

Recipe Box vs Supermarket Study



Context

We worked with <u>Foodsteps</u> to conduct a comparative study of the Mindful Chef recipe box model versus supermarkets.

Footsteps are a leading provider of environmental footprint data and environmental labels for food companies. The study analysed Mindful Chef meals against the equivalent meal from a supermarket, focusing on food waste savings and greenhouse gas emissions.



For further details see Foodsteps methodology here

Methodology

The study looked at 40 of our 2 person recipe box meals, including 10 fish recipes, 10 poultry recipes, 10 red meat recipes and 10 vegan recipes.

It considered the full life cycle of the recipes from cradle to grave (farm to waste). This means we looked at everything from the inputs at the farm stage to the impact of food and packaging at its end-of-life, i.e. going to landfill, being incinerated or being recycled.



To understand the differences between Mindful Chef meals and supermarkets, the equivalent recipes and ingredients as if they had been purchased from a supermarket were assessed. This was based on average UK supermarkets using secondary data from Foodsteps database.





🖉 Ingredients

This accounts for the primary production impacts of food ingredients and includes emissions from producing ingredients on-farm (farm, feed, land use change), and the processing of ingredients before they reach the Mindful Chef warehouse or supermarket. Ingredient emissions were calculated using data from Foodsteps database.

🛱 Packaging

This is the emissions from packaging materials being sourced, manufactured and transported, as well as the emissions from them being disposed of. It covers all the packaging used to get a recipe to a customer, as well the packaging used throughout the supply chain.

$\{ \hat{o} \}$ Production / retail

This looks at energy consumption used at the Mindful Chef warehouse. For supermarkets this accounts for impacts from the retail of food ingredients in stores using averages from the Foodsteps database.

> Healthy eating made easy

C Transport & end-mile

This is both inbound transportation, covering all deliveries to the warehouse or supermarket. As well as the end mile transportation, which accounts for deliveries to customers

For Mindful Chef deliveries, primary data was provided by DPD. Assuming that an 'average parcel' delivered by DPD was based on a typical 2-person box, containing 3 recipes (or 6 servings). End-mile impacts are apportioned per serving of each recipe.

In the supermarket model, end-mile methods include travelling by car, bus and foot, as well as online grocery delivery. The average journey from supermarket to consumer was modelled using NTS (National Travel Survey 2015) data on various shopping methods by UK consumers, and average distances travelled. This was supplemented with additional data on grocery delivery models. An average supermarket end-mile emissions factor was subsequently derived.

Cooking

This accounts for the emissions from cooking and preparing meals using average household appliances, according to the Mindful Chef recipe cooking instructions. The same cooking instructions were used for the supermarket meals.

UK averages for appliance type (i.e. gas vs. electric) and energy type (i.e. standard vs. renewable) are used to estimate emissions from cooking.







🔟 End of life

This accounts for the emissions from food waste disposal throughout the life cycle. Assumptions were made about the proportions of waste at the farm, processing, retail and household stages using averages from the Foodsteps database.

ர் Waste

Volumes of waste at various stages of the life cycle were calculated using average waste proportions from the Foodsteps database.

Purchased ingredient amounts in the Supermarket system have been scaled up to account for the higher level of household waste, ensuring that the amount of food eaten by the end consumer in each system is the same.

The methodology used aligns with the Greenhouse Gas Protocol Product Life Cycle Accounting and Reporting Standard.

Functional unit

Emissions are reported as CO2 equivalents (CO2e). This just means that while the assessment looks at the effects of all greenhouse gases (GHG), the end figure is converted into the equivalent amount of carbon dioxide.

Carbon and food waste savings are reported per serving, based on a 2-person portion.

Outcomes

Outcomes are expressed as an average across all the recipes that were looked at as part of the assessment.

🐵 Carbon emissions

The average life-cycle carbon saving in a Mindful Chef meal versus the supermarket equivalent is 21%. This equates to 1.00 kg CO2e per serving.

🔟 Food waste

The average Mindful Chef meal creates 51% less food waste through its entire life cycle (farm to fork) than the supermarket equivalent. This equates to a 0.23 kg food waste saving per serving.*

*This accounts for waste at the farm stage, during ingredient processing, at production and distribution stages, and at consumer level. 'Waste' includes food thrown away during quality checks, 'inedible' scraps such as peels, as a result of spoiling, etc.

These savings primarily come from:

- Reduced food waste at the operational & consumer level
- Reduced road miles due to a streamlined, shorter supply chain

The outcomes of this study have been verified by Foodsteps.

😞 End mile

This looks at the differences in the average emissions per serving between Mindful Chef and supermarket systems (e.g. customers traveling to the supermarket vs having a box delivered). On average, having a Mindful Chef meal delivered has a 54% lower carbon footprint vs travelling to the supermarket to buy the equivalent meal.

> less CO2e per serving than the supermarket equivalent

2.12

less food waste through the entire life cycle (farm to fork

entire life cycle (farm to fork) than the supermarket equivalent

54%



Small changes can make a world of difference



AUGUST 2022