Tea's Carbon Footprint

From the teas.co.uk wiki

> **Tea's carbon footprint, in summary:** A cup of tea has a small footprint, dominated by the kettle and the milk, not the leaf or its origin. The numbers and the two easy reductions.

Last reviewed by the teas.co.uk team in May 2026.

The carbon footprint of a cup of tea is approximately 21g CO2e, most of it from boiling the kettle, not from growing or shipping the leaf. A cup of dairy milk tea is about 30-40g CO2e because of the milk. The supply chain carbon (growing, processing, shipping) is small per cup. This page covers the real numbers without the greenwashing.

Where the carbon actually comes from

Carbon Trust analysis (Mike Berners Lee's *How Bad Are Bananas*, 2020 update) breaks down a cup of black tea with milk roughly:

- **Boiling kettle:** ~16g CO2e (assumes UK grid mix). Biggest single component. Boiling only what you need can drop this by 50%.
- **Dairy milk (30ml):** ~12g CO2e. Whole milk slightly higher, skimmed slightly lower.
- **Tea leaf (2g):** ~2g CO2e. Including growing, processing, shipping from origin.
- **Tea bag (paper / staple / string):** ~1g CO2e.
- **Sugar (1 tsp):** ~1g CO2e.

Total per typical British black tea with milk and sugar: **~32g CO2e**. A cup of black coffee is roughly 21g (no milk); cappuccino is ~71g (more milk).

Where the savings actually come from

Most environmentally relevant choices for tea drinkers:

1. **Boil only what you need.** Boiling 1L for one cup vs 250ml for one cup is ~3x the kettle energy. Single biggest win.
2. **Switch dairy milk to oat or soy.** Oat milk is ~30% the carbon of dairy. Switching the milk in 4 cups daily saves ~36g CO2e per day, or 13kg per year per drinker.

3. **Buy loose leaf in bulk packaging.** Reduces packaging per cup. A 250g bag is more efficient per cup than 50 individual sealed sachets.
4. **Compostable tea bags.** Most major UK brands switched to compostable bags between 2020-2024 (Yorkshire Tea, Twinings, PG Tips, Tetley, Pukka all now use plant based fibres rather than PLA plastic mix). Compost what you can.
5. **Direct source / certified brands.** Rainforest Alliance, Fair Trade, organic certifications generally have lower per cup carbon (better farming practices, less synthetic fertiliser).

Tea bag plastic, recent UK history

Until around 2018, most UK tea bags contained polypropylene (a plastic) used to seal the bag. PG Tips changed first in 2018, Yorkshire Tea in 2019, Twinings, Tetley, and most others by 2022. Pukka has used unbleached, plant fibre, naturally sealed bags since the brand's founding. Modern UK tea bags from major brands are largely plastic free; most are compostable in home compost (slowly) or council green bins (faster).

Origin transport, the perspective

Tea grown in India or Sri Lanka travels ~12,000km to the UK, mostly by sea. Sea freight is one of the most carbon efficient transport modes per kg. The shipping carbon for the actual leaf is roughly 0.5-1g CO2e per cup, tiny compared to kettle and milk. This is why "buy local" doesn't really apply to tea (the UK doesn't grow much tea, and the import carbon is small).

Brands with credible sustainability stories

- **Pukka.** Organic across entire range. Fair for Life certified. Carbon neutral as a company (Soil Association certified).
- **Clipper Teas.** Fairtrade since 1994. Plastic free bags. UK based.
- **Yorkshire Tea (Taylors of Harrogate).** Rainforest Alliance certified. Tree planting programmes. Carbon neutral status as of 2022.
- **Williamson Tea.** Direct source from their own Kenyan estates. Significant tree planting and worker welfare programmes.
- **Teapigs.** Compostable pyramid bags. Some certified ethical sourcing.

What tea drinkers can actually do

1. Boil only the water you'll use.
2. Switch some cups to oat milk (no taste compromise once you adjust).
3. Compost tea bags where allowed.
4. Buy from brands with real certifications (Rainforest Alliance, Fairtrade, Soil Association).
5. Drink loose leaf where convenient, slightly less packaging.

FAQ

What is the carbon footprint of a cup of tea? ~21g CO2e for black tea without milk; ~32g with dairy milk and sugar.

Are UK tea bags plastic free now? Mostly yes, since 2020-2022. Major brands (Yorkshire, Tetley, PG Tips, Twinings, Pukka, Clipper) all use plant fibre compostable bags now.

Is loose leaf better for the environment than bagged? Marginally yes, less packaging per cup. The kettle and milk are bigger factors.

Most carbon efficient way to make tea? Boil only what you need. Use oat or soy milk. Compost the bag.

Curator's note: tea is one of the lowest carbon hot drinks you can make. The kettle is what matters; the leaf barely registers. Boil 250ml not 1L. Lee, teas.co.uk.

Where the footprint actually sits

Stage by stage, the parts a drinker controls dominate:

Stage	Contribution
Boiling the kettle	usually the single biggest factor, especially over filling
Milk	often larger than the tea itself, dairy is carbon heavy
Cultivation & processing	modest per cup, varies by origin and method
Transport & packaging	smaller than intuition suggests; air freight rare
Waste	plastic in some bags; loose leaf and compostable bags lower it

Fix the two levers that actually move it, the kettle and the milk, and stop worrying about the leaf's passport. Low waste loose leaf is in the full tea shop and the loose leaf range; more context in the is tea sustainable guide.

Reference noted

- Fairtrade Foundation: Tea
- Ethical Tea Partnership

FROM THE CURATOR

teas · Spend less on prestige, more on freshness. Freshness wins: two months in a supermarket bag is better than three years in a gift tin.

Sustainability companion reading

- Is tea sustainable
- Compostable tea bags
- Loose leaf vs tea bags

- Plastic in tea bags

More from the tea wiki

- Green tea
- Black tea
- Oolong tea
- White tea
- Herbal tea
- Caffeine in tea
- How to make tea properly
- Loose leaf vs teabag

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