

Upfield Upside Project Summary

Executive summary

The *Upfield Upside* is an estimate of the “CO₂e savings” associated with the purchase of Upfield products versus dairy equivalents.

The approach is designed to complement existing product and operational footprinting, with a different audience in mind. The aim is to demonstrate beneficial impacts of plant-based products, and to support investors and policy makers in their decisions. Ultimately it is about creating the drivers to produce systemic, sustainable change in the way we produce and consume food.

To estimate the Upfield Upside, representative products from Life Cycle Assessments (LCA) were mapped to Upfield product groupings based on Upfield classifications. The impacts of the representative products were expanded by sales figures to provide total impacts across the whole ‘portfolio’ of sold products. In parallel, the impacts of dairy comparator products were also calculated to show the CO₂e impact of the sale of equivalent dairy products (for spreads, the comparator product was dairy butter). The highest CO₂e value from available LCAs in any given group was chosen to give the most conservative estimate of Upfield’s climate impacts.

This calculation is based on data from Upfield’s LCAs which are mostly from 2018. Due to the differences in methodology and the evolving nature of related emission factors, the Upside was recalculated by applying the saving from the portfolio calculation to the 2020 actual company CO₂e emissions. This supports simpler communications and avoids over-estimation of savings.

Results

The Spreads ‘portfolio’ constitutes a significant amount of Upfield’s 2020 production by weight. The remaining volume includes low-dairy creams, cheese, and other products not yet analysed for this study.

Outputs from the Spreads analysis are summarised below:

	Upfield spreads Impact (million tCO ₂ e)	Dairy spreads impact (million tCO ₂ e)	Difference (million tCO ₂ e)	% difference – Upfield Upside
Portfolio calculation	4.7	15.4	10.7	69%
2020 adjusted totals – the current Upside	2.7	8.7	6.0	69%

Upfield Upside – More information on the Portfolio method

The purpose of the Upfield portfolio footprint study was to estimate the CO₂e savings that accrued from the 2020 sales of Upfield products, compared to the hypothetical CO₂e impact of the same sales of dairy equivalents.

The study has used the **Anthesis Portfolio Footprint method**, tailored to meet the Upfield study aims. In summary, representative products from LCAs were assigned to Upfield product groupings based on Upfield classifications, and country where applicable. The impacts of the representative products were expanded by sales figures to provide total impacts across the whole portfolio of

sold products. In parallel, the impacts of dairy comparator products were also calculated to show the CO₂e impact of the sale of equivalent dairy products.

Upfield product classifications

Upfield classifies products in its spread category by three main attributes:

- 1) Sub-category e.g., Margarines, spreads, creams
- 2) Brand e.g., Flora, Rama, Elmlea
- 3) Product type e.g., Regular / light, Spreadable butter / Plant butter

LCAs used as representative products

Upfield provided a large set of 300 peer-reviewed LCAs for their own products (28 brands covered), plus 70 LCAs for comparator products, which provided a credible base for the analysis. Comparator products were selected by equivalent use for all categories e.g., dairy butter for the spread's category. The LCAs were country-specific and there was at least one LCA from 19 European countries, USA and Canada. Most LCAs were carried out in 2018, with a number having been added more recently.

The LCA products were firstly categorized into Upfield product classifications. Then, for each Portfolio aggregation, either a direct LCA match on product and country, or the highest CO₂e value from related and relevant LCAs was selected to fill any gaps. Using the highest value was to ensure that insights generated were conservative estimates.

For example, if there were three LCAs for MARG/LIGHT in Austria, the MARG/LIGHT-Austria group was assigned the highest CO₂e value of those. The dairy comparator product was from the same country to maintain consistency. The MARG/LIGHT Europe value would be the highest value from any Europe LCAs present.

Applying representative products to sold product groups

The aim of the classification level mapping was to give the best LCA match to each product group, making the best use of the range of LCAs available. The best match from country, region or global values was applied. For brands that were not represented among the LCAs, mapping was based entirely on the product groupings, applying the best match available.

A corresponding comparator product LCA was assigned to each product group.

The highest value of available LCAs in any given group was chosen, avoiding the risk of presenting an artificially low CO₂e total and of over-estimating the difference between Upfield products and comparator products.

Expanding product impact by sales value

From the mapping process, each product group has values for CO₂e impact per kg from its Upfield representative LCA and comparator product. The total impact of all sold products was calculated by multiplying the CO₂e impact per kg by the total kg sold. This resulted in total CO₂e per product group and total CO₂e impact for Upfield sales in the category. The CO₂e impact of the comparator product was calculated in the same way.

Calculating the current Upside

The Upfield Upside was based on the difference between the comparator CO₂e – the impact associated with the same sales of a dairy equivalent product – and the Upfield product CO₂e.

Because the 2020 Upfield total footprint has been calculated using more up-to-date emission factors than the LCAs, the portfolio CO₂e result calculated from LCAs was higher than the current footprint. To avoid over-estimation, the Upside was then recalculated by applying the saving from the portfolio calculation to the 2020 spreads GHG footprint (which was determined by sales volume Kg)

Assumptions and limitations

- The estimation assumes that consumers would purchase a plant-based margarine instead of a dairy-based equivalent, when in reality consumer behaviour and purchasing habits vary. This hypothetical calculation is designed to demonstrate the “emission savings” potential.
- Accuracy is the biggest challenge with any carbon footprinting. Our use of certified, credible LCAs helps alleviate this risk and accuracy can be further refined through actual product footprints.
- The portfolio footprint approach is based on using LCA results for one product to represent many other products. Upfield’s LCA results show clear patterns relating impacts to ingredients (e.g., fat content) which supports the approach. The process here has taken the most conservative approach to minimise the risk of misleading Upside results.
- The LCAs are mostly from 2018. Since then, many underlying emissions factors have been updated e.g., carbon intensity of electricity, and many of the life cycle impacts may have therefore changed in both Upfield products and their comparators. These changes may not occur equally across products, and through a process of validation, we determined that the Upside would have been more favourable to Upfield products if 2020 data was used. Using the 2018 LCAs provided a more moderate estimate of the Upfield Upside.
- The Upfield Portfolio Footprint provides estimated total CO₂e impact for all sold Upfield spreads and for the dairy equivalent sales, and a total difference between the two. This difference can be used to moderately estimate the percentage “savings” for Upfield products.
- The lack of standard methods to make comparisons of different product portfolios means current ‘best estimates’ rely on product-level comparative assertions (e.g. ISO life cycle standards, GHG Product Protocol). This approach works to fill some of the methodological gaps at the product portfolio level; however greater standardisation is required.

For more information

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White paper: Link TBC