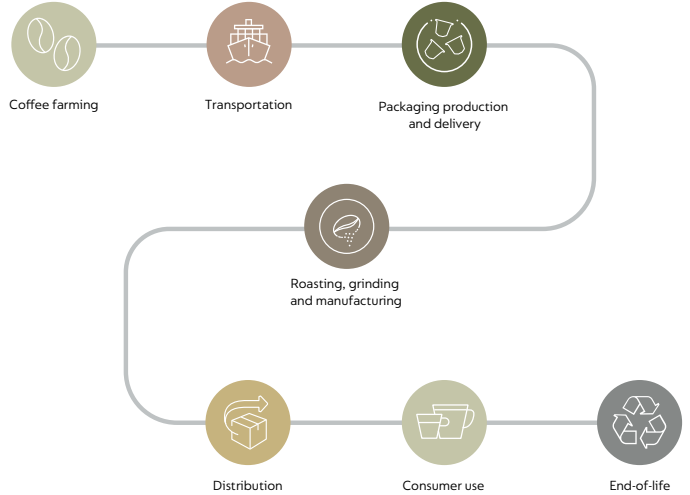




WHAT'S THE ENVIRONMENTAL IMPACT OF YOUR CUP OF COFFEE?

Lifecycle assessment (LCA) is a method of measuring environmental impact of products or services. For a product, LCAs look at various environmental impact indicators, including the indicator of climate change or carbon footprint from each stage of its lifecycle. The life of a product includes how it was grown, transported, produced, packaged, used, and disposed of.

The lifecycle of a cup of Nespresso coffee starts on the farm and ends with the used capsule end of life.



One of our most extensive LCA studies was conducted across several European countries. It measured the impact of a lungo coffee (110 ml) made with a Nespresso Original machine.

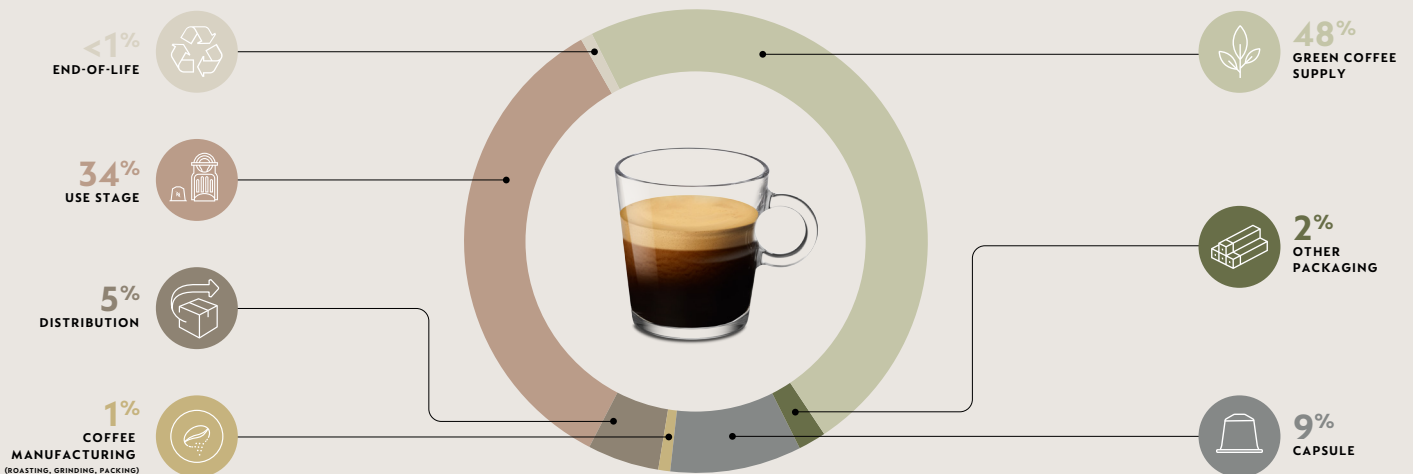
YOU CAN READ THE 2024 LCA HERE

Quantis lifecycle assessment: comparative LCA of Nespresso versus other coffee systems in Europe.

The LCA shows us which parts of the coffee's lifecycle drive its carbon footprint.

WHAT'S BEHIND YOUR CUP OF COFFEE'S CARBON FOOTPRINT?

The main environmental impact of a coffee is the green coffee supply – followed by the use stage. This adds up to more than 80% of the carbon footprint.



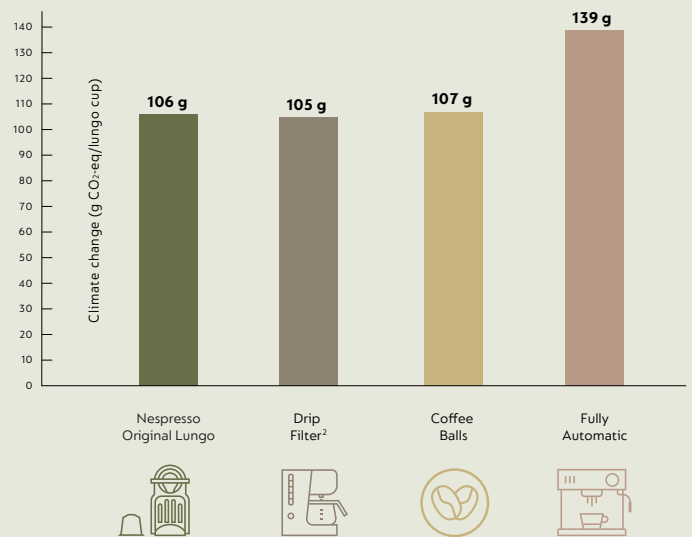
This LCA also allows us to compare the carbon footprint of a Nespresso Original lungo to the same size coffee made in other coffee systems. This comparison takes into account all lifecycle stages, including those beyond the company's influence such as cup washing.

Nespresso Original system has a similar carbon footprint to drip filter and compostable coffee balls system and about **24% lower carbon footprint** than a full automat coffee machine.

We have also carried out separate LCAs to measure the carbon footprint of an espresso (40 ml) coffee prepared in the Nespresso Professional system in Switzerland. That comparison also showed the Nespresso system is more efficient than a full-automat.¹

What is CO2-eq? A carbon dioxide or CO2 equivalent is a metric measure used to compare the emissions from various greenhouse gases on the basis of their global warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.

No peer-reviewed comparative LCA has been conducted for products made using Vertuo because the range of possible cup sizes within the system make it not directly comparable with other methods of preparing coffee.



1. [Quantis lifecycle assessment: comparative LCA of Nespresso versus other coffee systems in Switzerland \(2019\)](#)
 2. Drip Filter 6.4 g/110ml. Data source: draft PEFCR coffee – 7 g roasted beans for a 120 ml coffee.

WHY IS THIS? THE BENEFITS OF PRECISION CONSUMPTION



The Nespresso system uses a precise amount of ground coffee, water and energy to make one cup, which minimizes food, water and energy waste. In many scenarios, this optimized use of resources compensates for the additional packaging used (the capsule).

The main carbon footprint driver for a cup of coffee is the supply of green coffee, the



5.7 g



In this LCA, the lungo made in the Nespresso system uses 5.7 g coffee.



9.0 g



The lungo made in the full automat uses 9 g coffee.³

less coffee needed to make one cup, the lower the total carbon footprint will be. The reason why a cup of coffee brewed with the bean-to-cup machine has a higher carbon footprint compared with a coffee brewed with a Nespresso Original machine, is mainly due to that a bean-to-cup machine uses more roast and ground coffee per cup – but also because the machine is heavier.

Systems using such precision consumption, like the Nespresso one, also remove the variables related to consumer behaviour, such as over-filling a kettle and boiling too much water, over-dosing coffee, keeping a hot plate running, or making more coffee than needed and throwing the excess away.

3. According to the EU Product environmental Footprint.



When you recycle your Nespresso capsules, you lower the carbon footprint of your coffee. The recycled aluminium from the capsules goes back into the aluminium value chain, where it is used to produce new aluminium products. The coffee grounds can be composted or used as a source of renewable energy.

On the other hand, if capsules go into landfill, there is a negative impact and the footprint per cup increases. If capsules are thrown into general waste and are incinerated, the energy can be recovered. This has a positive impact on the carbon footprint.

This LCA takes the recycling and landfill / incineration rates of each country into account.



GREEN COFFEE

The amount of green coffee needed to make each cup is one of the biggest drivers of your coffee's carbon footprint, which is why we are working hard to reduce the carbon emissions generated by the coffee we source.

Through the Nespresso AAA Sustainable Quality™ Program, we're working directly with farmers to reduce the impact of coffee

cultivation. With the AAA Program, we are partnering with farmers to reduce the environmental impact of coffee farming and the impact of climate change on farming – through implementing regenerative agricultural practices at scale and tackling issues like excessive use of agrochemicals.

[LEARN MORE](#)



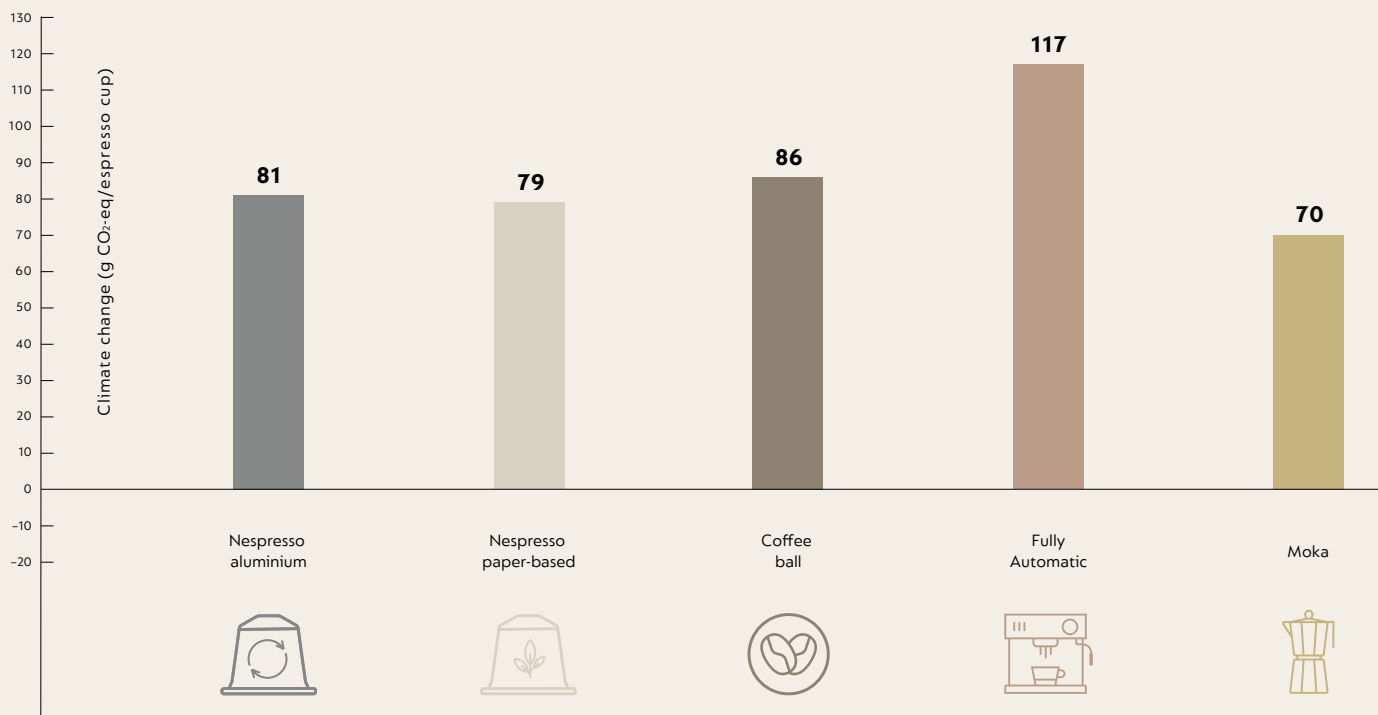
WHAT ABOUT COMPOSTABLE CAPSULES?

In 2023, Nespresso launched a new paper-based compostable capsule as a pilot in France and Switzerland. We carried out a new LCA comparing a 40 ml espresso made using the paper-based capsule with other portioned systems and a full-automat in Switzerland.

The results below show that the carbon footprint of a Nespresso paper-based compostable paper-based capsule is similar to one made using a Nespresso recyclable aluminium capsule. In fact, the footprint of coffees made in all the portioned systems in the study are similar, and all are significantly lower than one made in a full-automat machine.

The differences between these systems is largely driven by the amount of coffee needed to make each cup.⁴ For example, although a coffee ball does not have the packaging material of a capsule, the system uses more coffee to make each cup.

[YOU CAN READ THE SWISS 2022 LCA STUDY HERE.](#)



4. The values differs from the previous graph as this shows the impact of an espresso cup of coffee and in Switzerland.