to Mauritius Island have been taken into account for dairy products), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 5 products, Nurishh's impacts on climate change are between 3 to 5 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint ($kg\ CO_2$ eq.)	Emission reduction ($kg\ CO_2$ eq.)	Emission reduction (%)
Nurishh Slices Tray 120 Mozzarella	**2.8**	**6.1**	**69%**
Dairy cheese equivalent	8.9		
Nurishh Slices Tray 120 Cheddar	**2.7**	**8.8**	**77%**
Dairy cheese equivalent	11.5		
Nurishh Shreds Doypack 150 Mozzarella	**2.6**	**6.1**	**70%**
Dairy cheese equivalent	8.7		
Nurishh Shreds Doypack 150 Blend	**2.8**	**8.7**	**76%**
Dairy cheese equivalent	11.5		
Nurishh Powder Doypack 150 Parmesan	**2.4**	**10.5**	**81%**
Dairy cheese equivalent	12.9		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in Mauritius Island ($kg\ CO_2$ eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 5 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 5 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in Mauritius Island; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 5 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 5 products, Nurishh's impact on land occupation are between 4 to 7 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 120 Mozzarella	**1.8**	**6.5**	**78%**
Dairy cheese equivalent	8.3		
Nurishh Slices Tray 120 Cheddar	**1.8**	**9.1**	**84%**
Dairy cheese equivalent	10.9		
Nurishh Shreds Doypack 150 Mozzarella	**1.9**	**6.5**	**77%**
Dairy cheese equivalent	8.4		
Nurishh Shreds Doypack 150 Blend	**2.0**	**9.2**	**82%**
Dairy cheese equivalent	11.2		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**11.1**	**88%**
Dairy cheese equivalent	12.7		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in Mauritius Island (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

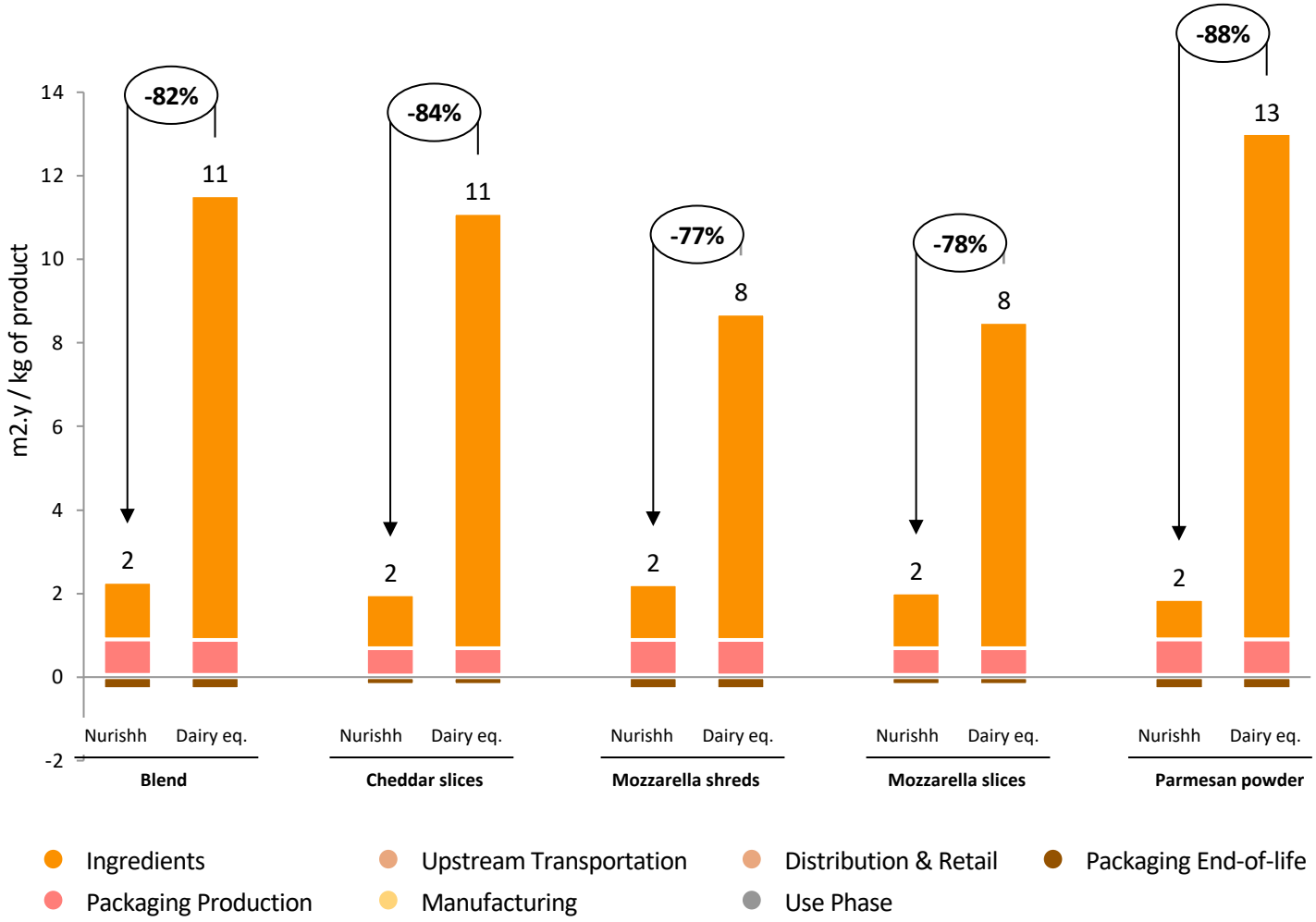


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in Mauritius Island; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 5 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across the majority of products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 120 Mozzarella	**0.05**	**0.00**	**-3%**
Dairy cheese equivalent	0.05		
Nurishh Slices Tray 120 Cheddar	**0.05**	**0.01**	**22%**
Dairy cheese equivalent	0.07		
Nurishh Shreds Doypack 150 Mozzarella	**0.05**	**0.00**	**-3%**
Dairy cheese equivalent	0.05		
Nurishh Shreds Doypack 150 Blend	**0.05**	**0.01**	**14%**
Dairy cheese equivalent	0.06		
Nurishh Powder Doypack 150 Parmesan	**0.05**	**0.02**	**33%**
Dairy cheese equivalent	0.07		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in Mauritius Island (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 5 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

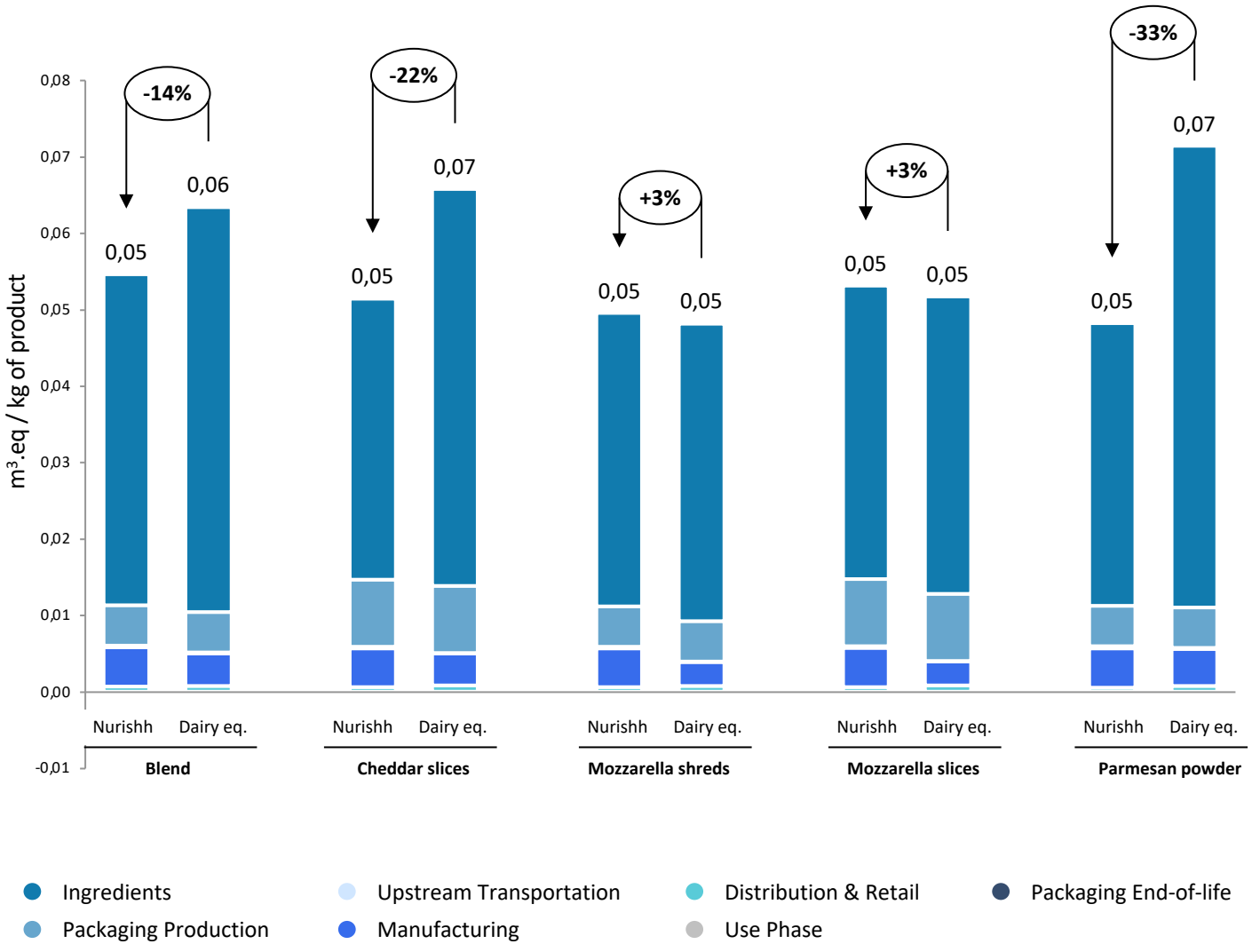


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in Mauritius Island; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 69% lower carbon footprint compared with dairy cheese equivalents in Mauritius Island. Regarding land occupation, Nurishh products occupy at least 77% less land for 1 kg of product in Mauritius Island. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN MAURITIUS ISLAND

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 120 Mozzarella	19	1525 (64 days)	2033
Nurishh Slices Tray 120 Cheddar	27	2200 (92 days)	2933
Nurishh Shreds Doypack 150 Mozzarella	19	1525 (64 days)	2033
Nurishh Shreds Doypack 150 Blend	27	2175 (91 days)	2900
Nurishh Powder Doypack 150 Parmesan	32	2625 (109 days)	3500

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in Mauritius Island

Netherlands

RESULTS AND DISCUSSION

NETHERLANDS

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 8 Nurishh products sold in the Netherlands were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in the Netherlands), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 8 products, Nurishh's impacts on climate change are between 3 to 5 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 120 Hot Pepper	**2.7**	**7.5**	**74%**
Dairy cheese equivalent	10.1		
Nurishh Powder Doypack 150 Parmesan	**2.3**	**10.0**	**82%**
Dairy cheese equivalent	12.3		
Nurishh Cubes Doypack 150 Feta	**2.3**	**6.5**	**74%**
Dairy cheese equivalent	8.8		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**1.9**	**5.8**	**76%**
Dairy cheese equivalent	7.7		
Nurishh Slices Tray 160 Cheddar	**2.4**	**8.4**	**78%**
Dairy cheese equivalent	10.8		
Nurishh Slices Tray 160 Emmental	**2.5**	**8.7**	**78%**
Dairy cheese equivalent	11.2		
Nurishh Shreds Doypack 150 Emmental	**2.5**	**8.6**	**78%**
Dairy cheese equivalent	11.1		
Nurishh Shreds Doypack 150 Mozzarella	**2.5**	**5.8**	**70%**
Dairy cheese equivalent	8.3		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in the Netherlands (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 8 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation. For Nurishh Cubes Doypack 150 Feta, the sunflower oil also drives climate change impacts due to the use of fertilizers during the sunflower cultivation and the energy use for oil warming and milling.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 8 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

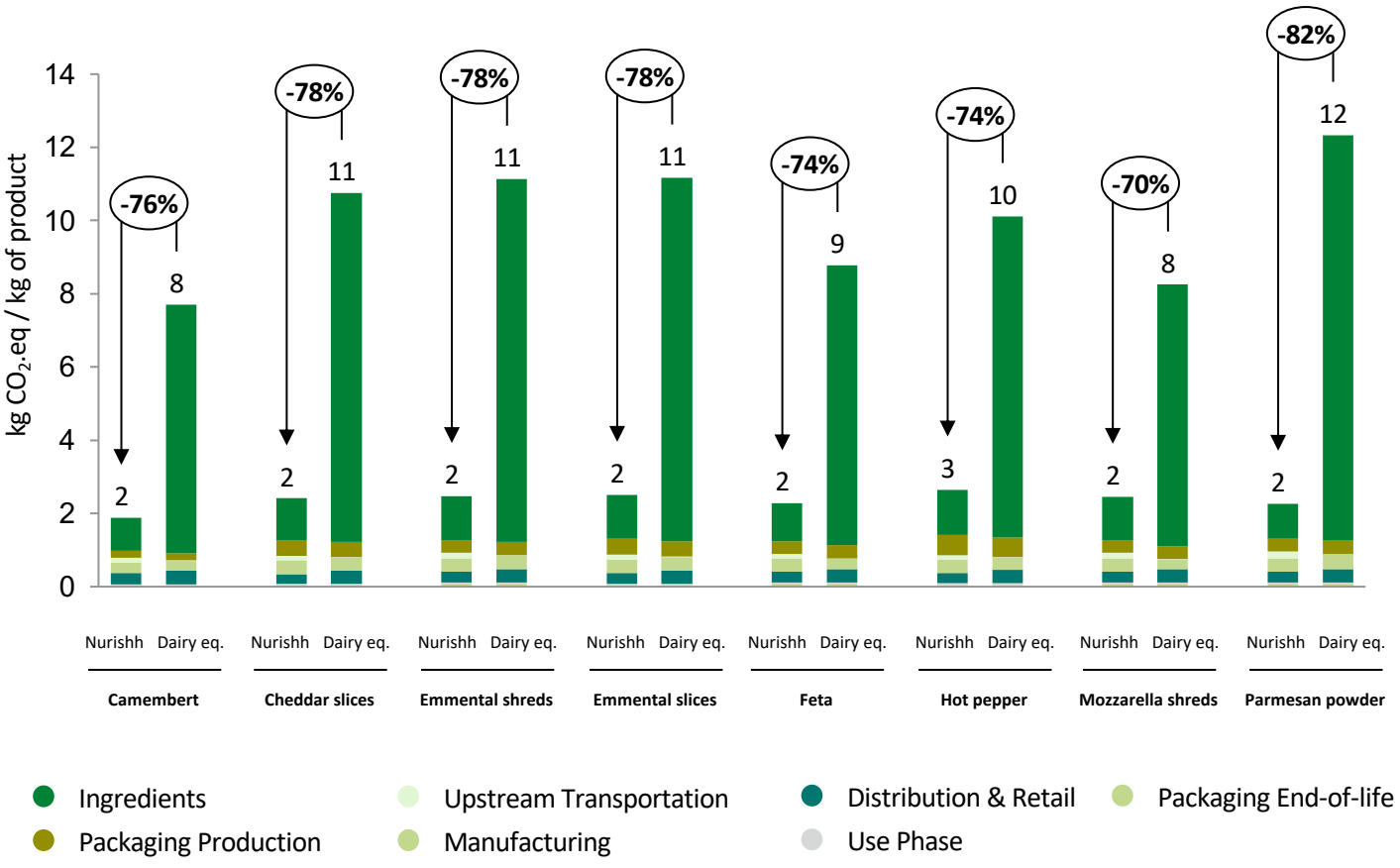


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in the Netherlands; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 8 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 8 products, Nurishh's impact on land occupation are between 3 to 6 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 120 Hot Pepper	**1.9**	**6.6**	**78%**
Dairy cheese equivalent	8.5		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**9.2**	**85%**
Dairy cheese equivalent	10.8		
Nurishh Cubes Doypack 150 Feta	**2.3**	**5.3**	**69%**
Dairy cheese equivalent	7.6		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**4.8**	**71%**
Dairy cheese equivalent	6.8		
Nurishh Slices Tray 160 Cheddar	**1.7**	**7.4**	**82%**
Dairy cheese equivalent	9.1		
Nurishh Slices Tray 160 Emmental	**1.7**	**7.8**	**82%**
Dairy cheese equivalent	9.5		
Nurishh Shreds Doypack 150 Emmental	**1.9**	**7.8**	**80%**
Dairy cheese equivalent	9.7		
Nurishh Shreds Doypack 150 Mozzarella	**1.9**	**5.2**	**73%**
Dairy cheese equivalent	7.1		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in the Netherlands (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

For Nurishh Cubes Doypack 150 Feta, sunflower oil used for Feta recipe is highly impacting on land occupation due to the surface occupied by the crop itself along with the yield of sunflower to sunflower oil.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

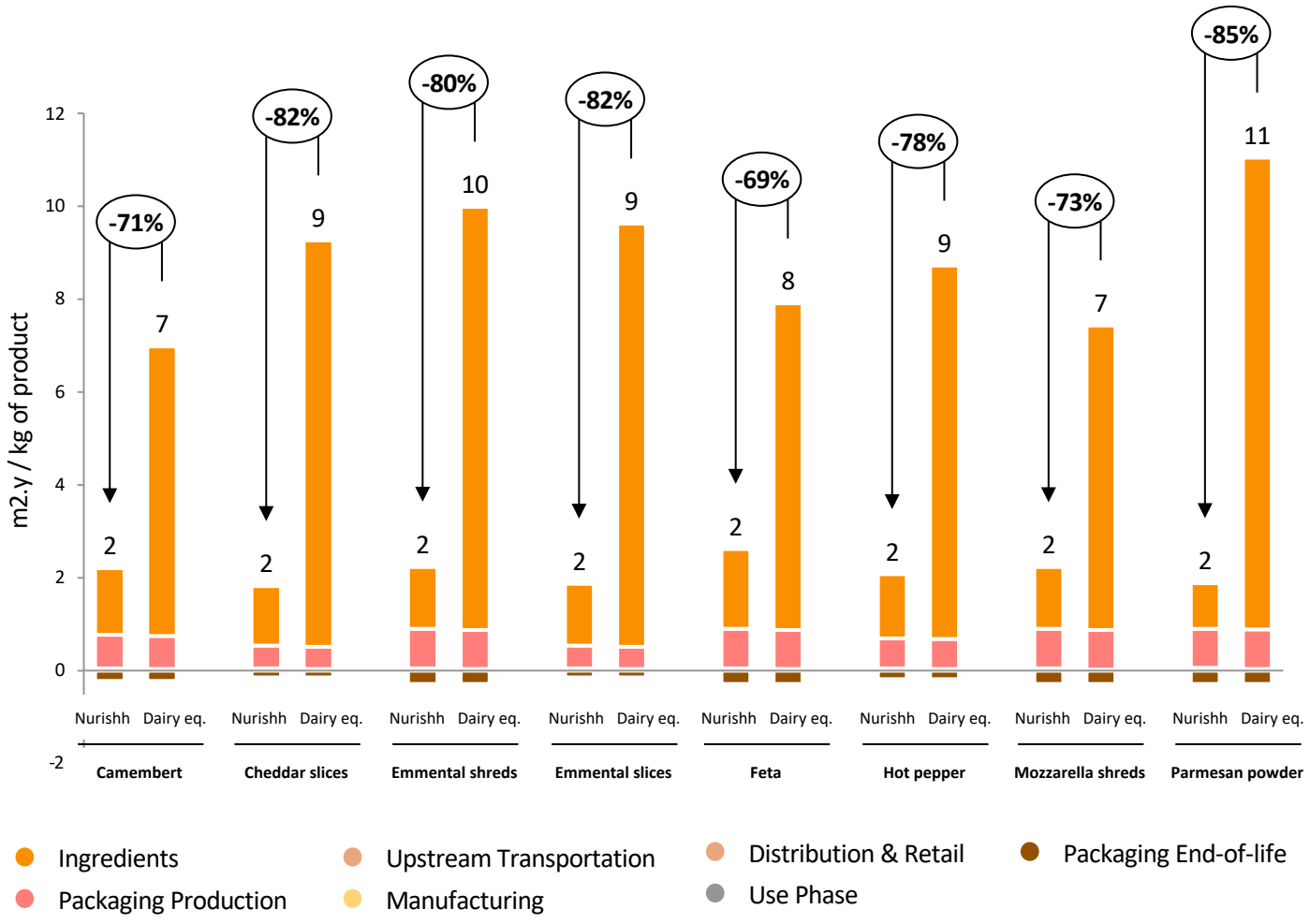


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in the Netherlands; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 8 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across the majority of products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 120 Hot Pepper	0.05	0.00	5%
Dairy cheese equivalent	0.06		
Nurishh Powder Doypack 150 Parmesan	0.05	0.02	28%
Dairy cheese equivalent	0.07		
Nurishh Cubes Doypack 150 Feta	0.04	0.01	27%
Dairy cheese equivalent	0.05		
Nurishh Coeur Fleuri Woodbox 140 Camembert	0.03	0.01	29%
Dairy cheese equivalent	0.04		
Nurishh Slices Tray 160 Cheddar	0.05	0.01	18%
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 160 Emmental	0.05	0.01	17%
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 150 Emmental	0.05	0.01	18%
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 150 Mozzarella	0.05	0.00	-10%
Dairy cheese equivalent	0.05		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in the Netherlands (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 8 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

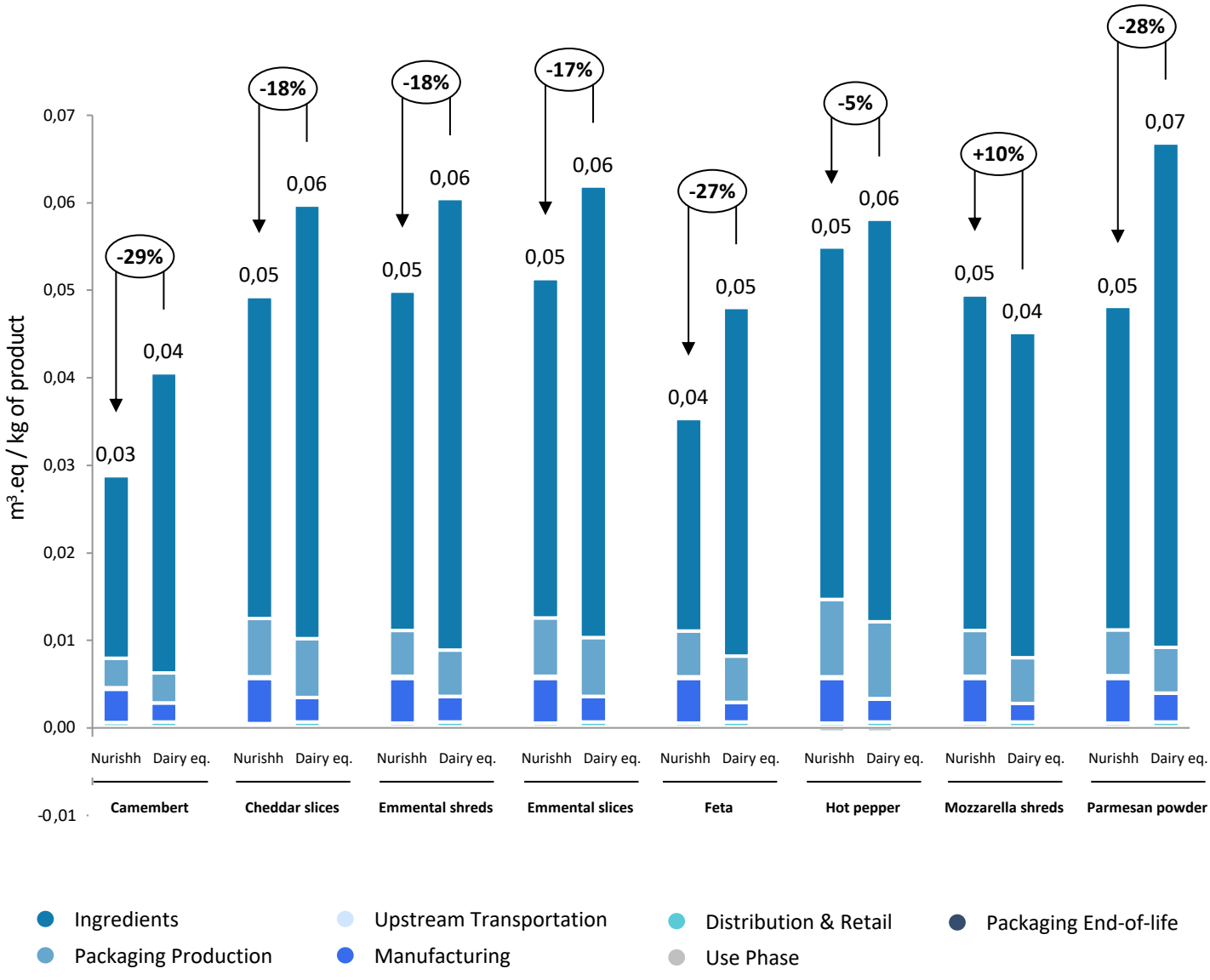


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in the Netherlands; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 70% lower carbon footprint compared with dairy cheese equivalents in the Netherlands. Regarding land occupation, Nurishh products occupy at least 69% less land for 1 kg of product in the Netherlands. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN THE NETHERLANDS

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 120 Hot Pepper	23	1875 (78 days)	2500
Nurishh Powder Doypack 150 Parmesan	31	2500 (104 days)	3333
Nurishh Cubes Doypack 150 Feta	20	1625 (68 days)	2167
Nurishh Coeur Fleuri Woodbox 140 Camembert	18	1450 (60 days)	1933
Nurishh Slices Tray 160 Cheddar	26	2100 (88 days)	2800
Nurishh Slices Tray 160 Emmental	27	2175 (91 days)	2900
Nurishh Shreds Doypack 150 Emmental	27	2150 (90 days)	2867
Nurishh Shreds Doypack 150 Mozzarella	18	1450 (60 days)	1933

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in the Netherlands

Nordics & Iceland

RESULTS AND DISCUSSION

NORDICS & ICELAND

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 7 Nurishh products sold in the Nordics & Iceland were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in the Nordics & Iceland), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 7 products, Nurishh's impacts on climate change are between 2 to 3 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 200 Emmental	**2.8**	**6.3**	**69%**
Dairy cheese equivalent	9.1		
Nurishh Slices Tray 200 Cheddar	**2.7**	**6.1**	**69%**
Dairy cheese equivalent	8.8		
Nurishh Slices Tray 200 Mozzarella	**2.8**	**4.0**	**58%**
Dairy cheese equivalent	6.8		
Nurishh Shreds Doypack 150 Mozzarella	**2.9**	**4.0**	**58%**
Dairy cheese equivalent	6.9		
Nurishh Shreds Doypack 150 Blend	**3.1**	**5.9**	**66%**
Dairy cheese equivalent	9.0		
Nurishh Powder Doypack 150 Parmesan	**2.7**	**7.5**	**74%**
Dairy cheese equivalent	10.2		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.4**	**4.0**	**63%**
Dairy cheese equivalent	6.4		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in the Nordics & Iceland (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 7 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 7 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage. In the Nordics & Iceland, the impact of distribution is more significant than in most other markets because of larger distances travelled travelled via refrigerated trucks from the manufacturing plant in France to the market. This also means that the impact of the distribution of the Nurishh products is bigger than the one caused by the distribution of the dairy equivalent.

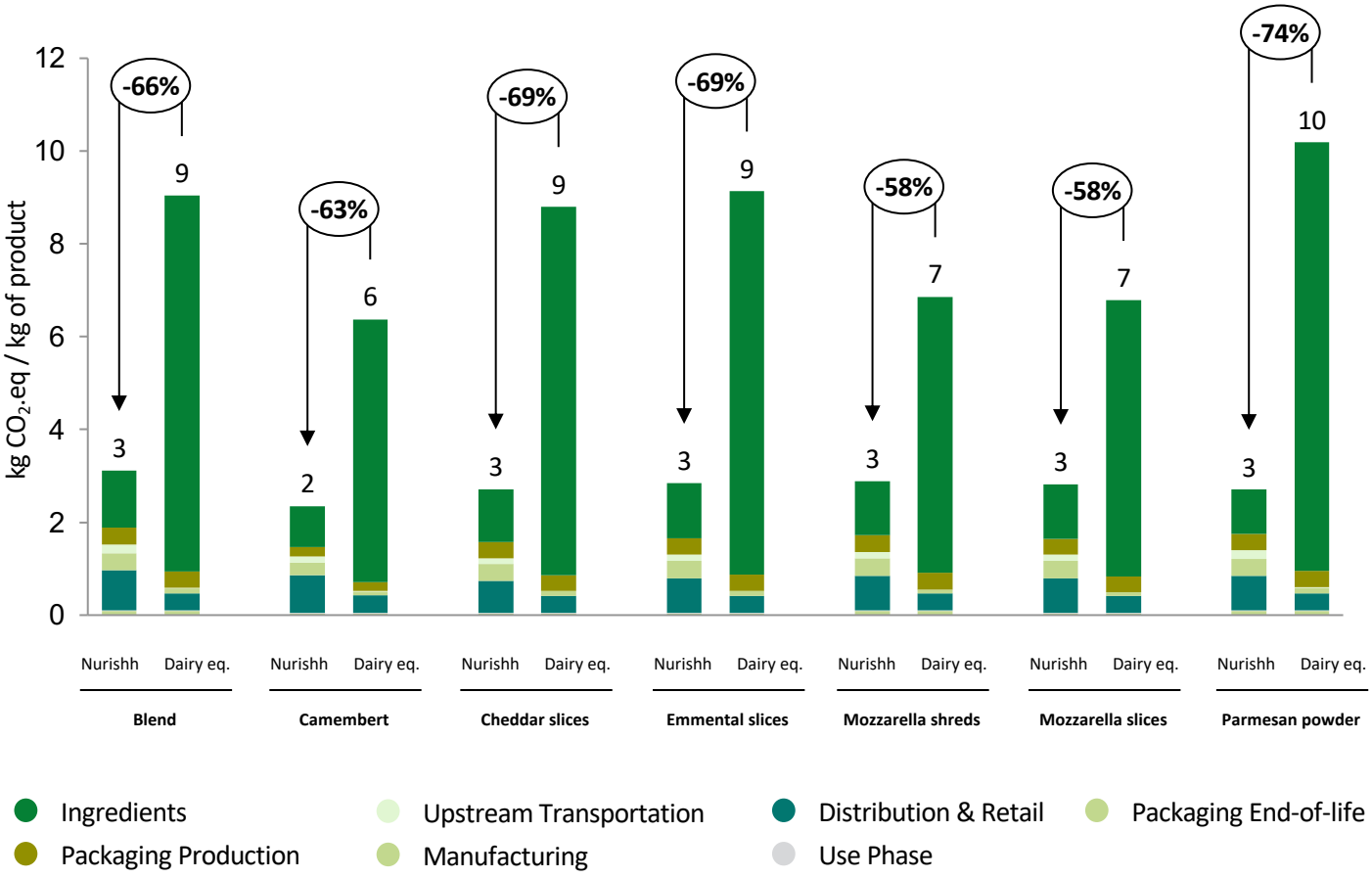


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in the Nordics & Iceland; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 7 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 7 products, Nurishh's impact on land occupation are between 3 to 6 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 200 Emmental	**1.7**	**6.9**	**80%**
Dairy cheese equivalent	8.6		
Nurishh Slices Tray 200 Cheddar	**1.6**	**6.7**	**80%**
Dairy cheese equivalent	8.3		
Nurishh Slices Tray 200 Mozzarella	**1.7**	**4.6**	**73%**
Dairy cheese equivalent	6.3		
Nurishh Shreds Doypack 150 Mozzarella	**2.0**	**4.6**	**70%**
Dairy cheese equivalent	6.6		
Nurishh Shreds Doypack 150 Blend	**2.0**	**6.7**	**77%**
Dairy cheese equivalent	8.7		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**8.3**	**84%**
Dairy cheese equivalent	9.9		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**4.2**	**68%**
Dairy cheese equivalent	6.2		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in the Nordics & Iceland (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

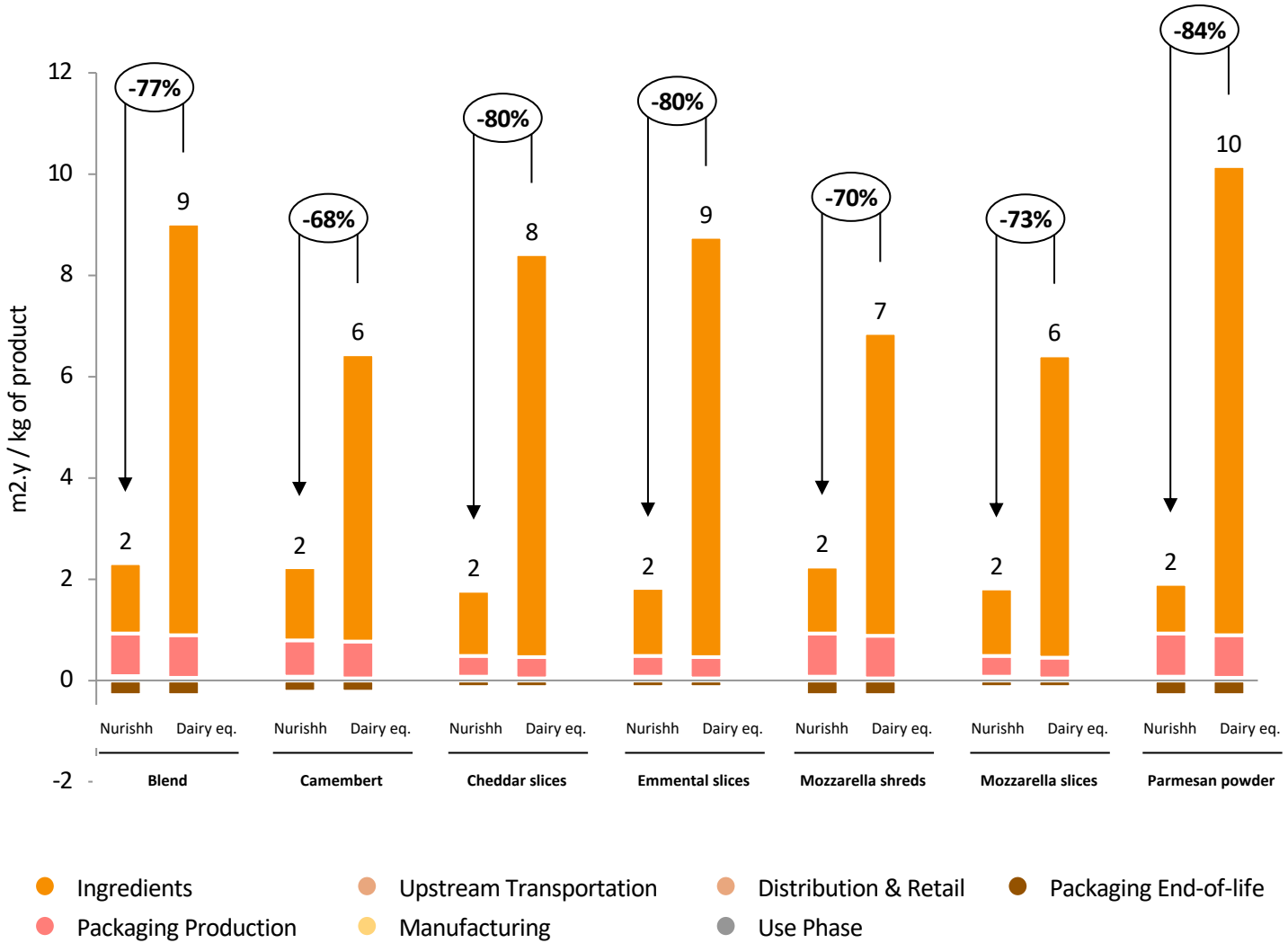


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in the Nordics & Iceland; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 7 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across the majority of products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 200 Emmental	**0.05**	**0.02**	**23%**
Dairy cheese equivalent	0.07		
Nurishh Slices Tray 200 Cheddar	**0.05**	**0.01**	**24%**
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 200 Mozzarella	**0.05**	**0.00**	**-2%**
Dairy cheese equivalent	0.05		
Nurishh Shreds Doypack 150 Mozzarella	**0.05**	**0.00**	**-2%**
Dairy cheese equivalent	0.05		
Nurishh Shreds Doypack 150 Blend	**0.06**	**0.01**	**14%**
Dairy cheese equivalent	0.06		
Nurishh Powder Doypack 150 Parmesan	**0.05**	**0.02**	**33%**
Dairy cheese equivalent	0.07		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**0.03**	**0.01**	**33%**
Dairy cheese equivalent	0.04		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in the Nordics & Iceland (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 7 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

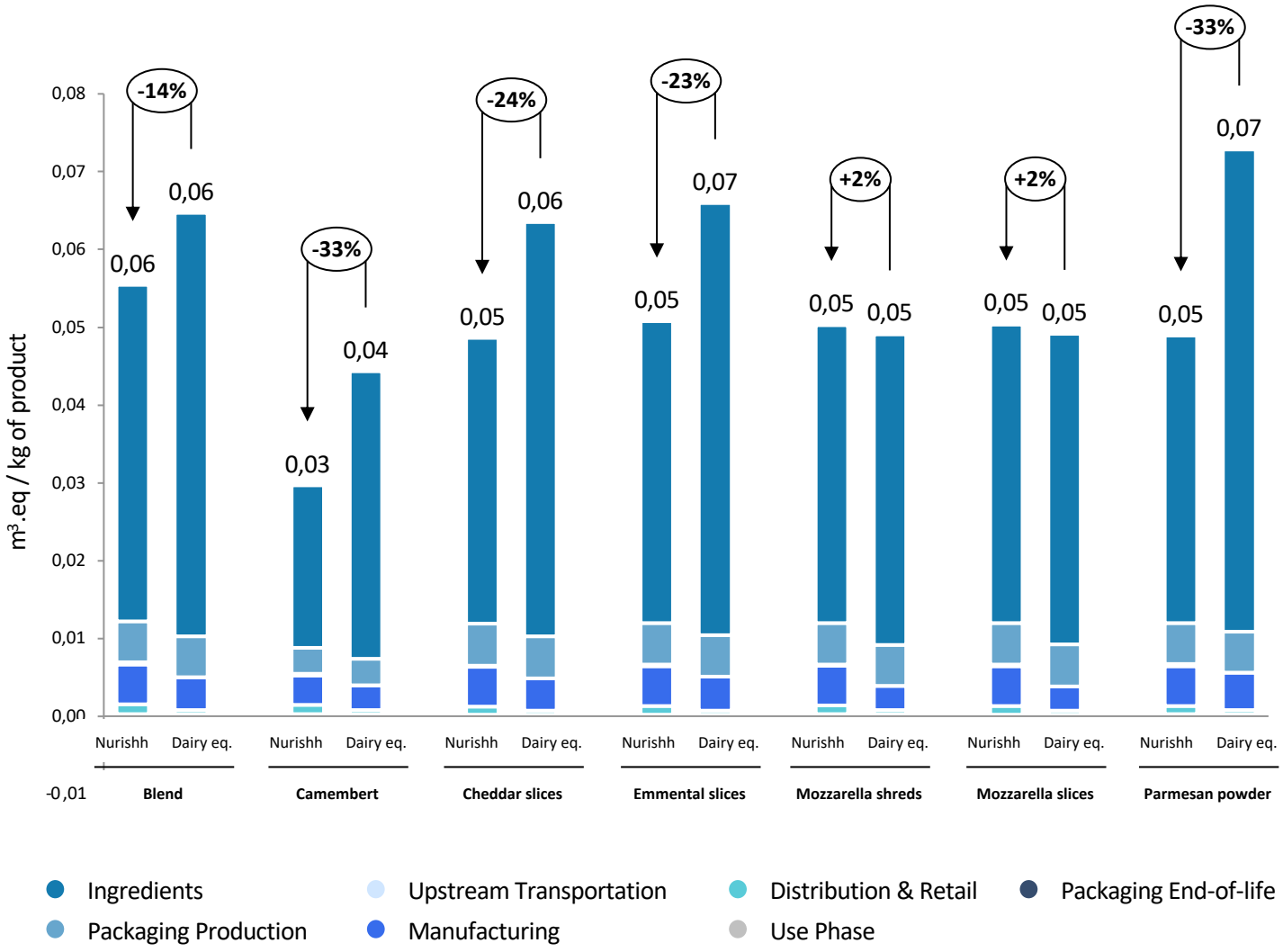


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in the Nordics & Iceland; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 58% lower carbon footprint compared with dairy cheese equivalents in the Nordics & Iceland . Regarding land occupation, Nurishh products occupy at least 68% less land for 1 kg of product in the Nordics & Iceland . Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN THE NORDICS & ICELAND

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 200 Emmental	19	1575 (66 days)	2100
Nurishh Slices Tray 200 Cheddar	19	1525 (64 days)	2033
Nurishh Slices Tray 200 Mozzarella	12	1000 (42 days)	1333
Nurishh Shreds Doypack 150 Mozzarella	12	1000 (42 days)	1333
Nurishh Shreds Doypack 150 Blend	18	1475 (61 days)	1967
Nurishh Powder Doypack 150 Parmesan	23	1875 (78 days)	2500
Nurishh Coeur Fleuri Woodbox 140 Camembert	12	1000 (42 days)	1333

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in the Nordics & Iceland

Portugal

RESULTS AND DISCUSSION

PORTUGAL

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 4 Nurishh products sold in Portugal were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in Portugal), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 4 products, Nurishh's impacts on climate change are between 3 to 4 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint ($kg\ CO_2$ eq.)	Emission reduction ($kg\ CO_2$ eq.)	Emission reduction (%)
Nurishh Cubes Doypack 150 Feta	**2.5**	**7.3**	**74%**
Dairy cheese equivalent	9.8		
Nurishh Slices Tray 160 Emmental	**2.8**	**9.7**	**78%**
Dairy cheese equivalent	12.5		
Nurishh Slices Tray 160 Cheddar	**2.7**	**9.4**	**78%**
Dairy cheese equivalent	12.0		
Nurishh Shreds Doypack 150 Blend	**2.9**	**9.3**	**76%**
Dairy cheese equivalent	12.2		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in Portugal ($kg\ CO_2$ eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 4 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation. For Nurishh Cubes Doypack 150 Feta, the sunflower oil also drives climate change impacts due to the use of fertilizers during the sunflower cultivation and the energy use for oil warming and milling.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 4 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

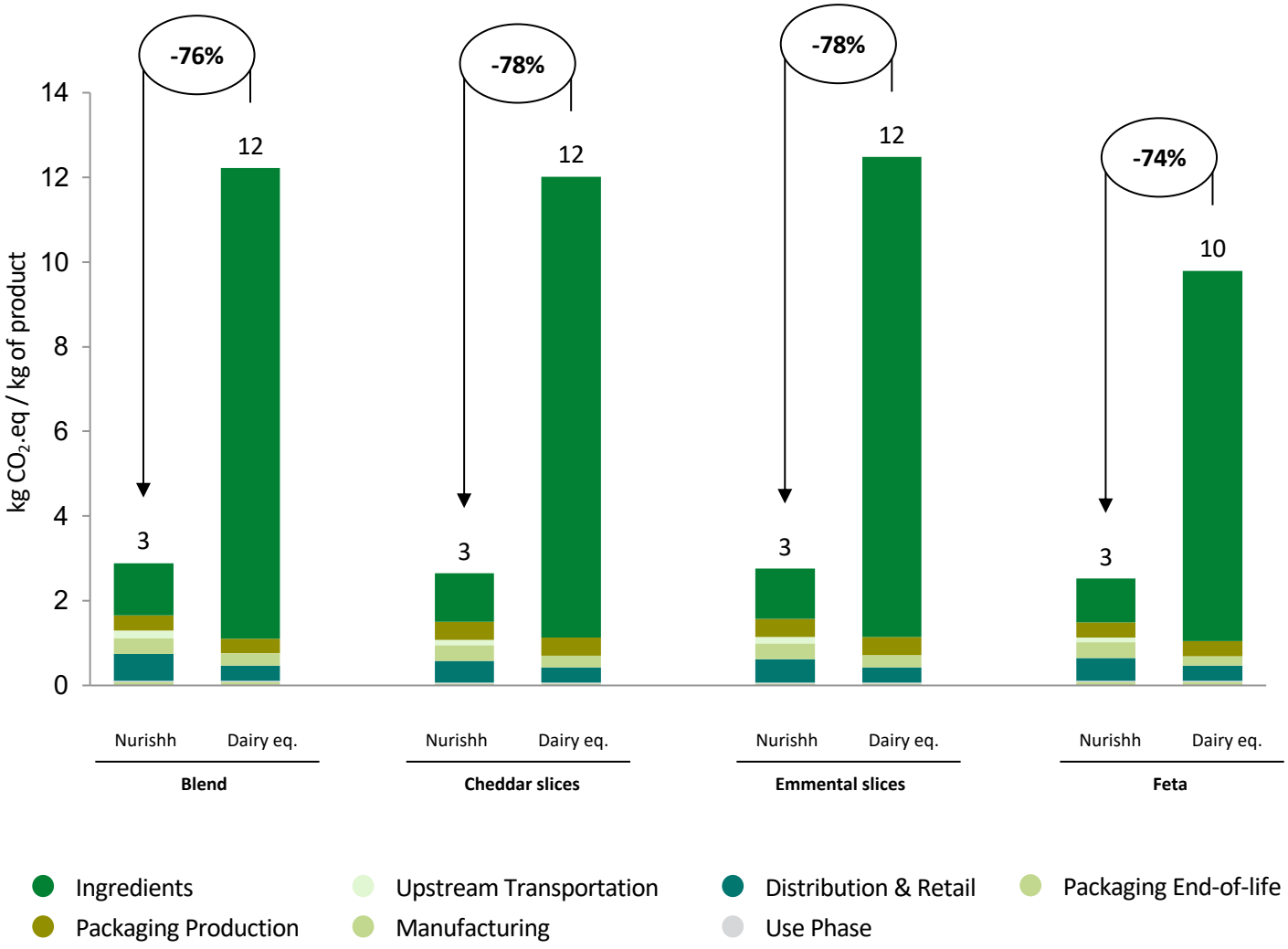


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in Portugal; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 4 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 4 products, Nurishh's impact on land occupation are between 4 to 7 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Cubes Doypack 150 Feta	**2.3**	**7.6**	**76%**
Dairy cheese equivalent	9.9		
Nurishh Slices Tray 160 Emmental	**1.7**	**10.8**	**86%**
Dairy cheese equivalent	12.5		
Nurishh Slices Tray 160 Cheddar	**1.7**	**10.3**	**86%**
Dairy cheese equivalent	12.0		
Nurishh Shreds Doypack 150 Blend	**2.0**	**10.5**	**84%**
Dairy cheese equivalent	12.5		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in Portugal (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

For Nurishh Cubes Doypack 150 Feta, sunflower oil used for Feta recipe is highly impacting on land occupation due to the surface occupied by the crop itself along with the yield of sunflower to sunflower oil.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

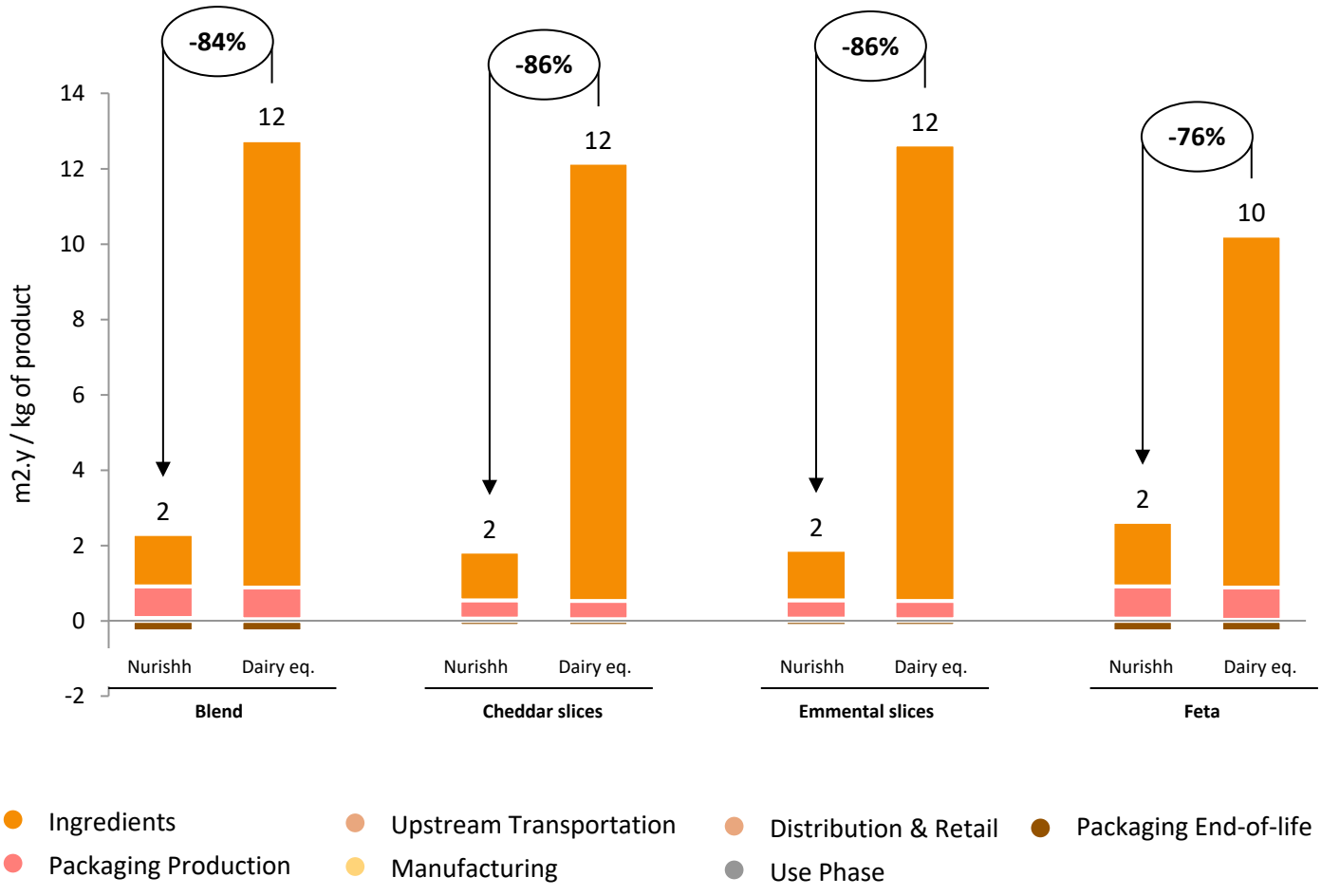


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in Portugal; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 4 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across all the products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Cubes Doypack 150 Feta	**0.04**	**0.02**	**34%**
Dairy cheese equivalent	0.05		
Nurishh Slices Tray 160 Emmental	**0.05**	**0.02**	**25%**
Dairy cheese equivalent	0.07		
Nurishh Slices Tray 160 Cheddar	**0.05**	**0.02**	**26%**
Dairy cheese equivalent	0.07		
Nurishh Shreds Doypack 150 Blend	**0.05**	**0.01**	**17%**
Dairy cheese equivalent	0.07		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in Portugal (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 4 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

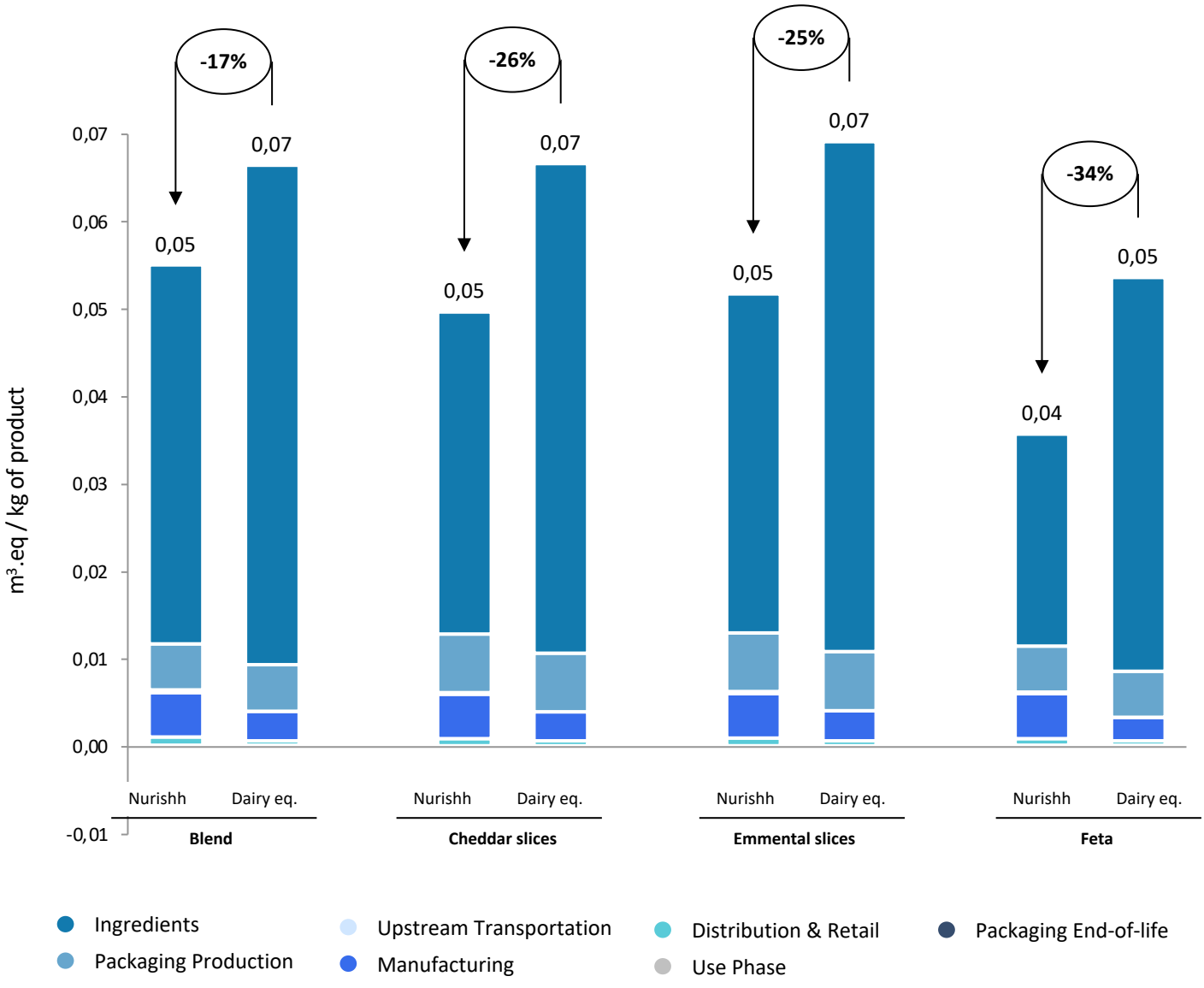


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in Portugal; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 74% lower carbon footprint compared with dairy cheese equivalents in Portugal. Regarding land occupation, Nurishh products occupy at least 76% less land for 1 kg of product in Portugal. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN PORTUGAL

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Cubes Doypack 150 Feta	23	1825 (76 days)	2433
Nurishh Slices Tray 160 Emmental	30	2425 (101 days)	3233
Nurishh Slices Tray 160 Cheddar	29	2350 (98 days)	3133
Nurishh Shreds Doypack 150 Blend	29	2325 (97 days)	3100

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in Portugal

Spain

RESULTS AND DISCUSSION

SPAIN

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 5 Nurishh products sold in Spain were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in Spain), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 5 products, Nurishh's impacts on climate change are between 3 to 5 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 160 Emmental	**2.7**	**10.0**	**79%**
Dairy cheese equivalent	12.7		
Nurishh Slices Tray 160 Cheddar	**2.6**	**9.6**	**79%**
Dairy cheese equivalent	12.2		
Nurishh Shreds Doypack 150 Blend	**2.8**	**9.6**	**77%**
Dairy cheese equivalent	12.4		
Nurishh Shreds Doypack 150 Mozzarella	**2.6**	**6.7**	**72%**
Dairy cheese equivalent	9.4		
Nurishh Powder Doypack 150 Parmesan	**2.4**	**11.6**	**83%**
Dairy cheese equivalent	14.0		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in Spain (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 5 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 5 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

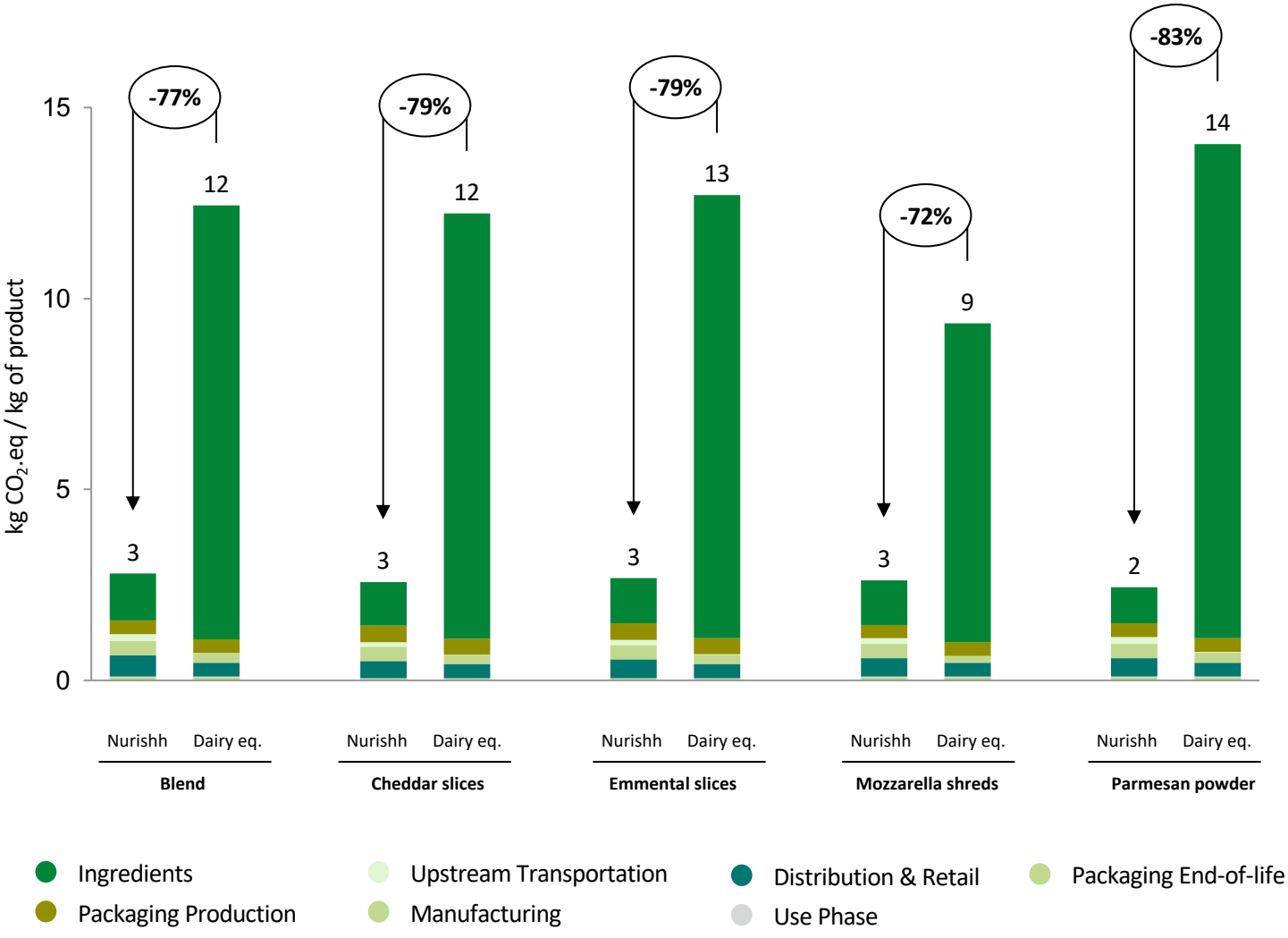


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in Spain; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 5 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 5 products, Nurishh's impact on land occupation are between 4 to 7 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 160 Emmental	**1.7**	**9.1**	**84%**
Dairy cheese equivalent	10.8		
Nurishh Slices Tray 160 Cheddar	**1.7**	**8.7**	**84%**
Dairy cheese equivalent	10.4		
Nurishh Shreds Doypack 150 Blend	**2.0**	**8.8**	**81%**
Dairy cheese equivalent	10.8		
Nurishh Shreds Doypack 150 Mozzarella	**2.0**	**6.2**	**76%**
Dairy cheese equivalent	8.1		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**10.6**	**87%**
Dairy cheese equivalent	12.2		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in Spain (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

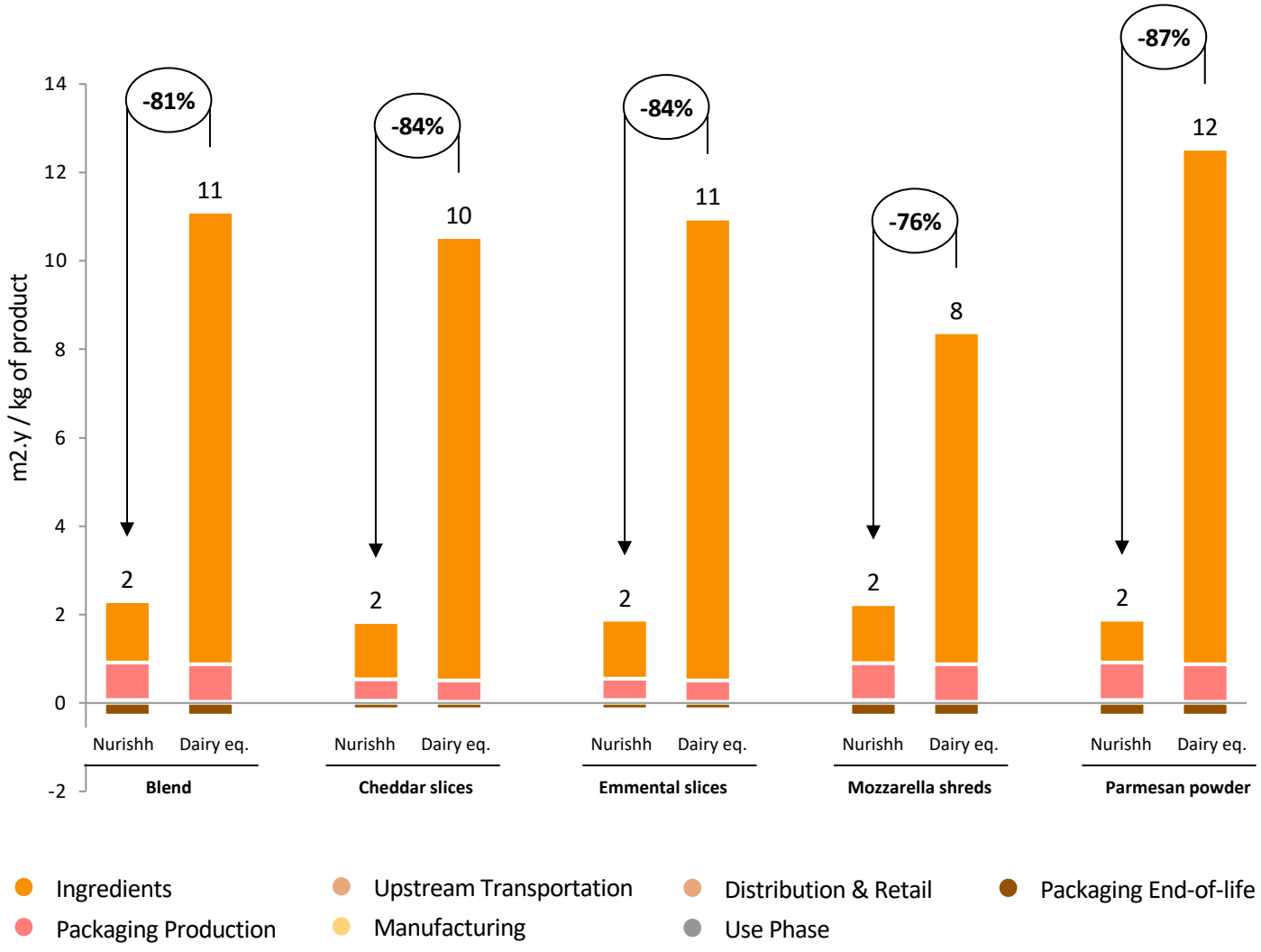


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in Spain; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 5 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across all the products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 160 Emmental	**0.05**	**0.02**	**26%**
Dairy cheese equivalent	0.07		
Nurishh Slices Tray 160 Cheddar	**0.05**	**0.02**	**26%**
Dairy cheese equivalent	0.07		
Nurishh Shreds Doypack 150 Blend	**0.05**	**0.01**	**18%**
Dairy cheese equivalent	0.07		
Nurishh Shreds Doypack 150 Mozzarella	**0.00**	**0.00**	**2%**
Dairy cheese equivalent	0.05		
Nurishh Powder Doypack 150 Parmesan	**0.05**	**0.03**	**36%**
Dairy cheese equivalent	0.08		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in Spain (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 5 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

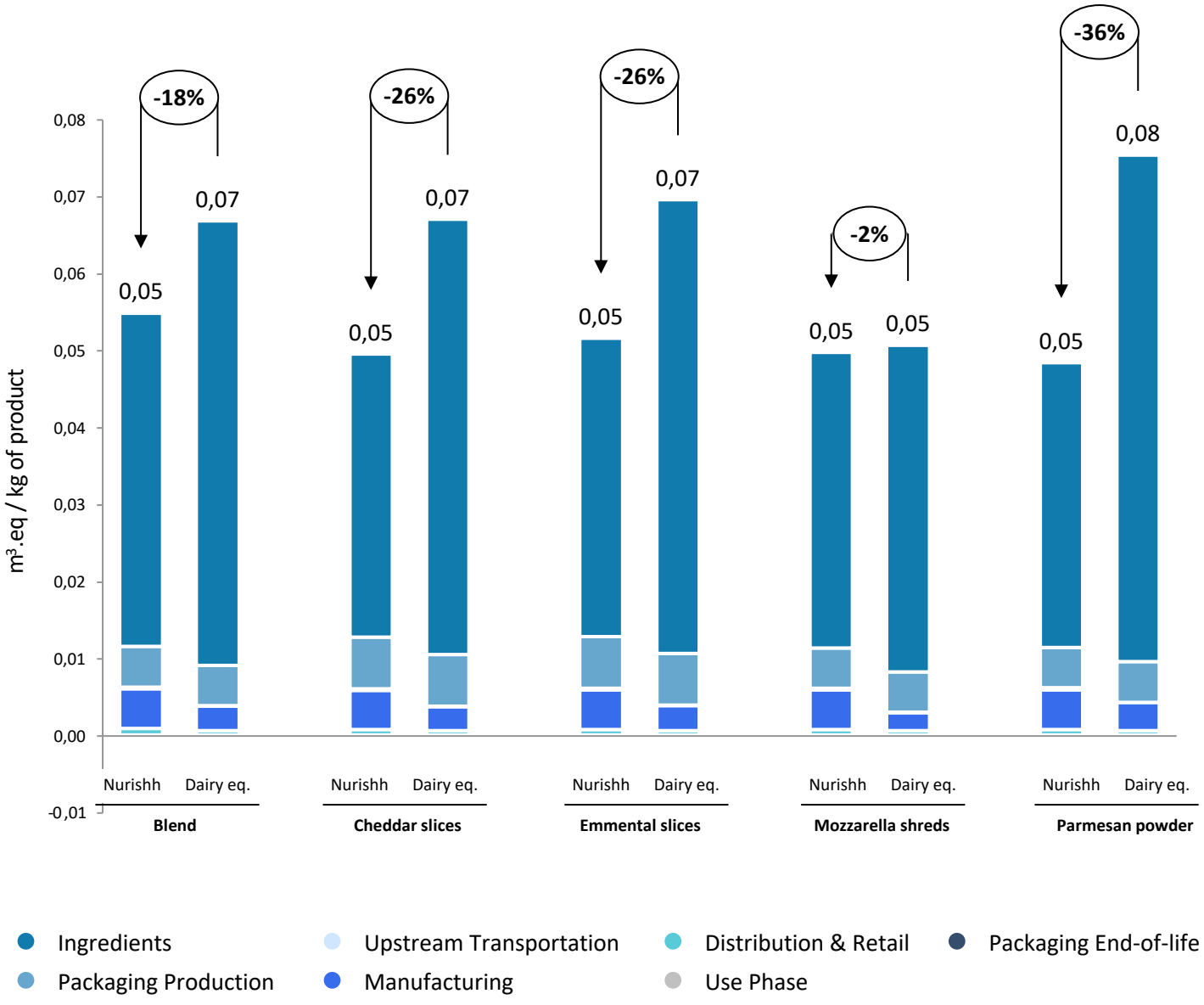


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in Spain; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 72% lower carbon footprint compared with dairy cheese equivalents in Spain. Regarding land occupation, Nurishh products occupy at least 76% less land for 1 kg of product in Spain. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN SPAIN

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 160 Emmental	31	2500 (104 days)	3333
Nurishh Slices Tray 160 Cheddar	30	2400 (100 days)	3200
Nurishh Shreds Doypack 150 Blend	30	2400 (100 days)	3200
Nurishh Shreds Doypack 150 Mozzarella	21	1675 (70 days)	2233
Nurishh Powder Doypack 150 Parmesan	36	2900 (121 days)	3867

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in Spain

Switzerland & Austria

RESULTS AND DISCUSSION

SWITZERLAND & AUSTRIA

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 4 Nurishh products sold in Switzerland & Austria were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in Switzerland & Austria), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 4 products, Nurishh's impacts on climate change are between 4 to 5 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 160 Emmental	**2.6**	**10.3**	**80%**
Dairy cheese equivalent	12.9		
Nurishh Shreds Doypack 150 Emmental	**2.6**	**10.2**	**80%**
Dairy cheese equivalent	12.8		
Nurishh Powder Doypack 150 Parmesan	**2.4**	**11.8**	**83%**
Dairy cheese equivalent	14.2		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**6.9**	**78%**
Dairy cheese equivalent	8.9		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in Switzerland & Austria (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 4 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 4 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

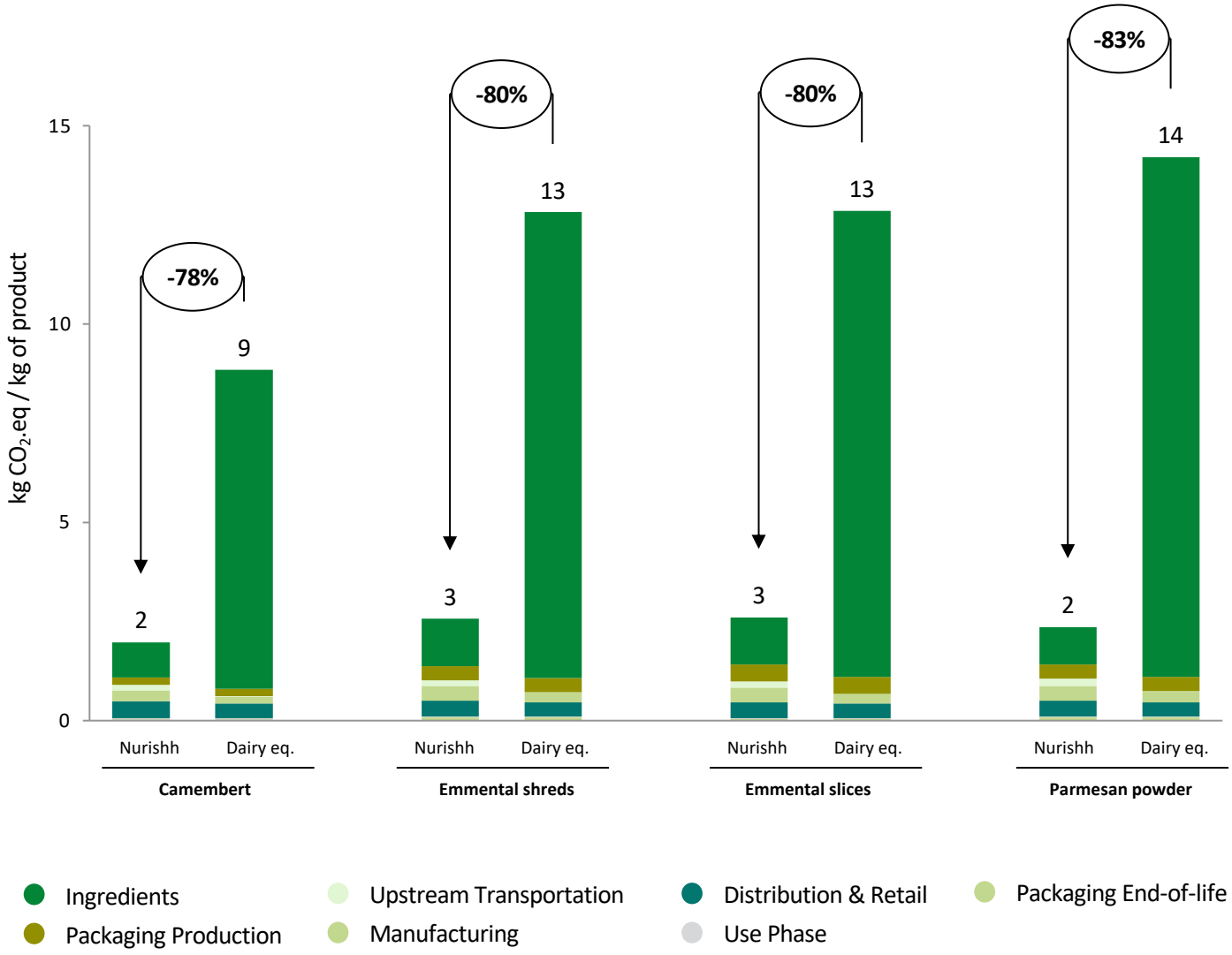


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in Switzerland & Austria; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 4 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 4 products, Nurishh's impact on land occupation are between 4 to 6 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 160 Emmental	**1.7**	**10.0**	**85%**
Dairy cheese equivalent	11.7		
Nurishh Shreds Doypack 150 Emmental	**2.0**	**10.0**	**84%**
Dairy cheese equivalent	11.9		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**11.7**	**88%**
Dairy cheese equivalent	13.3		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**6.3**	**76%**
Dairy cheese equivalent	8.3		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in Switzerland & Austria (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

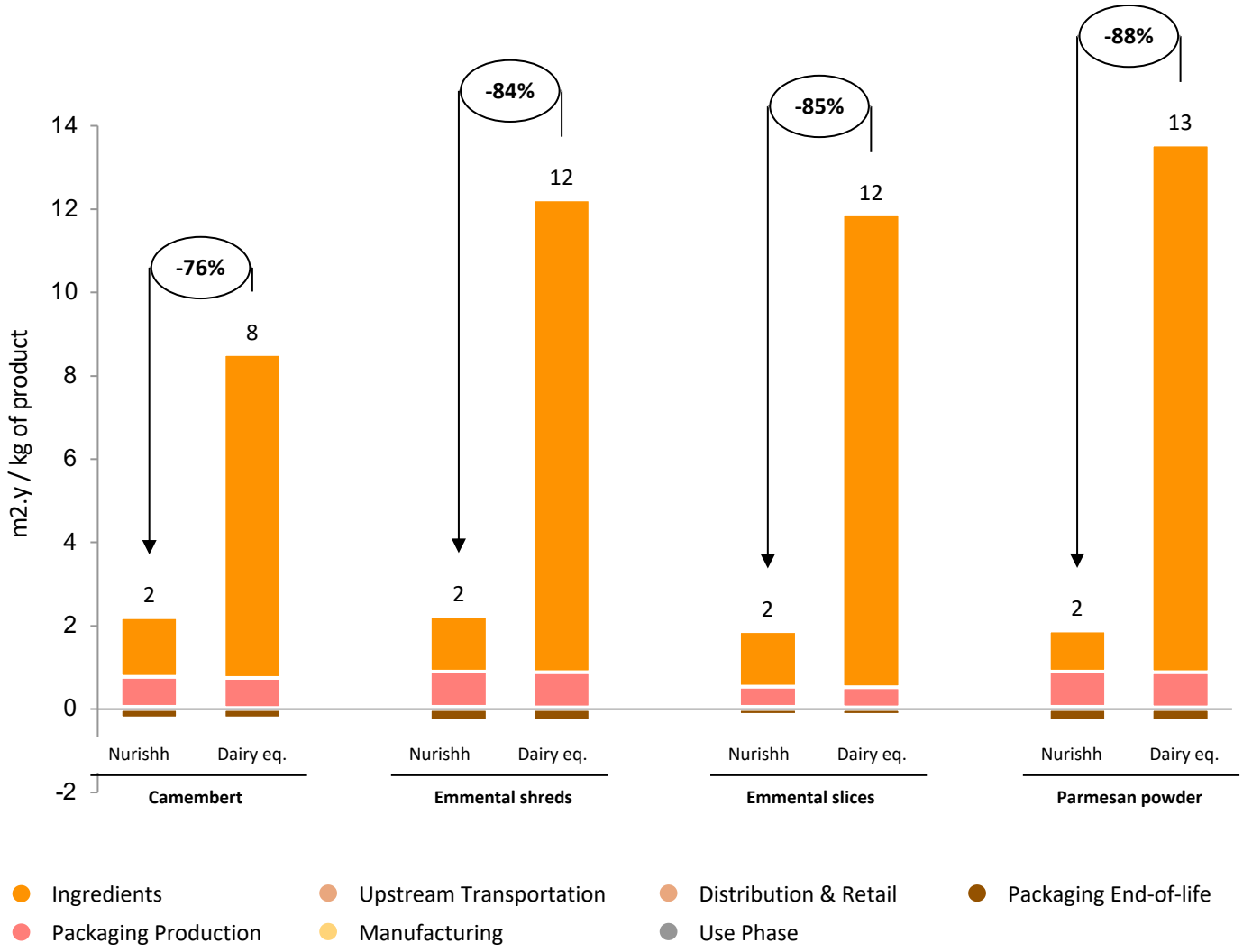


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in Switzerland & Austria; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 4 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across all the products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 160 Emmental	**0.05**	**0.02**	**29%**
Dairy cheese equivalent	0.07		
Nurishh Shreds Doypack 150 Emmental	**0.05**	**0.02**	**30%**
Dairy cheese equivalent	0.07		
Nurishh Powder Doypack 150 Parmesan	**0.05**	**0.03**	**39%**
Dairy cheese equivalent	0.08		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**0.03**	**0.02**	**39%**
Dairy cheese equivalent	0.05		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in Switzerland & Austria (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 4 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

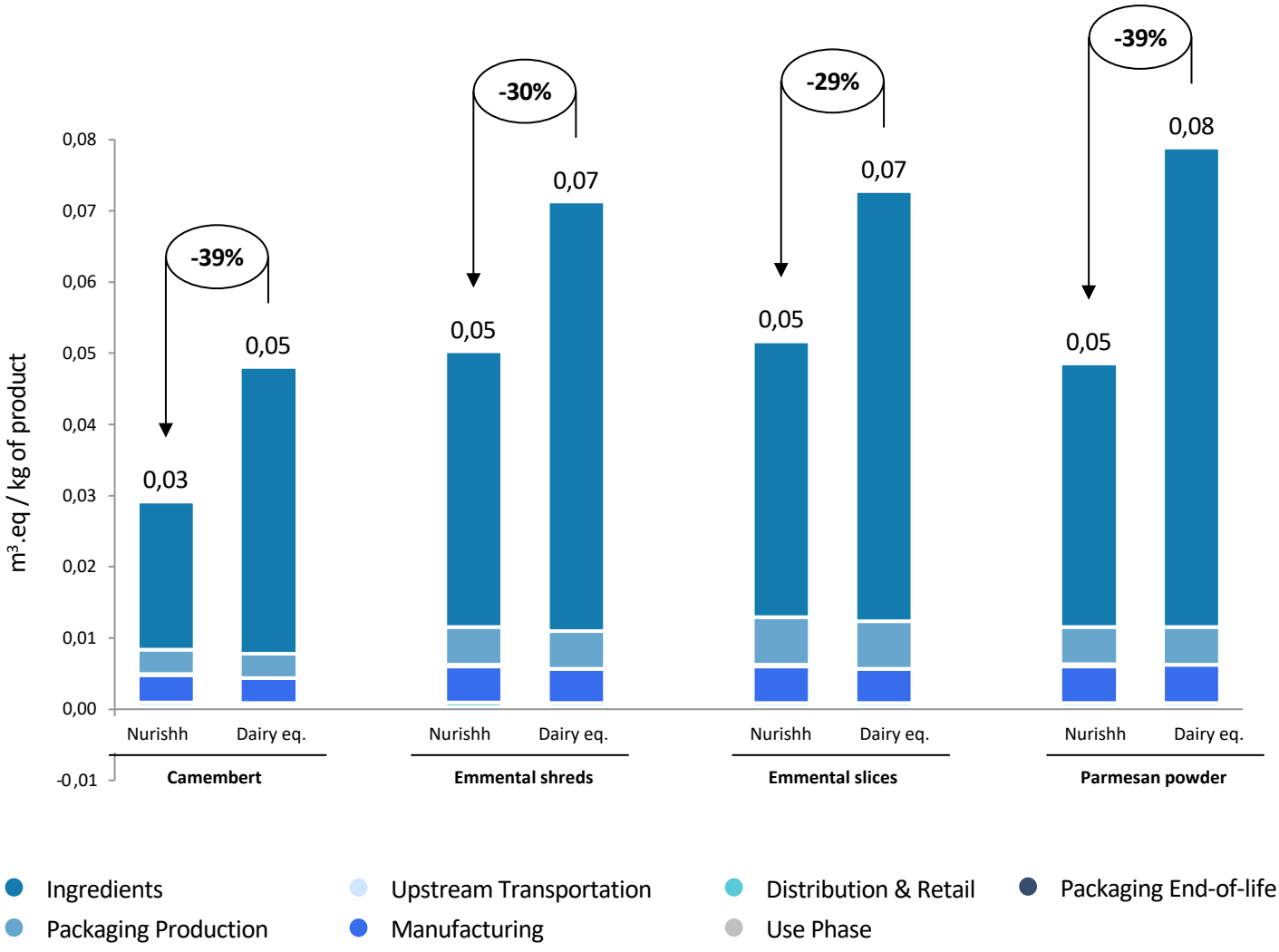


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in Switzerland & Austria; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 78% lower carbon footprint compared with dairy cheese equivalents in Switzerland & Austria. Regarding land occupation, Nurishh products occupy at least 76% less land for 1 kg of product in Switzerland & Austria. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN SWITZERLAND & AUSTRIA

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 160 Emmental	32	2575 (107 days)	3433
Nurishh Shreds Doypack 150 Emmental	31	2550 (106 days)	3400
Nurishh Powder Doypack 150 Parmesan	36	2950 (123 days)	3933
Nurishh Coeur Fleuri Woodbox 140 Camembert	21	1725 (72 days)	2300

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in Switzerland & Austria

UK & Ireland

UK & IRELAND

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 11 Nurishh products sold in the UK & Ireland were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh and local cheese dataset from the WFLDB for dairy product in the UK & Ireland), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 11 products, Nurishh's impacts on climate change are between 3 to 5 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint (kg CO_2 eq.)	Emission reduction (kg CO_2 eq.)	Emission reduction (%)
Nurishh Slices Tray 200 Mozzarella	**2.3**	**6.1**	**72%**
Dairy cheese equivalent	8.4		
Nurishh Slices Tray 200 Emmental	**2.4**	**9.0**	**79%**
Dairy cheese equivalent	11.4		
Nurishh Slices Tray 200 Cheddar	**2.3**	**8.6**	**79%**
Dairy cheese equivalent	10.9		
Nurishh Slices Tray 120 Hot Pepper	**2.6**	**7.7**	**75%**
Dairy cheese equivalent	10.3		
Nurishh Shreds Doypack 150 Mozzarella	**2.4**	**6.1**	**72%**
Dairy cheese equivalent	8.5		
Nurishh Shreds Doypack 150 Emmental	**2.4**	**9.1**	**79%**
Dairy cheese equivalent	11.5		
Nurishh Shreds Doypack 150 Blend	**2.6**	**8.6**	**77%**
Dairy cheese equivalent	11.2		
Nurishh Powder Doypack 150 Parmesan	**2.2**	**10.6**	**83%**
Dairy cheese equivalent	12.8		
Nurishh Cubes Doypack 150 Feta	**2.3**	**6.8**	**75%**
Dairy cheese equivalent	9.1		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**1.8**	**6.0**	**77%**
Dairy cheese equivalent	7.9		
Nurishh Coeur Fleuri Woodbox 140 Goat	**1.9**	**7.0**	**79%**
Dairy cheese equivalent	8.9		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in the UK & Ireland (kg CO_2 eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 11 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation. For Nurishh Coeur Fleuri Woodbox 140 Goat and the Cubes Doypack 150 Feta, the sunflower oil also drives climate change impacts due to the use of fertilizers during the sunflower cultivation and the energy use for oil warming and milling.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 11 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

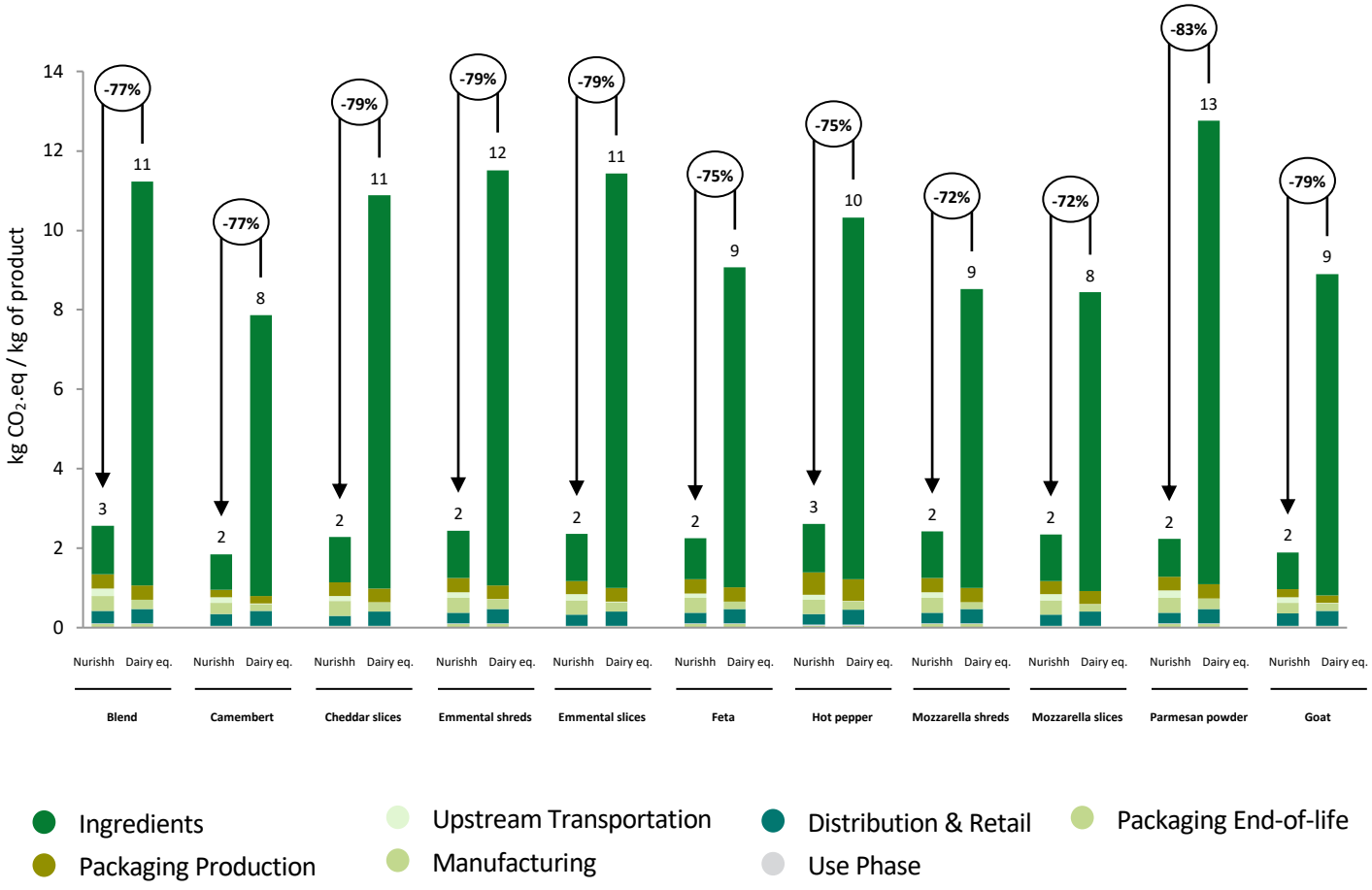


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in the UK/Ireland; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 11 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 11 products, Nurishh's impact on land occupation are between 3 to 7 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Slices Tray 200 Mozzarella	**1.7**	**5.8**	**78%**
Dairy cheese equivalent	7.5		
Nurishh Slices Tray 200 Emmental	**1.7**	**8.6**	**84%**
Dairy cheese equivalent	10.3		
Nurishh Slices Tray 200 Cheddar	**1.6**	**8.3**	**84%**
Dairy cheese equivalent	9.9		
Nurishh Slices Tray 120 Hot Pepper	**1.9**	**7.4**	**80%**
Dairy cheese equivalent	9.3		
Nurishh Shreds Doypack 150 Mozzarella	**1.9**	**5.8**	**75%**
Dairy cheese equivalent	7.8		
Nurishh Shreds Doypack 150 Emmental	**2.0**	**8.7**	**82%**
Dairy cheese equivalent	10.6		
Nurishh Shreds Doypack 150 Blend	**2.0**	**8.4**	**81%**
Dairy cheese equivalent	10.4		
Nurishh Powder Doypack 150 Parmesan	**1.6**	**10.1**	**86%**
Dairy cheese equivalent	11.7		
Nurishh Cubes Doypack 150 Feta	**2.3**	**6.0**	**72%**
Dairy cheese equivalent	8.3		
Nurishh Coeur Fleuri Woodbox 140 Camembert	**2.0**	**5.4**	**73%**
Dairy cheese equivalent	7.4		
Nurishh Coeur Fleuri Woodbox 140 Goat	**2.1**	**6.2**	**75%**
Dairy cheese equivalent	8.3		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in the UK & Ireland (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

For Nurishh Coeur Fleuri Woodbox 140 Goat and the Cubes Doypack 150 Feta, sunflower oil used for Feta recipe, and in a smaller proportion for Goat recipe, is highly impacting on land occupation due to the surface occupied by the crop itself along with the yield of sunflower to sunflower oil.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

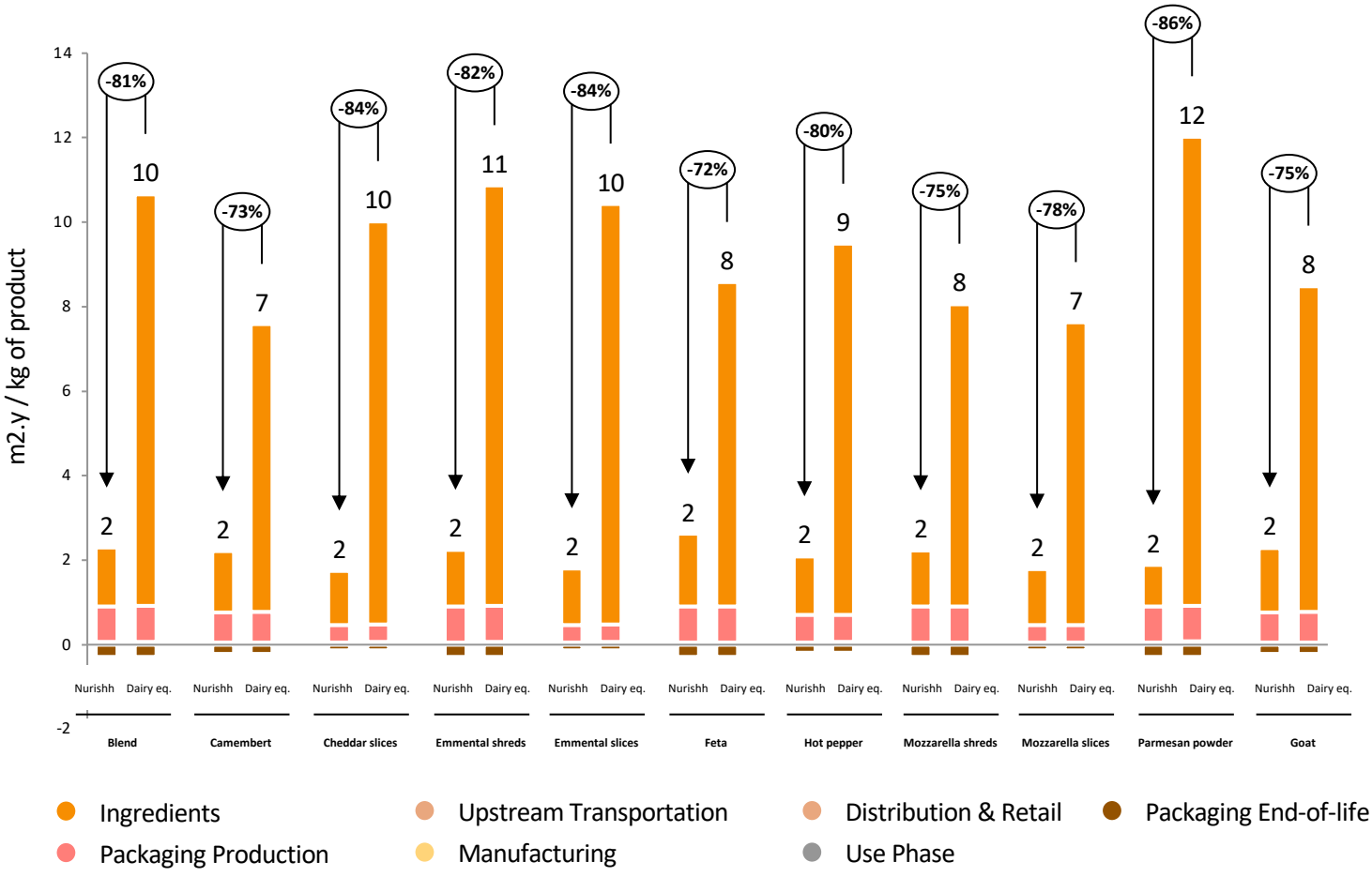


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in the UK/Ireland; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 11 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across the majority of products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Slices Tray 200 Mozzarella	0.05	0.00	-5%
Dairy cheese equivalent	0.05		
Nurishh Slices Tray 200 Emmental	0.05	0.01	21%
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 200 Cheddar	0.05	0.01	21%
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 120 Hot Pepper	0.05	0.01	9%
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 150 Mozzarella	0.05	0.00	-5%
Dairy cheese equivalent	0.05		
Nurishh Shreds Doypack 150 Emmental	0.05	0.01	21%
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 150 Blend	0.05	0.01	12%
Dairy cheese equivalent	0.06		
Nurishh Powder Doypack 150 Parmesan	0.05	0.02	31%
Dairy cheese equivalent	0.07		
Nurishh Cubes Doypack 150 Feta	0.04	0.01	29%
Dairy cheese equivalent	0.05		
Nurishh Coeur Fleuri Woodbox 140 Camembert	0.03	0.01	32%
Dairy cheese equivalent	0.04		
Nurishh Coeur Fleuri Woodbox 140 Goat	0.03	0.02	40%
Dairy cheese equivalent	0.05		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in the UK & Ireland (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 11 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

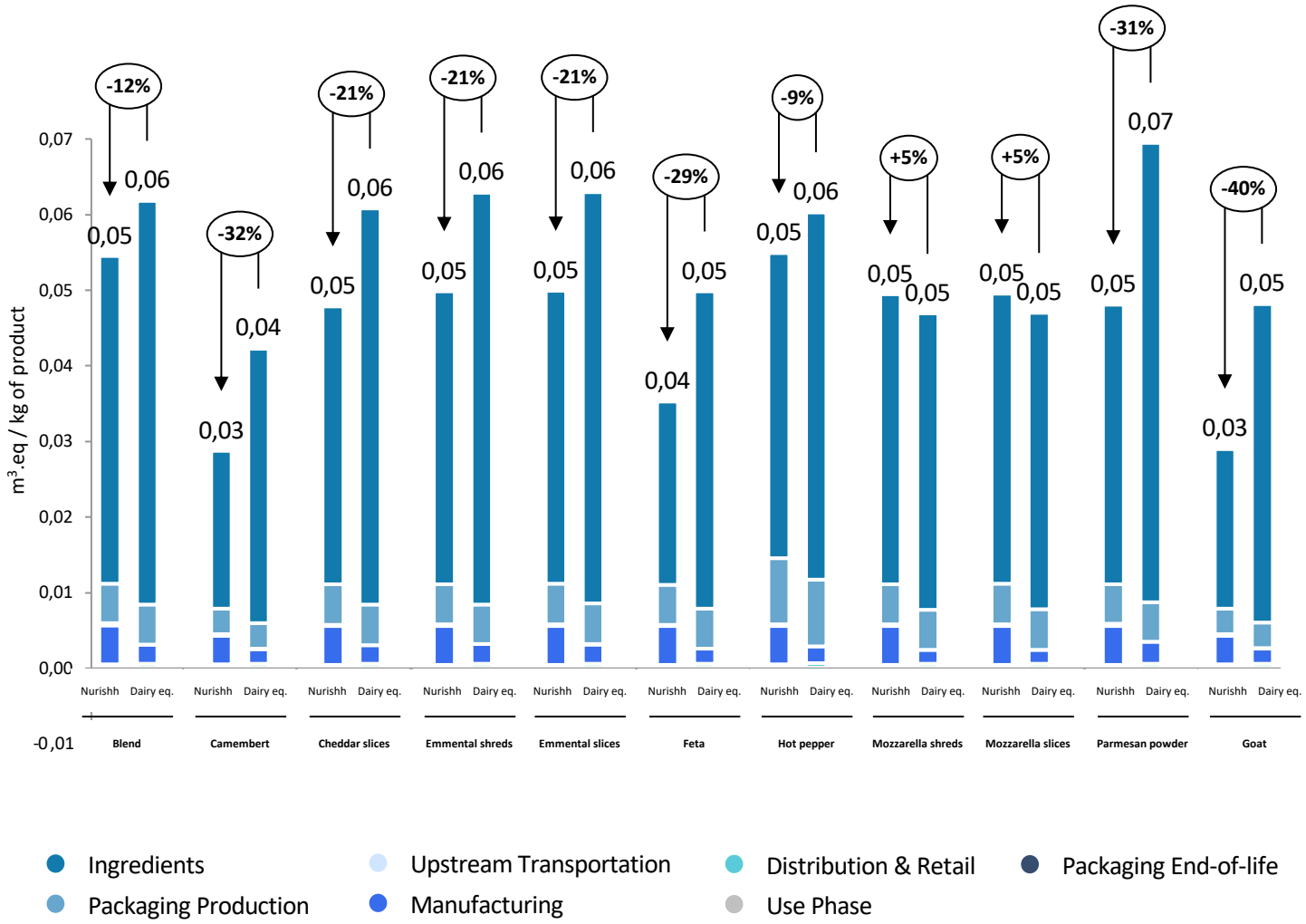


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in the UK/Ireland; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 72% lower carbon footprint compared with dairy cheese equivalents in UK & Ireland. Regarding land occupation, Nurishh products occupy at least 72% less land for 1 kg of product in UK & Ireland. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN THE UK & IRELAND

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Slices Tray 200 Mozzarella	19	1525 (64 days)	2033
Nurishh Slices Tray 200 Emmental	28	2250 (94 days)	3000
Nurishh Slices Tray 200 Cheddar	27	2150 (90 days)	2867
Nurishh Slices Tray 120 Hot Pepper	24	1925 (80 days)	2567
Nurishh Shreds Doypack 150 Mozzarella	19	1525 (64 days)	2033
Nurishh Shreds Doypack 150 Emmental	28	2275 (95 days)	3033
Nurishh Shreds Doypack 150 Blend	27	2150 (90 days)	2867
Nurishh Powder Doypack 150 Parmesan	33	2650 (110 days)	3533
Nurishh Cubes Doypack 150 Feta	21	1700 (71 days)	2267
Nurishh Coeur Fleuri Woodbox 140 Camembert	19	1500 (63 days)	2000
Nurishh Coeur Fleuri Woodbox 140 Goat	22	1750 (73 days)	2333

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in the UK & Ireland

South Africa

RESULTS AND DISCUSSION

SOUTH AFRICA

CLIMATE CHANGE: RESULTS AND EXPLANATIONS

The impacts of the 6 Nurishh products sold in South Africa were calculated based on the production and consumption of 1 kg of product consumed at home. It includes the crop production (coconut, maize, potato, tapioca for the starches for Nurishh, and various crops to feed the cows for the dairy cheese), transport of raw materials to production facilities (Saint-Nazaire, France, for Nurishh distribution distances from Europe to South Africa have been taken into account for dairy products), processing of raw materials to become the final commercialised product, distribution to retailers, and consumption by consumers at home including packaging disposal.

Across all the 6 products, Nurishh's impacts on climate change are between 3 to 5 times lower than their dairy equivalents. The carbon footprint results per kg of product are displayed in **Table 1**.

Product type	Carbon footprint ($kg\ CO_2$ eq.)	Emission reduction ($kg\ CO_2$ eq.)	Emission reduction (%)
Nurishh Bloc Tray 200 Emmental	**2.3**	**9.4**	**81%**
Dairy cheese equivalent	11.7		
Nurishh Bloc Tray 200 Cheddar	**2.2**	**9.0**	**81%**
Dairy cheese equivalent	11.2		
Nurishh Shreds Doypack 150 Blend	**2.5**	**7.5**	**75%**
Dairy cheese equivalent	10.0		
Nurishh Shreds Doypack 150 Mozzarella	**2.3**	**6.4**	**73%**
Dairy cheese equivalent	8.7		
Nurishh Slices Tray 120 Cheddar	**2.5**	**9.1**	**79%**
Dairy cheese equivalent	11.5		
Nurishh Slices Tray 120 Mozzarella	**2.5**	**6.4**	**72%**
Dairy cheese equivalent	8.9		

Table 1. Carbon footprint results for Nurishh products and dairy cheese equivalents in South Africa ($kg\ CO_2$ eq. per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated emission reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

For the 6 Nurishh products, the ingredients production is the largest contributor to climate change impacts. For all Nurishh products, those impacts are dominated by the coconut oil mainly due to the deforestation associated with coconut cultivation.

With respect to dairy cheese equivalents, their impacts are largely dominated by the production of the main ingredient: raw milk. On average, in all markets, contributions mainly come from the production of animal feed (50%), the cows' enteric fermentation emissions (38%) and the manure management (12%). Finally, the proportion of dry matter significantly affects dairy cheese equivalents climate change impacts as it is correlated to the raw milk needed to produce the cheese. Thus, recipes such as parmesan-style will present a higher impact than mozzarella-style.

Figure 2 shows that the **main drivers** of the carbon footprint of the 6 products originate at the farm level, during the ingredients production stage (mainly the coconut oil coming from the Philippines and the milk for dairy cheese products), as well as in the distribution stage.

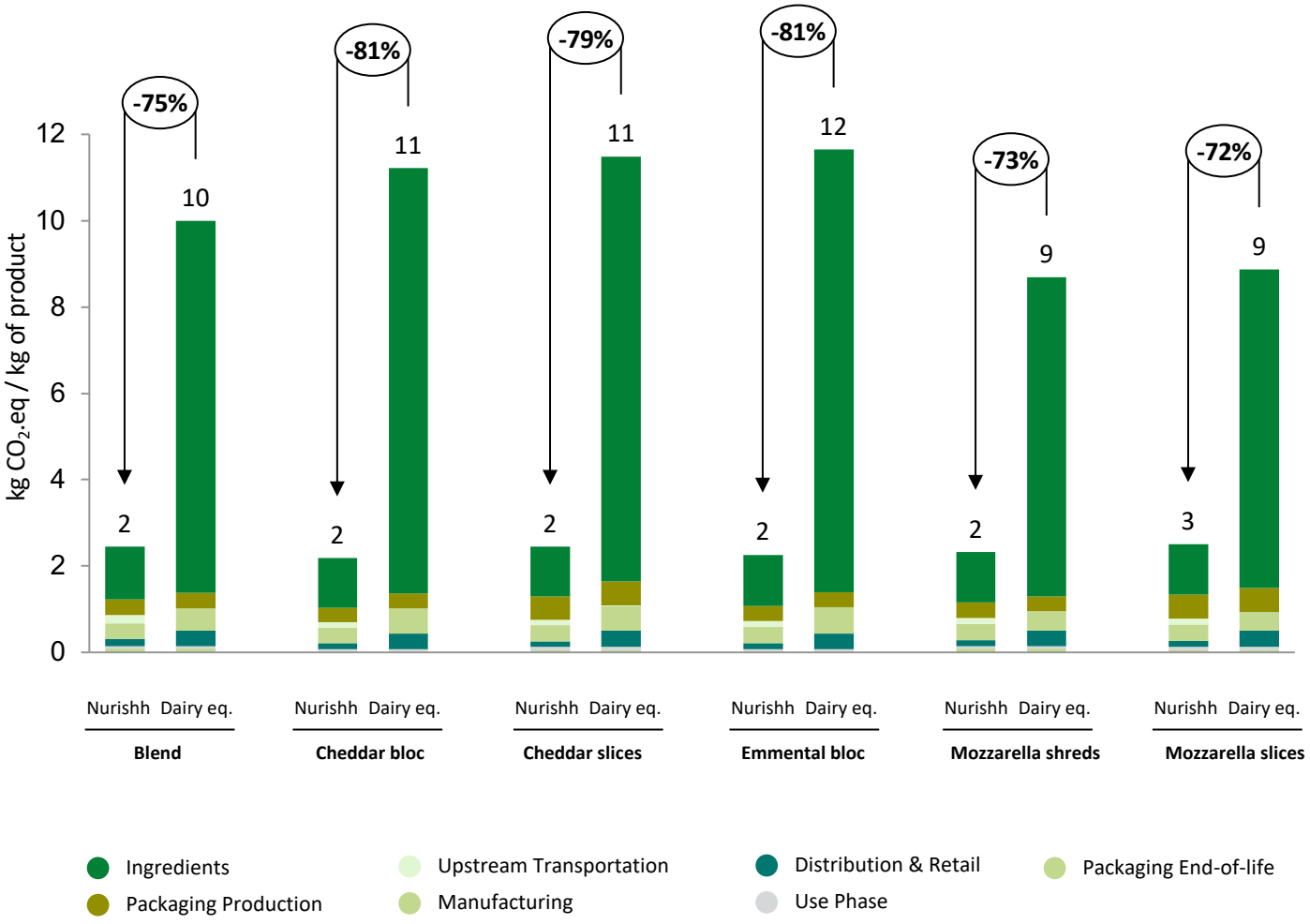


Figure 2. Drivers of the climate change impacts per life cycle stage for 1 kg of product in South Africa; for Nurishh products (left), and the dairy cheese equivalents (right)

LAND OCCUPATION: RESULTS AND EXPLANATIONS

Table 2 presents land occupation results for the 6 Nurishh products and the dairy cheese equivalent per kg of product consumed. It corresponds to the total land occupied required to produce 1 kg of product (the majority of land is used for agriculture and pasture). Human land occupation is a primary cause of biodiversity loss due to land management practices that participate in modifying the soil from its natural state in the given area and impact local natural ecosystems.

For both the Nurishh products and dairy cheese equivalents, land occupation is driven by the agricultural activities of the ingredients production stage. Across all the 6 products, Nurishh's impact on land occupation are between 4 to 6 times lower than their dairy equivalents.

Product type	Land occupation (m^2.y)	Land occupation reduction (m^2.y)	Land occupation reduction (%)
Nurishh Bloc Tray 200 Emmental	**1.7**	**9.5**	**85%**
Dairy cheese equivalent	11.2		
Nurishh Bloc Tray 200 Cheddar	**1.6**	**9.1**	**85%**
Dairy cheese equivalent	10.7		
Nurishh Shreds Doypack 150 Blend	**2.0**	**7.7**	**80%**
Dairy cheese equivalent	9.7		
Nurishh Shreds Doypack 150 Mozzarella	**1.9**	**6.5**	**77%**
Dairy cheese equivalent	8.4		
Nurishh Slices Tray 120 Cheddar	**1.8**	**9.1**	**84%**
Dairy cheese equivalent	10.9		
Nurishh Slices Tray 120 Mozzarella	**1.8**	**6.5**	**78%**
Dairy cheese equivalent	8.3		

Table 2. Land occupation footprint for Nurishh products and dairy cheese equivalents in South Africa (m^2 per year per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated land occupation reduction may not precisely reflect the differences in the land occupation between Nurishh products and dairy cheese equivalents.

For all Nurishh products, the ingredient contributing the most to land occupation impacts is **coconut oil** due to the deforestation that occurs to produce coconuts in Indonesia and the Philippines. Tricalcium citrate is also a key contributor to land occupation due to the feedstock required for its production.

Dairy cheese equivalents have a higher land occupation than the Nurishh products. This can be explained by the fact that the mass of plant product needed to feed the livestock to produce 1 kg of dairy cheese equivalent is approximately double the mass of plant product needed to manufacture the Nurishh products. Although the raw milk sourcing varies from market to market, the orders of magnitude are similar on land occupation: considering about 45% from hay production, 31% from concentrate feed production and 24% from grazing pasture on average in all markets. Finally, similarly to climate change, the proportion of dry matter of dairy cheese equivalents are a key parameter, impacting land occupation. Thus, parmesan-style and mozzarella-style present the highest impact.

Figure 3 shows that the **main drivers** of the land occupation footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

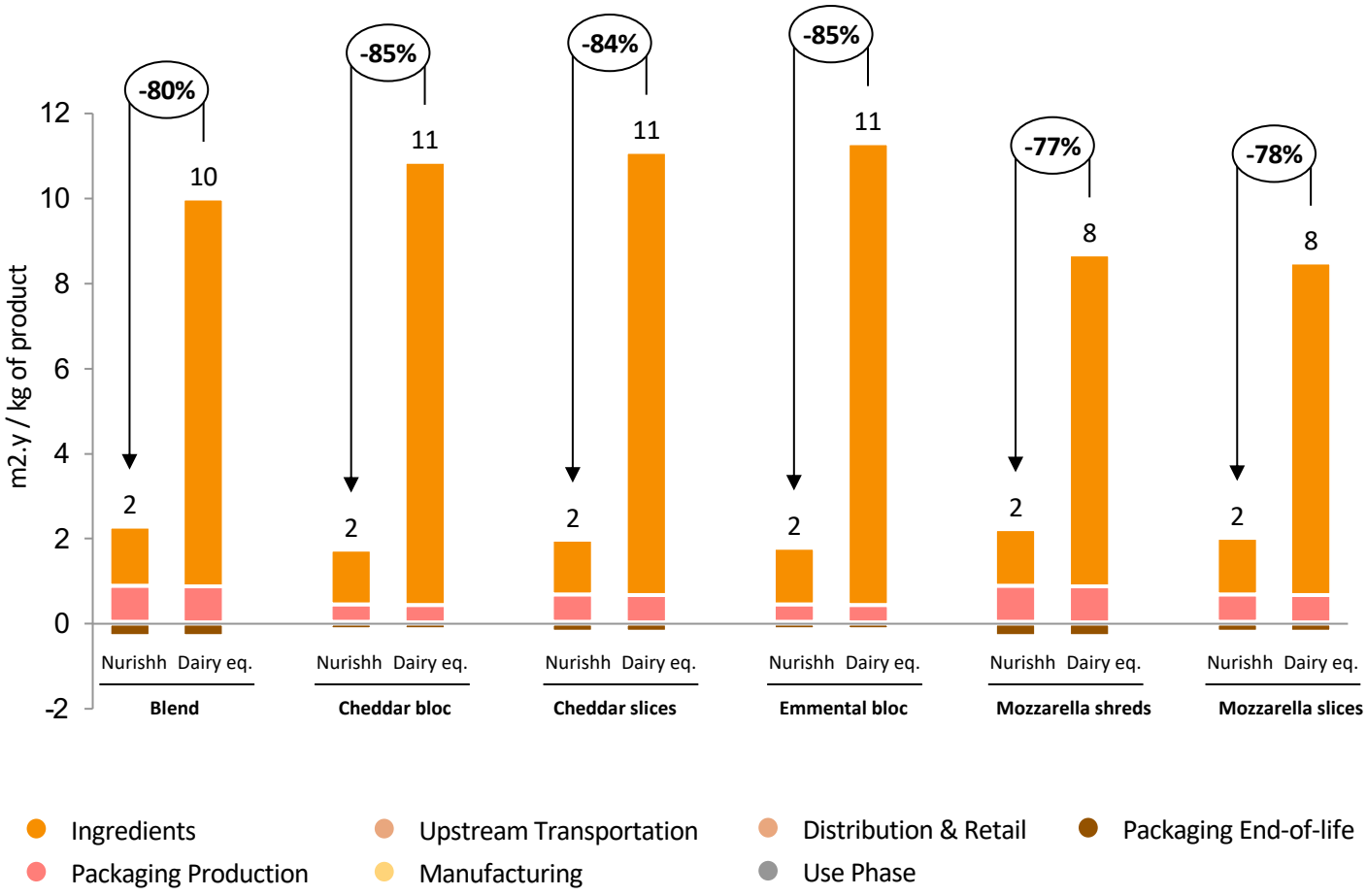


Figure 3. Drivers of the land occupation impacts per life cycle stage for 1 kg of product in South Africa; for Nurishh products (left), and the dairy cheese equivalents (right)

WATER CONSUMPTION: RESULTS AND EXPLANATIONS

Table 3 presents water consumption results for the below 6 products per kg of product consumed at home by consumers. For all products, water consumption assesses the volume of water extracted from natural systems that is used and not returned to the environment due to human activities.

Across the majority of products of this country, Nurishh's impacts on water consumption are lower than their dairy equivalents but not significantly lower due to the uncertainty of the indicators.

Results regarding water consumption are therefore not significant enough to allow for any robust comparative assertion to support external communications. Due to database uncertainties in the water regionalisation method, the results are not considered significant enough to draw a reliable comparative conclusion.

Product type	Water consumption (m^3)	Consumption reduction (m^3)	Consumption reduction (%)
Nurishh Bloc Tray 200 Emmental	0.05	0.01	22%
Dairy cheese equivalent	0.06		
Nurishh Bloc Tray 200 Cheddar	0.05	0.01	22%
Dairy cheese equivalent	0.06		
Nurishh Shreds Doypack 150 Blend	0.05	0.00	0%
Dairy cheese equivalent	0.05		
Nurishh Shreds Doypack 150 Mozzarella	0.05	0.00	-4%
Dairy cheese equivalent	0.05		
Nurishh Slices Tray 120 Cheddar	0.05	0.01	21%
Dairy cheese equivalent	0.06		
Nurishh Slices Tray 120 Mozzarella	0.05	0.00	-4%
Dairy cheese equivalent	0.05		

Table 3. Water consumption footprint for Nurishh products and dairy cheese equivalents in South Africa (m^3 per kg of product)

N.B. Due to the rounding of numbers for communications purposes, the calculated consumption reduction may not precisely reflect the differences in the carbon footprints between Nurishh products and dairy cheese equivalents.

The study shows that the main driver of water consumption for the products and their dairy cheese equivalent are the ingredients production stage. For all 6 products, water consumption comes mainly from the production of starches, especially for maize which relies on irrigation to grow.

For the dairy cheeses, the primary contributor is cattle feed mix, which relies on irrigation for cultivation. The water consumption for all Nurishh products is slightly lower than dairy cheese as its main ingredient, coconut oil from the Philippines, is not considered to be irrigated.

Figure 4 shows that the **main drivers** of the water consumption footprint of both Nurishh products and dairy cheese equivalents are the agricultural activities of the ingredients production stage.

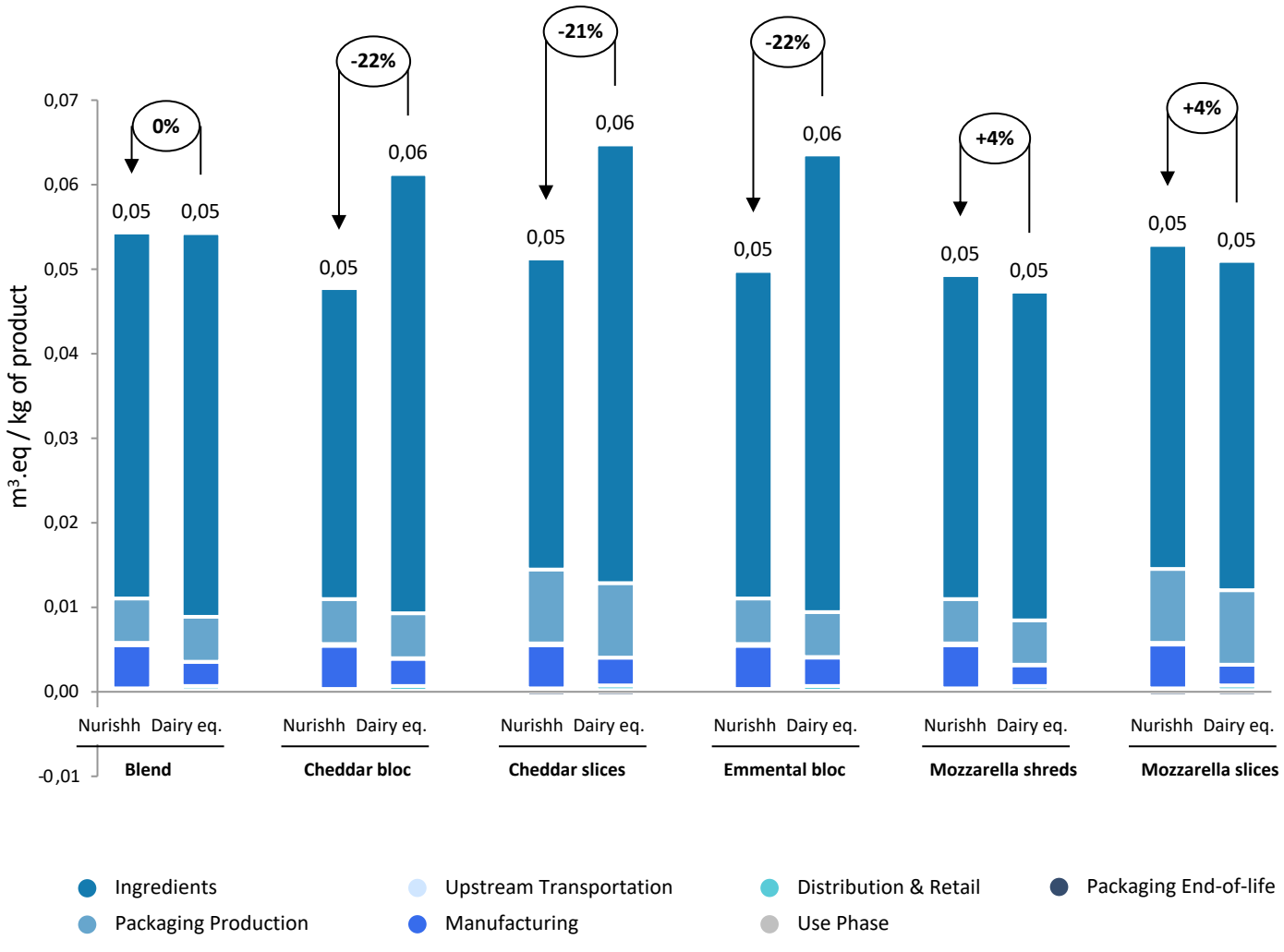


Figure 4. Drivers of water consumption impacts per life cycle stage for 1 kg of product in South Africa; for Nurishh products (left), and the dairy cheese equivalents (right)

LCA CONCLUSIONS

This study shows that Nurishh products have at least a 72% lower carbon footprint compared with dairy cheese equivalents in South Africa. Regarding land occupation, Nurishh products occupy at least 77% less land for 1 kg of product in South Africa. Regarding water consumption, Nurishh's impacts are not significantly lower than their dairy equivalents.

When moving towards transparency of sustainable supply chains and developing potential mitigation strategies, producers can only fully understand the impacts of their products and look for opportunities to reduce these impacts if they thoroughly and accurately assess their product supply chains.

The LCA shows that the carbon footprint of Nurishh is dominated by coconut oil production and distribution to consumer markets. The second most significant contributor to the carbon footprint of Nurishh products, product distribution, could be reduced by developing transportation alternatives and optimizing logistics.

COMPARATIVE CLAIMS AND CALCULATION OF EQUIVALENCIES

Comparative claims on carbon emission reductions are made based on the proof points displayed in **Table 1** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) has (**insert corresponding emission reduction in %**) % lower climate impact than dairy cheese.*
>
> *In (**insert country**), 1kg of (**insert Nurishh product**) saves (**insert carbon footprint proof point in kg CO_2 eq.**) compared to the same quantity of dairy cheese.*

Comparative claims on land occupation reductions are made based on the proof points displayed in **Table 2** of this document. Below are two examples of the adequate structure to use.

> *In (**insert country**), (**insert Nurishh product**) requires (**insert corresponding land occupation reduction in %**) % less land area than the same quantity of dairy cheese.*
>
> *In (**insert country**), 1 kg of (**insert Nurishh product**) saves (**insert land occupation proof point in $m^2.y$**) square meters of land occupation per year compared to the same quantity of dairy cheese.*

With regard to the current results, comparative claims regarding water consumption reduction can not be made.

For comparative claims, the impacts for Nurishh products should be rounded up conservatively to facilitate clear communication and avoid over-claiming. As approximations exist in any life cycle assessment, a conservative approach avoids misleading consumers and greenwashing.

Equivalencies are used to put into perspective the reductions of the carbon footprint of Nurishh products and the dairy cheese equivalents to render the information meaningful and understandable for a larger audience. The equivalencies were calculated based on the kg CO_2 eq. reductions between Nurishh products and dairy cheese equivalents. The amount is then converted into equivalencies of different daily activities, such as CO_2 eq. emissions of kilometres driven by car.

EQUIVALENCIES ON CARBON FOOTPRINT REDUCTIONS IN SOUTH AFRICA

For each kg of **[Nurishh product name]** consumed that replaces dairy cheese, you save the equivalent of the following activities:

Nurishh product name	**Driving a car** (km)	**LED lighting** (hours)	**Sending emails** average value with logo 50 Ko (quantity)
Nurishh Bloc Tray 200 Emmental	29	2350 (98 days)	3133
Nurishh Bloc Tray 200 Cheddar	28	2250 (94 days)	3000
Nurishh Shreds Doypack 150 Blend	23	1875 (78 days)	2500
Nurishh Shreds Doypack 150 Mozzarella	20	1600 (67 days)	2133
Nurishh Slices Tray 120 Cheddar	28	2275 (95 days)	3033
Nurishh Slices Tray 120 Mozzarella	20	1600 (67 days)	2133

Table 4. Equivalencies when comparing 1 kg of Nurishh products and dairy cheese equivalents climate impacts in South Africa