

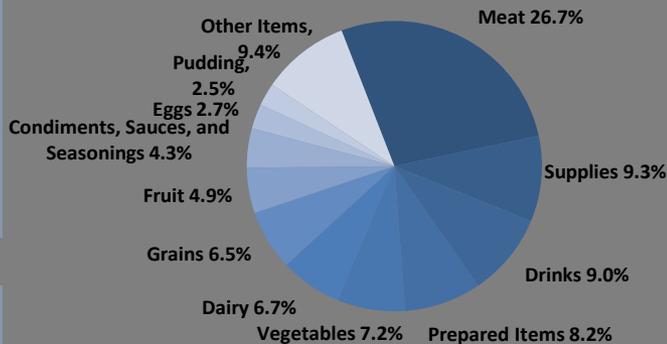
Estimating and Reducing the Carbon Footprint of Food Served by Kaiser Permanente

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Result

Result



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18.7 million kg CO₂e

Background

Kaiser Permanente is an integrated healthcare firm, serving as both a health insurer and a health care provider. The company's innovative approach emphasizing preventative healthcare is reflected in its efforts to address environmental sustainability and climate change. Although Kaiser Permanente has already initiated several internal sustainability measures, it is continually seeking to determine operational areas in which its contribution to climate change is yet to be defined. One such area is the impact of its food services sector. Kaiser Permanente recognizes that Greenhouse Gas (GHG) emissions from the lifecycle of food products are a significant contributor to anthropogenic environmental impacts which in turn have an effect on human health.

According to the World Resources Institute, agriculture is responsible for 33.1% of global GHG emissions.

Methodology

Economic Input-Output Models

To calculate GHG emissions and toxic releases, two economic input-output models were used: the Comprehensive Environmental Data Archive (CEDA) 4.0 and the Economic Input-Output Life Cycle Assessment model (EIO-LCA) from Carnegie Mellon University. These models are based off of national economic statistics and require the input of spending totals from Kaiser Permanente for each food category.

Literature Emissions (Process-Based)

In order to benchmark GHG emissions results from CEDA, relevant emissions factors from the life cycle assessment literature were also used to calculate GHG emissions for each major food category.

Uncertainty

Economic Input-Output Models

Major sources of uncertainty in the EIO models include:

- **Linearity:** A \$1000 change in demand or level of economic activity will automatically be 10 times the result of a \$100 change in demand
- **Aggregation of Data:** Data is collected at the national level, and according to sector as designated by the North American Classification System.

Literature Emissions (Process-Based)

The scope of food life cycle assessment studies conducted in the US is extremely limited. For this reason, all of the studies used in the literature emissions results came from abroad – mainly Europe.

Recommendations

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