

Buying Locally Produced Food from Local and Regional Farms is more Environmentally sustainable
 Berlin Jacob, Alyssa Collazo, Angelina Linsalato, Kristen Bull

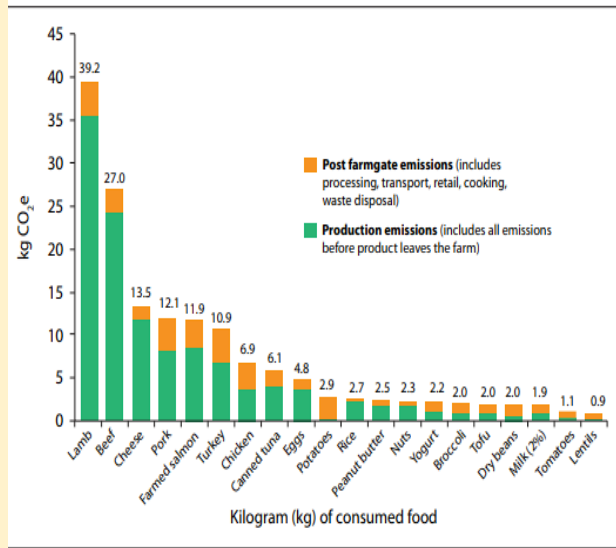


Figure 2: This chart shows foods and their GHG emissions based on data for U.S. food production, energy use and food imports (for lamb, salmon and some cheese)¹⁶. Most foods have the highest GHG emissions during the production phase, but some plant-based foods have relatively higher emissions from transportation, cooking and waste. These measurements are based on the food weight (in kilograms, based on the fresh weight for vegetables and dry weight of lentils and beans) and the amount of emissions in carbon dioxide equivalents (CO₂e). (Figure adapted with permission from Hamerschlag, 2011¹⁶.)

Goods being imported to the United States has doubled since 2000 and the trend is growing. According to the New York Times, the cost to ship food products from other areas of the world to New York has decreased. Consequentially, there has been an increase in global food shipments to New York which have led to the release of excess carbon dioxide into the Earth's atmosphere. Buying locally produced food from local and regional farms would lead to decreased carbon dioxide emissions reduced amounts of packaging material, and less nitrogen runoff.

PROBLEM: Buying food produced from the global market

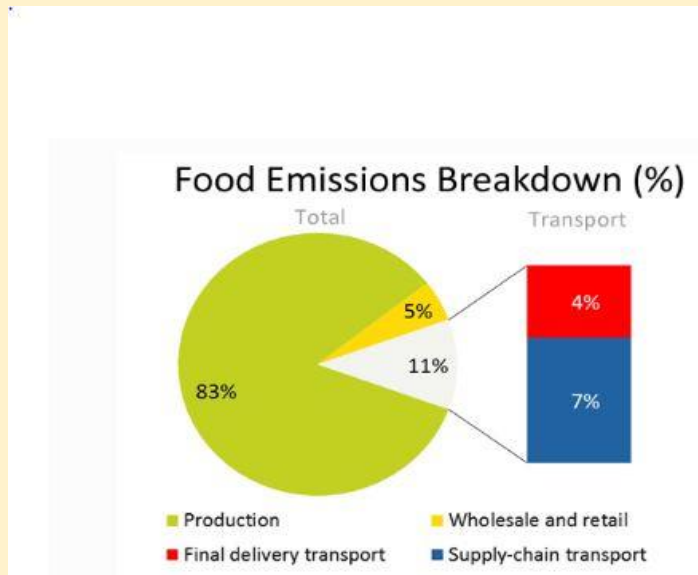
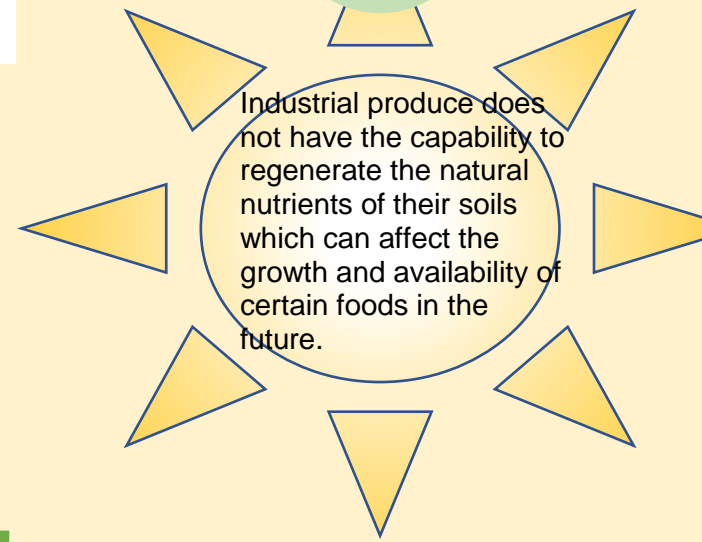
SOLUTION: Buying locally produced foods from local and regional farms

- Increases waste from packaging
- Increased food miles
- conventional agriculture can upset a region's natural nutrient balance
- weakens the ecology of a landscape
- uses synthetic chemicals and fertilizers

- Reduced food miles
- Less need for packaging
- Local food less exposed to commercial contaminants
- use less pesticides, enrich the soil with cover crops, create border areas for wildlife

What we discovered after conducting research

"The production of food accounts for 83 percent of emissions, and can differ depending on if food is grown in heavily fertilized fields with extensive plowing, or with intensive use of irrigation and pesticides, etc. "



	Original packaging	New packaging	Result
Bananas	Sold loose	Perforated polyethylene bags	Lasted 15 days unpackaged versus 35 days in bags
Beef	Polystyrene foam tray with cling wrap	Vacuum packing in oxygen barrier film	Shelf life extended from four days to up to 30 days
Bell peppers	Sold loose	Modified atmosphere packaging with perforated polypropylene film	Lasted four days sold loose versus 20 days in packaging
Bread	Paper bag	Biaxially oriented polypropylene film	Food waste reduced from 11.0% to 0.8%
Cheese	Sliced at counter and wrapped in paper	Polyester tray with a polyethylene and polyester lid	Food waste reduced from 5.00% to 0.14%
Cucumbers	Sold loose	Polyethylene shrink wrap	Shelf life extended from three days to 14 days
Grapes	Sold loose	Perforated bags	Bagging leads to a 20% reduction in in-store waste

Figure 3: 83% of carbon emissions in the food system result from food production, 5% from wholesaling and retailing food, and 11% from transporting it.

Buying Locally Produced Food from Local and Regional Farms is more
Environmentally sustainable
Berlin Jacob, Alyssa Collazo, Angelina Linsalato, Kristen Bull

Citations

1. Elisabeth Rosenthal. Environmental Cost of Shipping Groceries Around the World . New York Times . 2008 Apr 26 [accessed 2018 Mar 3].
2. Hamerschlag, K. 2011. Meat eater's guide to climate change and health. Environmental Working Group.

Buying Locally Produced Food from Local and Regional Farms is more
Environmentally sustainable

Berlin Jacob, Alyssa Collazo, Angelina Linsalato, Kristen Bull