


ENERGY CONSERVATION – Mindful Climate Action

Since the start of Industrial Revolution, human activities have added greenhouse gases and aerosols to the atmosphere. The observed increase in global temperatures during this same period is linked to increases in human-induced greenhouse gas concentrations, primarily from fossil fuel combustion and deforestation.

Fossil fuels (coal, oil and natural gas) have had enormous positive impacts on human civilization. Imagine the early benefits of fires and then candles as humans first harnessed the chemical reactions producing heat and light.

A black and white illustration of a hand lighting a candle. The hand is holding a lit matchstick, which is being used to light the wick of a candle in a holder. The candle is partially melted, and a flame is visible at the wick.

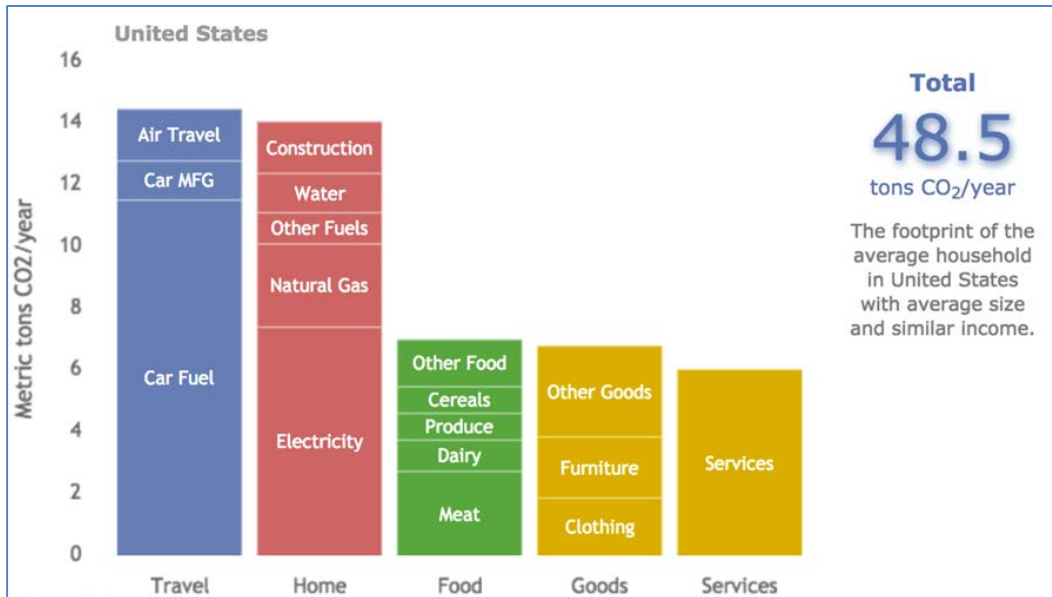
Hydrocarbons - A few facts:

- all waxes are made of molecules containing hydrogen and carbon (hydrocarbons)
- Burned with oxygen (O_2) in the air, the hydrogen makes water (H_2O) and the carbon makes carbon dioxide (CO_2)
- These reactions create heat and light

Fast forward to the 21st century when side effects from burning fossil fuels are increasingly negative. While it's true, for example, that a longer growing season has some advantages, impacts such as heat waves, extreme weather events and flooding are disruptive to society. Many features of our built environment designed during the stable climate conditions of the 20th century are failing from stresses related to heavy precipitation and sea level rise.

Fossil fuels are burned to produce power. Every step in the energy system, from the initial mining or drilling of fossil fuels to flipping on a light switch in our homes, has detrimental health and environmental impacts. In fact, the most recent IPCC report concluded that to keep global temperatures at safe levels Earth's remaining fossil carbon reserves (coal, oil and gas) have to stay in the ground. Fossil fuel use must cease if we want to maintain a habitable world.

Energy conservation starts with reducing energy use, increasing efficiency in our daily lifestyle, driving and flying less, consuming more strategically and downsizing. Simple mindful practices such as noticing and accepting the sensations of warmth and cold can lead to more thoughtful choices about using clothing or bedding rather than air conditioning or heat to maintain comfort. Taking the time to hang clothes out to dry rather than turning on a dryer can be more relaxing while saving energy. Mindful Climate Action invites participants to develop self-selected household energy conservation acts and implement them incrementally.



A few energy-related facts

- We burn hydrocarbons for travel, home, food, goods, and services
- Burning coal, natural gas, and oil creates carbon dioxide
- Different activities create different amounts of carbon dioxide and greenhouse gases
- Driving constitutes the largest part of household greenhouse gas budget (~ 12 Tons CO₂/ year)
- Household electricity is second largest contributor (~7 Tons CO₂/year)

Mindful Climate Action encourages energy conservation at home and at work following a few guiding principles, starting by consuming less energy. Turn off lights when you leave the room and identify ‘phantom’ loads from small appliances rarely in use. Opt to use active transport when commuting, even if it’s only 1 or 2 days a week.

We strongly support alternative, renewable energy sources, which can range from putting florescent light bulbs in lamps around the house to installing solar panels on your roof. Solar panels change how much sunlight is reflected or absorbed by Earth, and can even cause a local cooling effect, a win-win for slowing climate change.

Everyone can reduce his or her energy-related carbon footprint incrementally. Conserving energy in your home and through daily transportation choices offers co-benefits while reducing carbon footprint, slowing climate change and increasing personal and planetary health.

FOR MORE INFORMATION, PLEASE VISIT <https://www.fammed.wisc.edu/mca/>



This MCA publication was developed with funding from the American Geophysical Union (AGU) Centennial grant program.

