

## The Low Carbon Diet

A low carbon diet refers to making conscious and deliberate lifestyle choices that reduce the greenhouse gas emissions (GHGe) resulting from energy use. Following the diet minimizes one's contribution to the generation of emissions released from production, packaging, processing, transport, preparation and waste of food.

**Locavore:** a person attempting to eat a diet consisting of foods harvested from within a 100-mile radius.

### Low Carbon Diet features eating:

- less meat; especially industrial meat,
- less dairy,
- less industrially produced food in general,
- food grown locally and seasonally,
- less processed and packaged foods and,
- reducing waste from food by:
  - proper portion size,
  - recycling and,
  - composting.

### The American Diet and Greenhouse Gas Emissions

In the U.S., the food system emits four of the greenhouse gases associated with climate change: carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons.

1. **Carbon dioxide:** The burning of fossil fuels (such as oil and gasoline) to power vehicles that transport food for long distances by air, ship, truck and rail releases carbon dioxide (CO<sub>2</sub>), the primary gas responsible for global warming.
2. **Chlorofluorocarbons (CFCs)** are emitted from mechanical refrigerating and freezing mechanisms – both staples in food shipment and storage.
3. **Anthropogenic methane** emission sources include agriculture (ruminants, manure management, wetland rice production), various other industries and landfills. Livestock sources (including enteric fermentation and manure) account for about 3.1 percent of US anthropogenic GHG emissions expressed as carbon dioxide equivalents.
4. **Anthropogenic nitrous oxide** sources include fertilizer, manure, crop residues and nitrogen-fixing crops production. High carbon and low carbon food choices

**Certain foods require more fossil fuel inputs than others**, making it possible to go on a low carbon diet and reduce one's carbon footprint by choosing foods that need less fossil fuel and therefore emit less carbon dioxide and other greenhouse gases. *(In June 2010, a report from United Nations Environment Program declared that a global shift towards a vegan diet was needed to save the world from hunger, fuel shortages and climate change.)*

**Beef and dairy cattle can be particularly high in their levels of greenhouse gas emissions.** Feed is a significant contributor to emissions from animals raised in Confined Animal Feeding Operations (CAFOs) or factory farms, as corn or soy beans must be fertilized, irrigated,

processed into animal feed, packaged and then transported to the CAFO. In 2005, CAFOs accounted for 74% of the world's poultry production, 50% of pork, 43% of beef, and 68% of eggs, according to the Worldwatch Institute. Proportions are significantly higher in developed countries, but are growing rapidly in developing countries, where demand is also growing fast.

**Because CAFO production is highly centralized,** the transport of animals to slaughter and then to distant retail outlets is a further source of greenhouse gas emissions. When looking at total greenhouse gases (not just carbon dioxide), 83% of emissions come from the actual production of the food because of the methane released by livestock and the nitrous oxide due to fertilizer. . In livestock production, emissions are reduced by feeding human-inedible materials that might otherwise be wasted.

**Carbon emissions from transport** account for 11% of the total carbon emissions of food, of which the transportation from producer to consumer accounts for 4%.

### **Processing, packaging and waste:**

- **Highly processed foods** such as granola bars come in individual packaging, demanding high energy inputs and resulting in packaging waste. These products contribute up to a third of total energy inputs for food consumption, as their ingredients are shipped from all over, processed, packaged, trucked to storage, then transported to retail outlets.
- **Bottled water** is another example of a highly packaged, wasteful food product. It is estimated that Americans throw away 40 million plastic water bottles every day, and bottled water is often shipped trans-continently.
- **Carbonated water** must be chilled and kept under pressure during storage and transport so as to keep the carbon dioxide dissolved. This factor contributes greater energy usage for products shipped longer distances. Drinking purified tap water treated with an active carbon filter for taste (most imp. chlorine), is a lower carbon choice.