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COFFEE

CLIMATE CHANGE AND COFFEE

Coffee is the most valuable product exported from developing countries, second only to crude oil. Around 2.25 billion cups of coffee are consumed each day. Global climate change is projected to have multiple adverse effects on quality of coffee, and create huge risks to the supply chain.

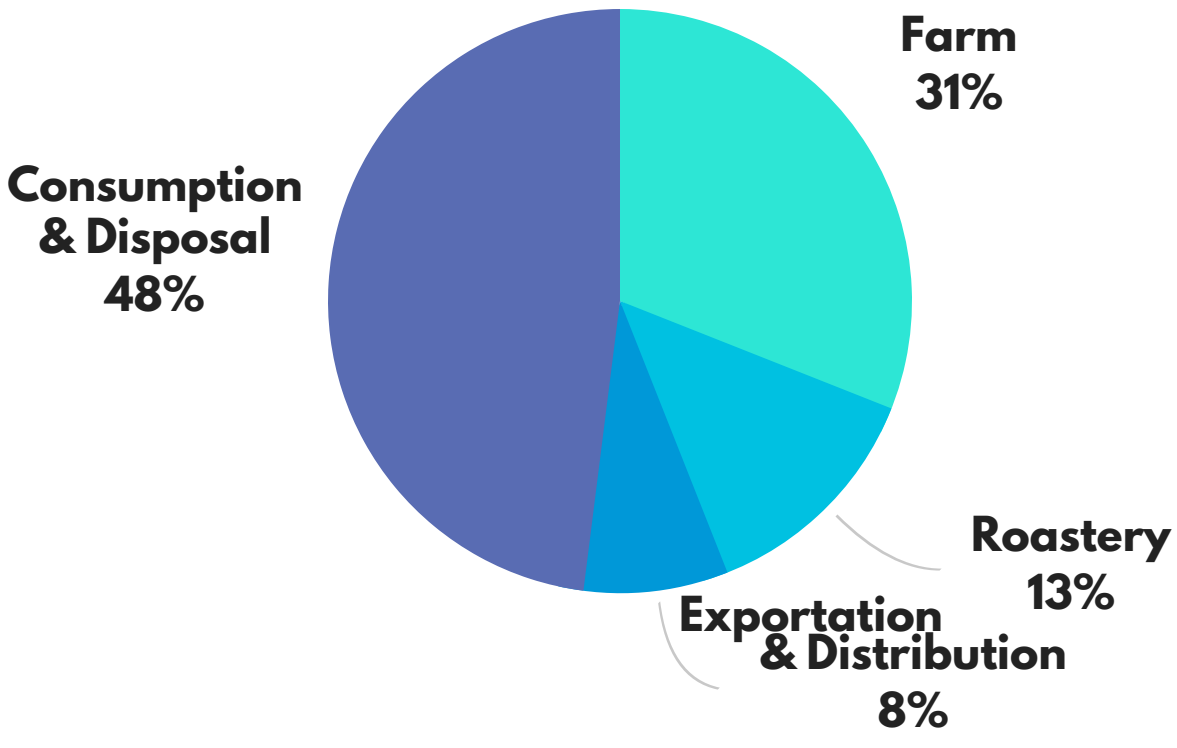
EFFECTS OF CLIMATE CHANGE

- Higher prices for coffee
- Negative changes in yield, flavor, & aroma
- Increase of diseases and pests such as coffee leaf rust and coffee berry borer
- Production pushed upslope and away from the equator

THE FUTURE OF COFFEE FARMS

Climate change is projected to decrease the global area suitable for coffee production by as much as 50% by 2050. In Brazil, a temperature increase of 3 degrees would cut the area by two thirds. Most of the world's coffee farmers are smallholders and, on their own, they lack the capacity to adapt to changing conditions.

Source: Watts, Corey. A Brewing Storm: The Climate Risks to Coffee. The Climate Institute, 2016, A Brewing Storm: The Climate Risks to Coffee.



Killian, Bernard et al. Carbon Footprint across the Coffee Supply Chain: The Case of Costa Rican Coffee. Journal of Agricultural Science and Technology B 3 (2013) 151-170.

CONSUMER IMPACT

Throughout the entire coffee supply chain, the consumption stage holds the highest concentration of GHG emissions. In the chart to the left, drawn from a supply chain study on Costa Rican coffee, emissions at the consumer level are due to the high demand of energy required to prepare coffee with an automatic coffee machine.

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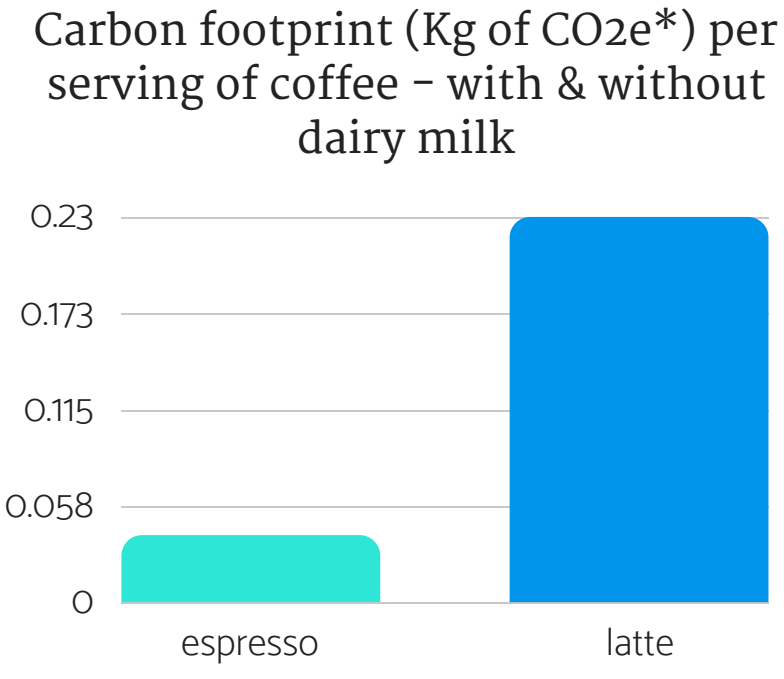
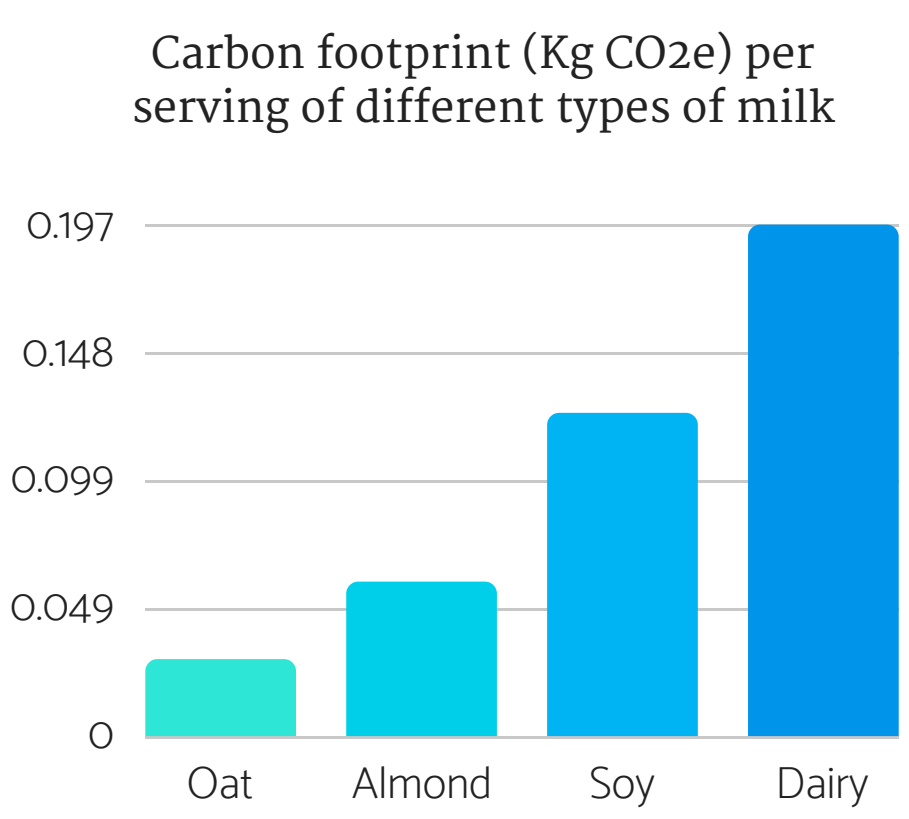
ALTERNATIVE MILK OPTIONS

The majority of the carbon footprint produced by a latte comes from the milk used in the drink, not the coffee. While black coffee might be the best alternative, latte-loving consumers can still lower their emissions by choosing a plant-based milk alternative. These alternatives, such as almond and coconut milk, present a lower Global Warming Potential than dairy milk.

Cow's milk generates around 10 times more GHG emissions per liter than almond milk, even when compared for nutritional value. This is mostly due to the methane produced by cows, which is 30 times more potent than carbon dioxide. Part of the fight to mitigate climate change is that of individual action. Make conscious decisions, starting with your morning coffee.

CARBON FOOTPRINT COMPARISON





*CO2e, or carbon dioxide equivalent, is a standard unit for measuring carbon footprints. The idea is to express the impact of each different greenhouse gas in terms of the amount of CO2 that would create the same amount of climate impact.

Sources: Oregon Department of Environmental Quality, Food Product Environmental Footprint Literature Review; Clune et al., Systematic review of greenhouse gas emissions for different fresh food categories; Smedman et al., Nutrient density of beverages in relation to climate impact

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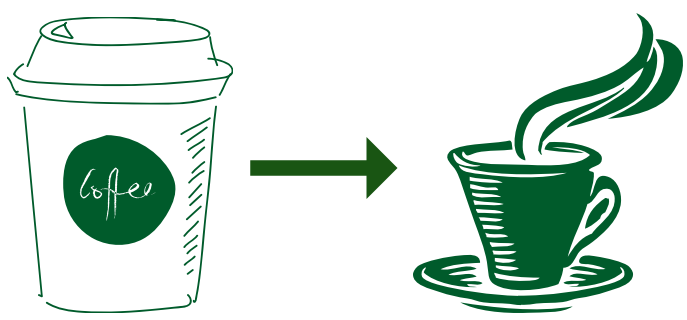
REDUCING WASTE

Paper cups are not recyclable because of the plastic liner and coffee contamination, for every paper cup manufactured about 0.24 pounds of carbon dioxide is emitted into the atmosphere. Using reusable glasses and mugs reduces carbon emissions as well as solid waste.

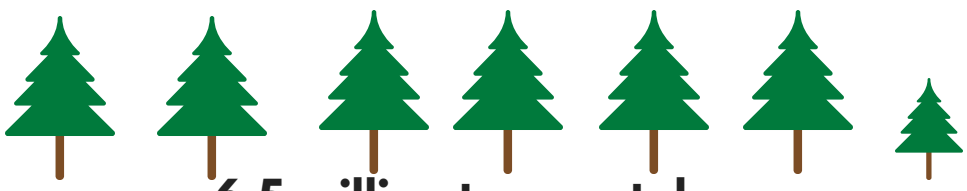


LOCAL

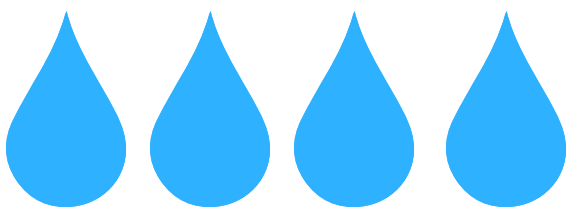
An estimated 50 million disposable coffee cups are thrown away in the Portland Metro area each year, this adds up to 30 million pounds of solid waste and 6,000 tons of carbon dioxide produced.

GLOBAL

16 billion disposable cups are used for coffee every year. That's...



6.5 million trees cut down,



4 billion gallons of water,

& enough energy to power 54,000 homes.

Source: www.nature.org/greenliving/gogreen/everydayenvironmentalist/reusable-coffee-mugs.xml, http://www.recyclingadvocates.org/single-use-coffee-cup-reduction/