

## Reducing Household Emissions

Energy use and waste are major contributors to household emissions. Most electricity comes from fossil fuels, which release large amounts of carbon dioxide and other greenhouse gases. Waste when not recycled or composted, also adds to emissions, mainly through methane from landfills. To lower your household's carbon footprint, it's crucial to reduce both energy consumption and waste. Simple actions like using energy-efficient appliances & lighting, adding insulation, being mindful of heating and cooling, recycling, composting, and cutting down on single-use items can make a big difference. Below, we have outlined some steps to reduce your emissions and the average annual impact of each set of actions.



### **Quantitative Impact**

#### **Average Household Energy Emissions**

- 7.5 tCO<sub>2</sub> annually

#### **Waste**

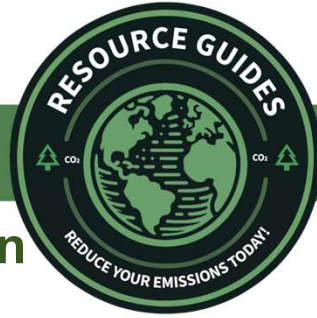
- Landfills are the 3rd largest source of methane emissions in the US
- 122.6 million tCO<sub>2</sub>e annually

## How to Reduce Household Emissions

When You Do This	Annual CO <sub>2</sub> Reduction
Replace 15 incandescent light bulbs with LED lamps, which use about 85 percent less energy	<b>1 Tons</b>
Recycle at least half of your household waste	<b>1.2 Tons</b>
Set thermostats 2°F lower in winter and 2°F higher in summer.	<b>1 Ton</b>
Use less hot water by installing a low-flow shower head and washing your clothes in cold or warm water instead of hot.	<b>.8 Tons</b>

These are not exact numbers but based on U.S. averages.

Sources: [Mass.gov](http://Mass.gov) & [CCFPD.org](http://CCFPD.org) & [Umich.edu](http://Umich.edu)



## Reducing Transportation Emissions

Reducing personal transportation emissions is essential for individuals looking to lower their carbon footprint. The main contributors to these emissions are private cars, especially those running on gasoline or diesel, which produce significant amounts of carbon dioxide, nitrogen oxides, and particulate matter. Flights and ride services can also add to personal transportation emissions. To reduce these, individuals can opt for more efficient vehicles, carpooling, and using public transportation, which collectively lower emissions per passenger. Additionally, walking, cycling, and working remotely can drastically reduce personal travel-related emissions, meaningfully impacting one's overall environmental impact.



### **Quantitative Impact**

#### **Transportation Emissions**

- Average of 4.6 tCO<sub>2</sub> annually

#### **Average Vehicle Size (1990-2021)**

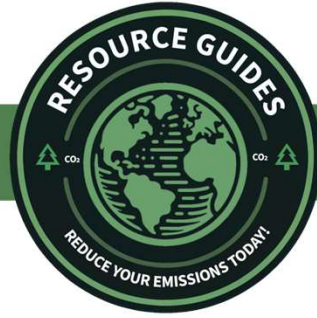
- Vehicle weight increased 25%
- Horsepower Increased 87%
- SUVs & Vans & Trucks accounted for 63% of new sales in 2021

## How to Reduce Transportation Emissions

When You Do This	Annual CO <sub>2</sub> Reduction
When replacing your car, choose a more fuel-efficient vehicle. (3mpg better with average American driving habits)	<b>3 Tons</b>
Taking 1 less round-trip short flight each year	<b>1 Ton</b>
Observing the speed limit and limiting aggressive accelerations. (Each 5 mph you drive over 50 mph is like paying an additional \$0.24 per gallon for gas)	<b>.5 Tons</b>
Driving just 10 miles less per week by walking, riding your bike, carpooling, or taking public transit.	<b>.25 Tons</b>

These are not exact numbers but based on U.S. averages.

Sources: [Mass.gov](https://www.mass.gov) & [EPA.gov](https://www.epa.gov) & [Umich.edu](https://umich.edu)



## Reducing Diet Emissions

Diet plays a significant role in an individual's carbon footprint, as food production and consumption are major sources of greenhouse gas emissions. Animal-based foods, particularly red meat and dairy, have a much higher carbon footprint than plant-based foods. Additionally, reducing food waste, which accounts for about 8-10% of global greenhouse gas emissions, can have a significant impact on one's sustainability. Opting for local and seasonal produce, minimizing processed foods, and being mindful of packaging can further lower your dietary carbon footprint.



### *Quantitative Impact*

#### **Average Diet Emissions**

- 2.5 tCO<sub>2</sub> annually

#### **Diet Emissions Facts**

- Refrigeration & Transportation account for 13% and 14% of dietary emissions

## How to Reduce Diet Emissions

When You Do This	Annual CO <sub>2</sub> Reduction
By minimizing food waste, you can cut emissions significantly, as it accounts for about 6% of global emissions. On average, reducing food waste could save around 0.2 to 0.6 tons of CO <sub>2</sub> per year per household.	<b>.4 Tons</b>
Choosing seasonal and locally produced foods can reduce emissions related to transportation, storage, and refrigeration. This action can save about 0.1 to 0.3 tons of CO <sub>2</sub> per year, depending on the amount and type of food replaced.	<b>.2 Tons</b>
Cutting back on red and processed meats like beef, lamb, and pork, which have higher carbon footprints compared to poultry, fish, and plant-based proteins, can reduce emissions by up to 0.5 tons of CO <sub>2</sub> per person annually.	<b>.5 Tons</b>

These are not exact numbers but based on U.S. averages.

Sources: [Mass.gov](http://Mass.gov) & [Harvard.edu](http://Harvard.edu) & [Umich.edu](http://Umich.edu)