

Supply Chain Carbon Management

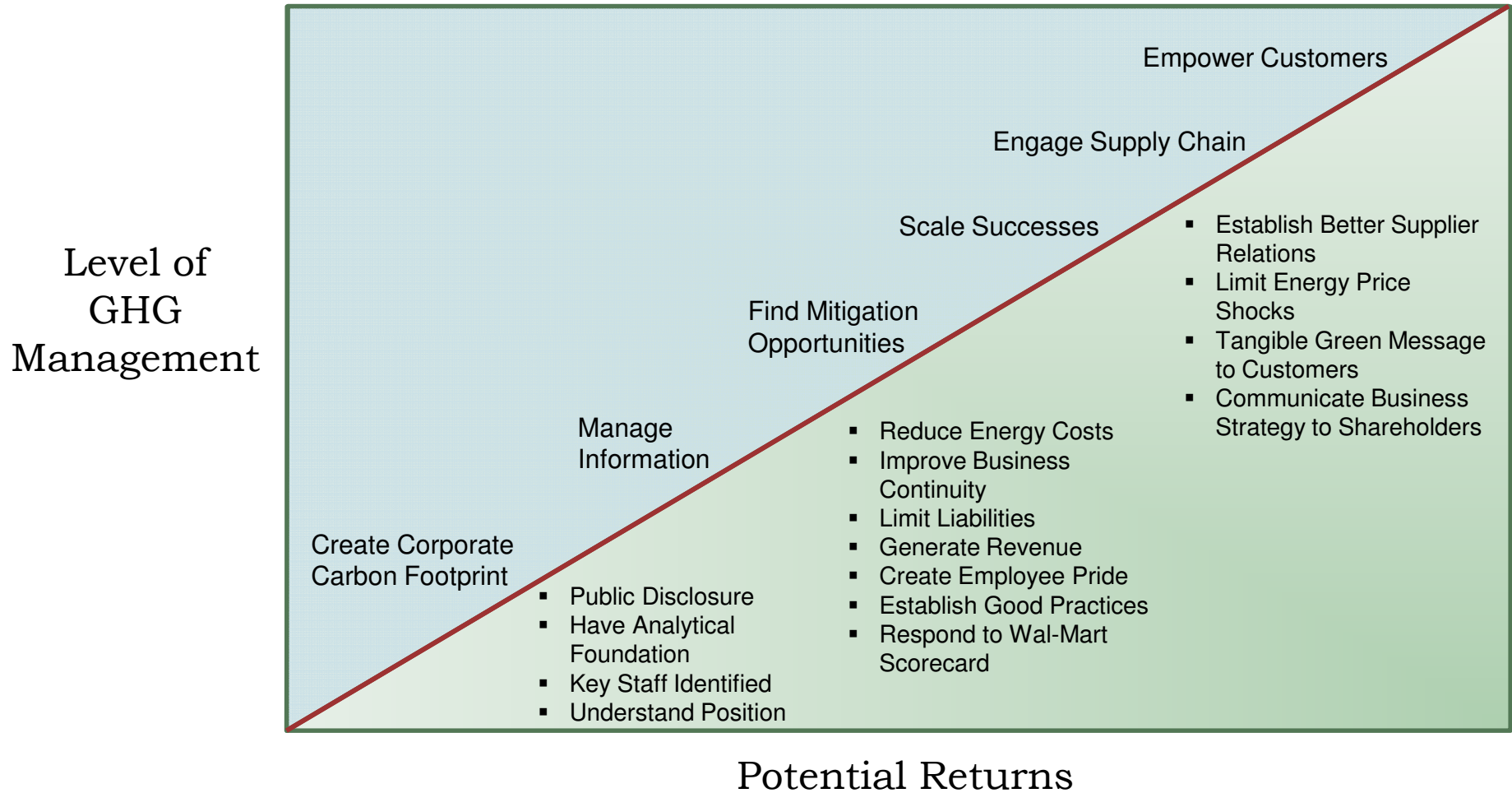
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GHG Management and Potential Returns



Managing - Walker's Crisp Footprint Case Study

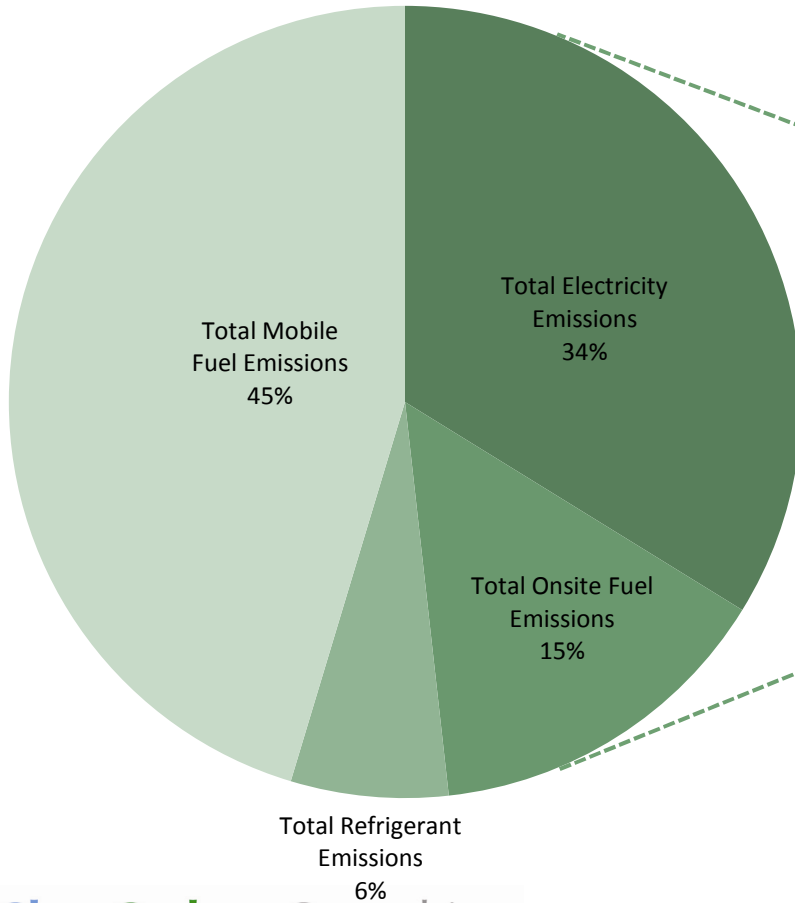
- 1: Our raw materials: Potatoes, sunflowers and seasoning
- 2: Manufacture: Producing crisps from potatoes
- 3: Packaging our crisps
- 4: Distribution: Bringing our crisps to you
- 5: Disposal of the empty packs



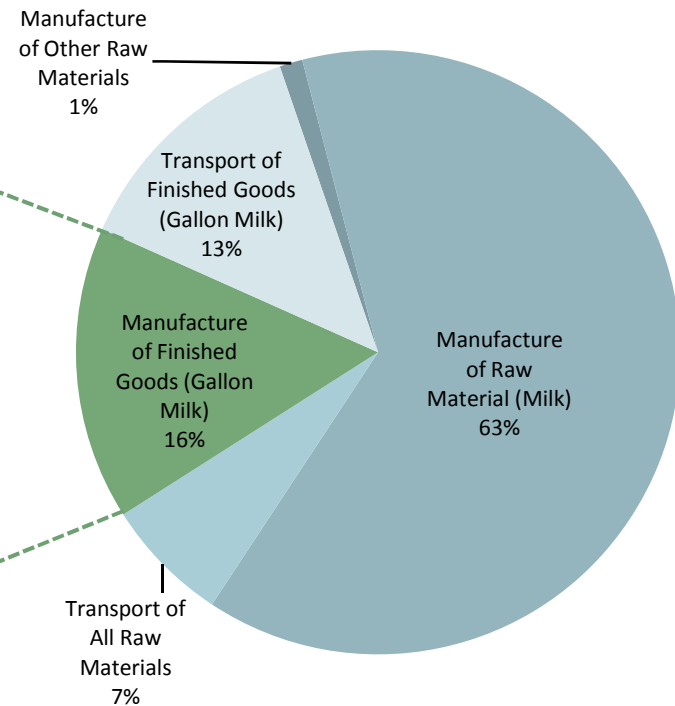
* From PepsiCo website (http://www.walkerscarbonfootprint.co.uk/walkers_carbon_footprint.html)

Managing – Analysis of a Gallon of Whole Milk

Corporate Milk Production Emissions by Source
(Mtons CO₂eq)

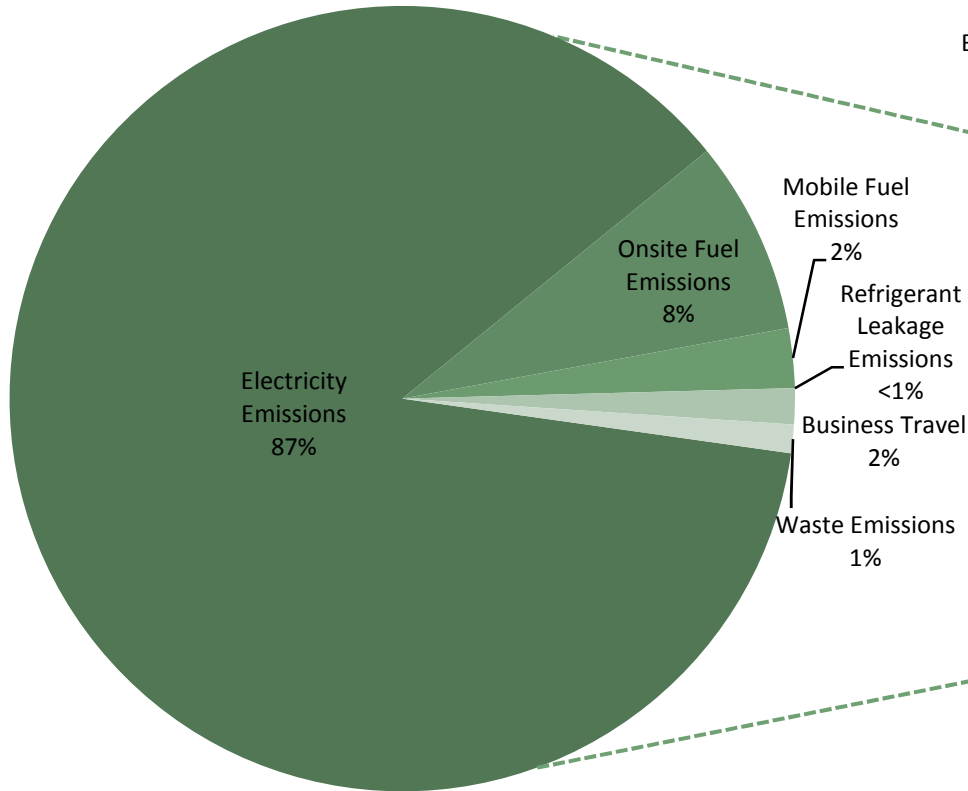


Supply Chain Emissions by Production Component
(Mtons CO₂eq)

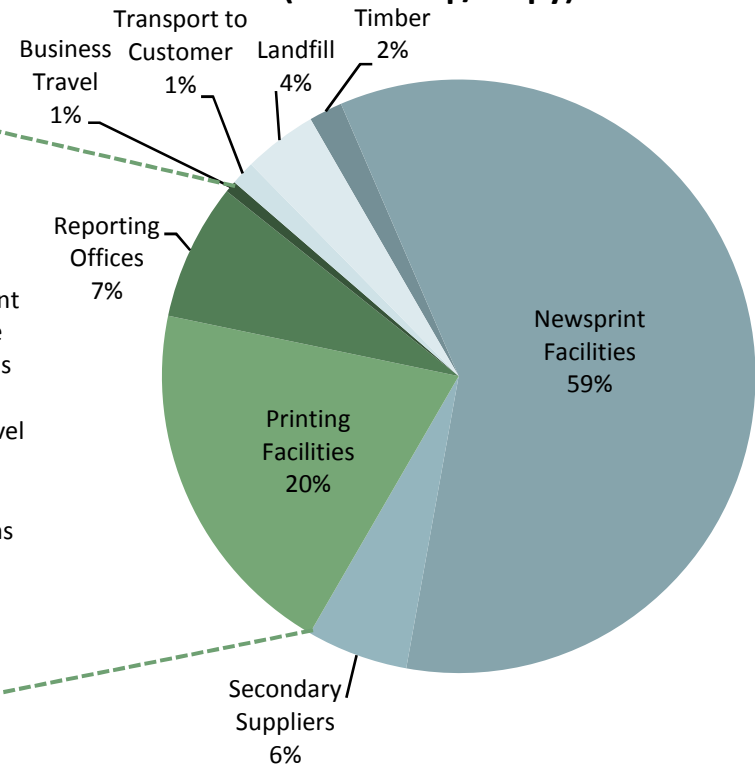


Managing – Analysis of a Newspaper

Corporate Newspaper Production Emissions by Source
(Mtons CO₂eq)



Supply Chain Emissions by Production Phase
(Lbs CO₂eq / Copy)



*Corporate newspaper production emissions include printing plants, reporting offices, and business travel.



Mitigating – Supply Chain Opportunities

Agriculture Products



- Alter recipes
- Encourage agriculture practices (e.g., anaerobic digesters, conservation tillage)



Raw Materials

- Find substitute materials
- Use recycled content

**Material & Energy
Production/ Extraction**



Transportation

- Consider mode of transportation
- Length and variance of routes



**Raw Materials
Suppliers**

Packaging

- Weight of packing
- Packaging materials

Manufacturing

- Energy efficiency
- Fuel changes
- Renewable energy



Mitigating – Company Operations



Company's Sites

Energy Efficiency

- Upgrade lighting
- Consider improved heating and cooling
- Install Energy Star equipment
- Change to less carbon-intensive fuels

Transportation

- Find fuel-efficient vehicles
- Utilize biofuels

Refrigeration

- Identify HFC alternatives
- Minimize leaks

Travel

- Consider video conferencing
- Incentivize employee commuting practices



Mitigating – Product Distribution and Use



**Retail
Distribution**

Retail

- Find transportation efficiencies to retail or other customer locations
- Consider shelf-stable packaging
- Reuse secondary packaging



Consumer Use

Consumer Use

- Energy intensity for use (e.g., cooking, refrigeration)
- Minimize packaging waste



**Waste/
Disposal**

Waste / Disposal

- Use recyclable materials
- Actively promote recycling
- Utilize biodegradable packaging

