Global Food Waste Study

March 2020

Abstract of the Global Report

Authors of the study:

Dr. Melanie Speck, Felix Buchborn, Dr. Anne Caplan, Sebastian Schuster, Manuel Bickel, Esra Keskin, Paul Suski, *Wuppertal Institute for Climate, Environment and Energy* (Wuppertal, Germany)

Mariam Nikravech, *Institute of Vocational Education and Work Studies, Technische Universität Berlin* (Berlin, Germany)

Prof. Dr. Nina Langen, *Institute of Vocational Education and Work Studies, Technische Universität Berlin* (Berlin, Germany)

Assisted by:

Dr. Erica van Herpen, *Marketing and Consumer Behaviour, Wageningen University & Research* (Wageningen, Netherlands)

Tobias Engelmann, *iSuN – Institute of Sustainable Nutrition and Food Production, FH Münster – University of Applied Sciences* (Münster, Germany)

Dr. Shima Barakat, *Entrepreneurship Education Adviser, University of Cambridge* (Cambridge, UK)

ReFED, Rethink Food Waste Through Economics and Data (Berkeley, USA)

Publisher: *Wuppertal Institute for Climate, Environment and Energy gGmbH,* Döppersberg 19 42103 Wuppertal, www.wupperinst.org

Summary

Food waste is a global issue, presenting a range of high ecological and economic impacts. As such, the United Nations deemed food waste a global priority, incorporating the issue into the 2030 Agenda for Sustainable Development under Sustainable Development Goal 12.3, which targets reduction of global food waste and loss specifically at the retail and consumer levels.

In an effort to understand how HelloFresh services could affect household food waste in Europe and North America, HelloFresh partnered with the Wuppertal Institut in a pioneering study on global food waste. The HelloFresh Global Food Waste Study was conducted in collaboration with leading field experts from the Technical University of Berlin, the Münster University of Applied Sciences, the University of Wageningen, the University of Cambridge, and the US-based non-profit ReFED. HelloFresh employs an innovative purchase-to-order e-commerce model that supplies precise quantities of ingredients needed for cooking a specific dish for dinner. Due to this unique product offering, meal kits such as HelloFresh provide a potential opportunity for private households to reduce discarded food waste as compared to conventional home provisioning and cooking. The study aimed to compare the varying food discard habits in households in HelloFresh markets across North America and Europe.

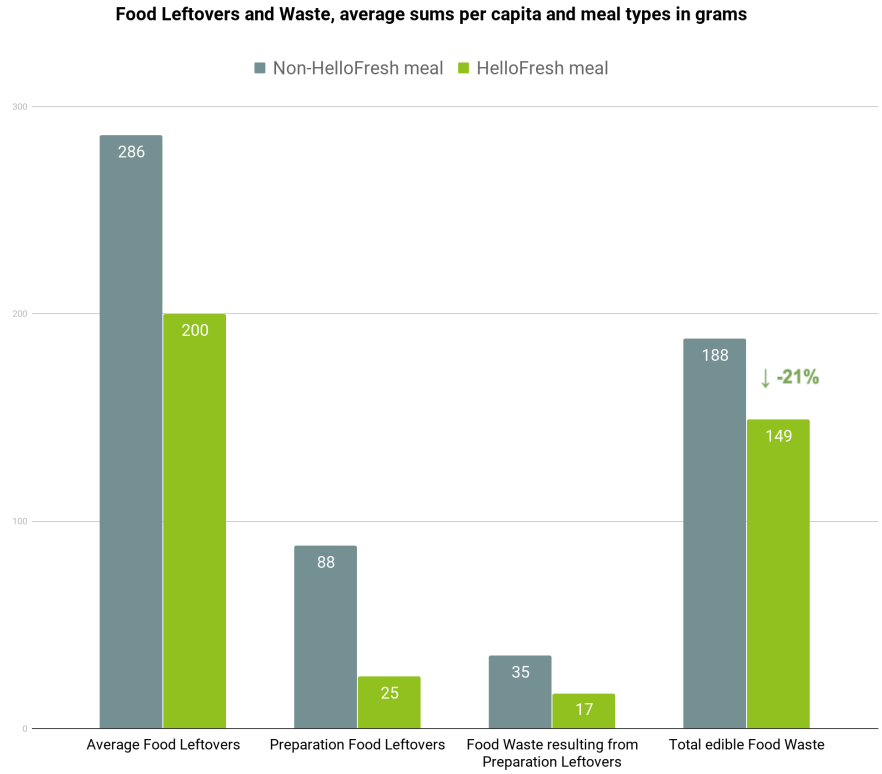
The HelloFresh Global Food Waste Study was conducted in six countries: USA, Canada, UK, Germany, Belgium, and the Netherlands. Households were asked to report their food waste and describe how they manage leftovers. Over the course of three weeks, researchers collected nearly 11,000 daily dinner reports and additionally over 1,800 introductory and feedback questionnaires on food handling, leftovers, and food waste.

An example at the frontier of research on food waste, the study took into account a variety of different leftover categories, including but not limited to the leftovers created during meal preparation used in subsequent days. In particular, the study's analysis of the reuse of different leftover types presents a foray into this novel area of research. Several dinner types were observed

and categorized in the study, including frozen ready-made or delivery meals, with the focus on the following two comparable meal types:

- HelloFresh dinner meal: a meal cooked from scratch with raw ingredients provided by HelloFresh in the weekly meal kit
- Non-HelloFresh dinner meal: a conventional meal cooked from scratch with raw ingredients, where recipe and food items were chosen and provisioned by participants (as they would typically do)

The study confirmed the hypothesis that by using HelloFresh services, households produce less food waste than with a conventional dinner. **With HelloFresh, meal study participants wasted 21% less food by weight compared to a conventional dinner**. Additionally, the average amount of per capita food leftovers from HelloFresh meals (200 grams) was found to be 30% lower than non-HelloFresh meals (286 grams). In general, preparation leftovers from HelloFresh meals (25 grams) was about 72% lower, and the resulting food waste (17 grams) about 51% lower compared to non-HelloFresh meals (88 grams and 35 grams). This work demonstrates that consumers who are interested in reducing their household food waste in everyday life can achieve this with HelloFresh meal kits.



Regarding the carbon footprint, **the carbon equivalents from the total leftovers from HelloFresh meals was found to be 29% lower compared to non-HelloFresh meals (0,65 $kgCO_{2e}$ as opposed to 0,92 $kgCO_{2e}$)**. This difference can be attributed to a larger share of greenhouse gas intensive ingredients (such as meat products, eggs, and dairy) in the non-HelloFresh dinners.