Packaging and Food Waste

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Scale of Food Waste Problem

The Numbers

- FAO estimates **1.3 billion tons of food** is wasted annually (>40%)
- Challenge is **different in different economic regions**
  - In **Industrialized** areas, losses primarily in **retail and at consumer** level
  - In **Developing** areas, losses primarily in **harvest handling and processing**

Source: FAO (Food and Agricultural Organization of the UN)

Environmental Impacts

Greenhouse Gases

- Global **carbon footprint** of food wastage **~3.3 billion tonnes of CO_2 equivalent**
  - Excluding land use change
- **~4 times CO_2 equivalent** emitted yearly by **entire global airline industry**

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- If **Food Waste** was a country, it would rank as **3rd biggest emitter** of GHGs world-wide
  - After only China and the USA

Source: Technology Options for feeding 10 billion people, STOA 2013/, http://www.fao.org/docrep/018/i3347e/i3347e.pdf

US Environmental Impacts

- Scale of the Problem
  - **40% of food** supply
  - **Fresh produce** lost more than any other food
- Environmental Impacts
  - **Single largest component of solid waste** in US landfills
  - Produces **23% of all methane emissions**
  - **25% of freshwater consumption** used to produce food that's never eaten

Source: NRDC, "*Wasted: How America is Losing Up to 40% of Its Food from Farm to Fork to Landfill*", http://www.nrdc.org/food/wasted-food.asp

Benefits of Metal Packaging

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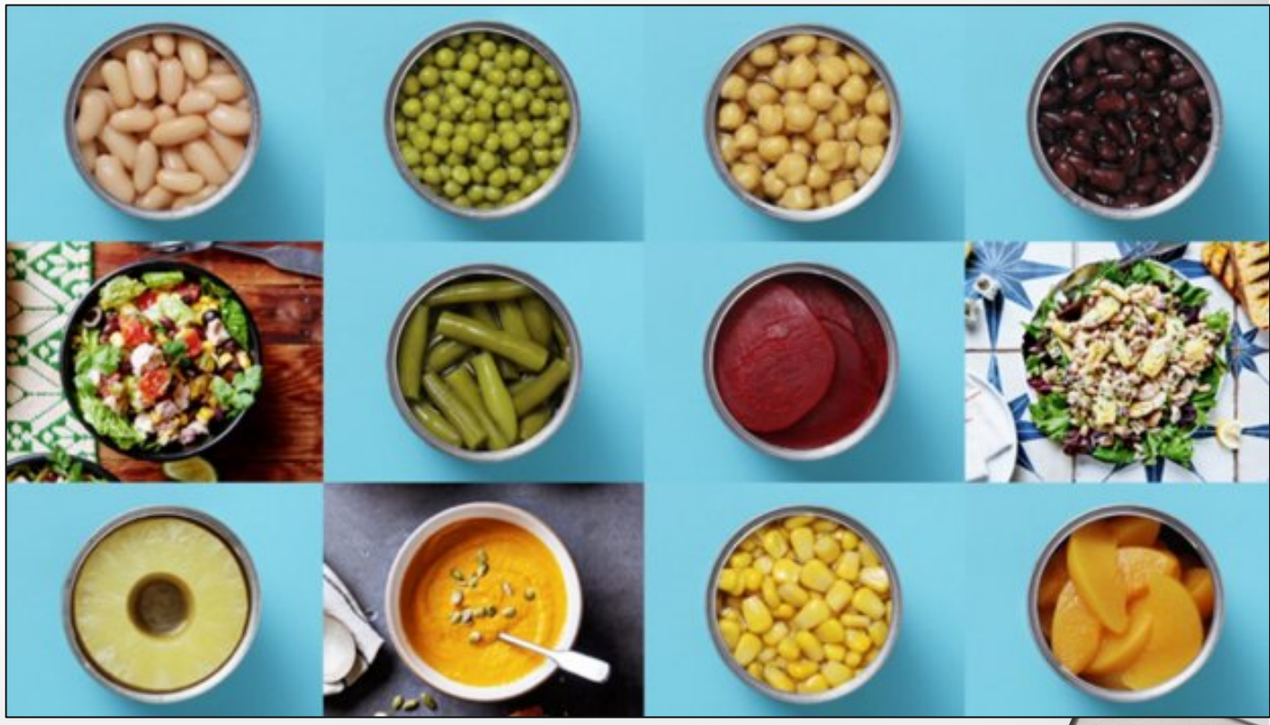
- **Food Waste**



Cans – Keeping the Good IN

*…. and the **bad OUT***

- Canning destroys pathogens and **deactivates enzymes** that otherwise cause deterioration of the food
- The sealed can **protects food** from deterioration by light or air
- Unmatched **Shelf-Life**

Unprecedented safety record from food borne illness; only canning heat treatments ensures a complete destruction of spores of B. cereus*

***Source:** EFSA (European Food Safety Authority)

Food Loss @ Consumer

USDA Food loss study

- **USDA Economic Research Service** study examined food loss for fresh, frozen and canned varieties of various fruits and vegetables
- For many products, **canned varieties** had the **lowest consumer loss**

Corn
Fresh 32%
Frozen 36%
Canned 7%

Peaches
Fresh 42%
Frozen 35%
Canned 8%

Pineapples
Fresh 37%
~~Frozen~~
Canned 9%

Asparagus
Fresh 18%
~~Frozen~~
Canned 2%

Source: "Consumer-Level Food Loss Estimates and their Use in the ERS Loss-Adjusted Food Availability Data." USDA Economic Research Service, 2011.

Saving Food with Metal Packaging

Industry – Wide

Packaging food in ***metal cans*** rather than if the produce was packaged for refrigeration or freezing :

340 million liters of food per year **in NA** has been saved with metal packaging

Over 1 billion liters of food per year **globally** has been saved with metal packaging*

Source: Effects of Metal Packaging on Energy and Food Waste", University of Delaware and Crown Packaging, *Extrapolated data

Benefits of Metal Packaging

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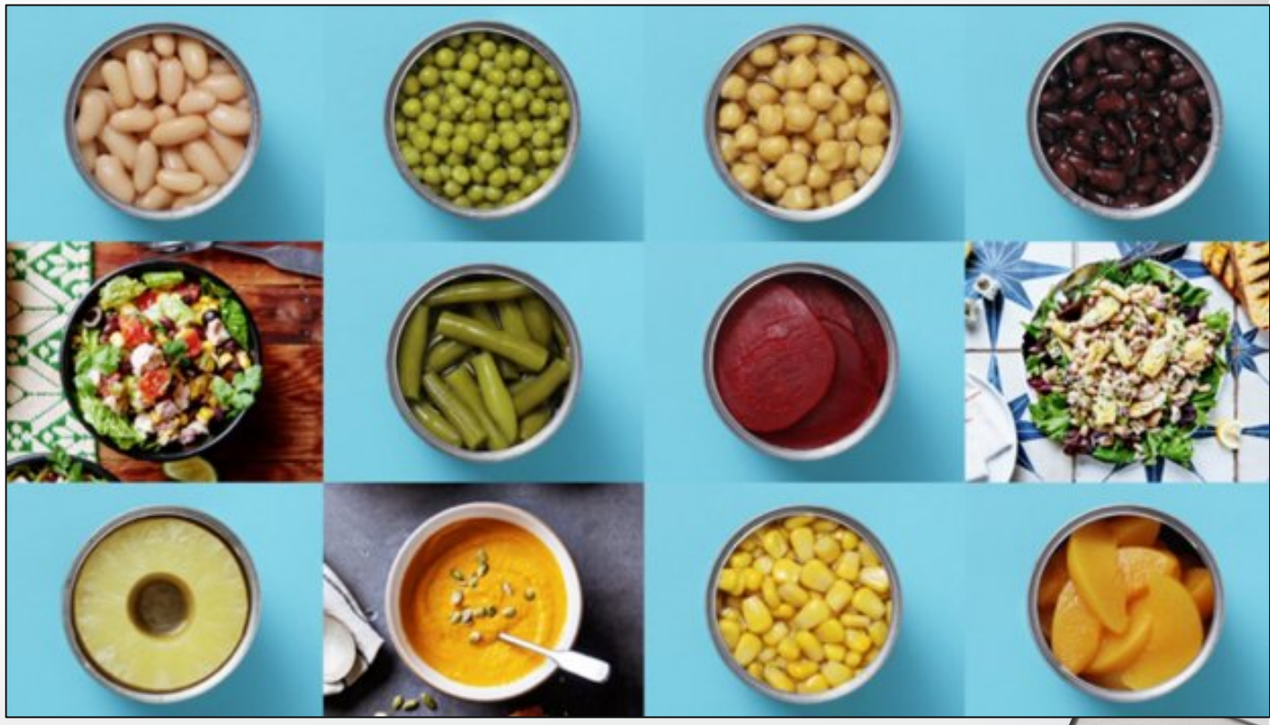
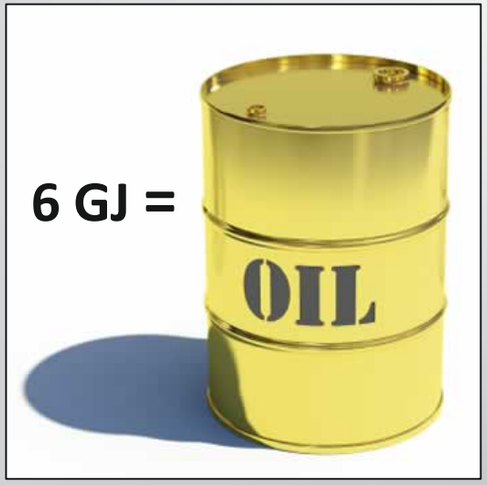
- **Environment**



Cans: Energy Efficient

Storage and Transportation

- Cans are **transported at ambient** temperature
- **2x / 3x more energy** used to **transport and store fresh / frozen produce** than for canned food
- Global* **metal packaging industry** saves:
  - **~110,000,000 GJ** vs. if **produce was refrigerated**
  - **~500,000,000 GJ** vs. if **produce was frozen**



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Cans Help Reduce Food Waste

- Cans significantly **reduce the amount of food wasted** throughout the retail food **supply chain**
- Canning not only saves consumers money, it ensures the extensive **resources** used to produce the food were **not used in vain**
- **Across the lifecycle** of a product from farm to fork (including can manufacture), the **overall energy used in canning** is
  - **~20% less** than for **refrigerated** food
  - **~50% less** than for **frozen** food

Source: Effects of Metal Packaging on Energy and Food Waste", University of Delaware and Crown Packaging
http://bestinpackaging.com/2014/02/27/reduce-food-waste-canned-food/