



Context

Two fifths of the food we consume in the UK is imported from overseas. Most of that is food we cannot readily grow in the UK. Lacking the necessary climate to cultivate tropical fruits, rice, tea, coffee etc, we would need expensive, energy-hungry infrastructure to grow the crops at any kind of industrial scale. Around 15-17% of those imports come from climate vulnerable countries with lowest levels of resilience to worsening climate change impacts.

Brazil, host of the latest UN climate change summit, COP30, tops the list of those countries. Once you remove wealthy, developed and more climate resilient North American and European Union nations from which we import food, In 2024, Brazil was the number one country from which the UK imports food, whether you look by value or volume. Its agriculture supply chains account for about a quarter of its GDP, and agriculture is the highest-emitting sector in the Brazilian economy, as well as driving deforestation. And Brazil is a country on the frontline of climate change impacts, which pose a direct threat to the size and quality of agricultural yields.

Climate change impacts

Drought. 2023-2024 saw climate change and El Niño combining to inflict severe drought conditions on the Brazilian Amazon; lasting 18 months, it was considered the most intense in the seventy years since monitoring began. 2025 has again brought severe drought to many parts of Brazil with concern growing that an emerging La Niña will raise the risk of drought in crop-growing parts of the country through early 2026. Drought is not only a threat to agriculture and water supplies for people's consumption, it is also compounds the threat from deforestation to the Amazon rainforest, raising the risk of wildfires, and disrupting crucial ecosystems that threaten the forest's survival.

Heavy rainfall. Southern Brazil, hit by disastrous floods in 2024, has again seen heavy <u>June rains in 2025</u>, hitting crops and livestock in the region. Rainfall in recent years has been made <u>heavier and more intense</u> by climate change, and turbo-charged by El Niño, making the 2024 floods twice as likely. These floods <u>displaced hundreds of thousands</u> of people and caused billions of dollars in economic losses.

Extreme heat and fires. On current trends, Brazil is <u>facing around 2.2°C</u> of temperature rise by 2050, with several regions warming faster than the global average. The <u>number of days in a year affected by heatwaves</u> has increased nearly threefold, to 52 in the decade to 2020, compared to 20 in period from 1961 to 1990. <u>In March 2025</u>, extreme heat forced five Brazilian cities to close schools. Extreme temperatures hit crops – reducing yield and quality – with a crop like coffee (for which Brazil is the UK's largest supplier) particularly vulnerable. <u>Higher temperatures of course also exacerbate drought</u>, hitting water supply for agriculture.

Crop failures and resulting <u>food shortages and price increases</u> are a significant risk from these climate change impacts. In 2024, the combination of extreme heat and drought, followed by heavy rainfall and flooding, <u>hit agriculture hard</u> – particularly corn, soy, rice and coffee. Damage to infrastructure hampered logistics of harvesting and transporting

food, even when crops were not affected. Reviews of outputs showed declines across multiple crops, with cassava, cocoa, rice and wheat hit hardest.

Costs. All of which is causing billions of dollars of damage to Brazil's economy each year, including from <u>agricultural losses</u>. A <u>2025 study</u> said that Brazil had seen a 460% increase in climate change-related disasters since the 1990s, and found that each 0.1°C of temperature increase is causing hundreds of additional climate disaster, and causing R\$5.6 billion in damages. The <u>World Bank has calculated</u> that extreme weather events are already causing Brazil losses of R\$13 billion (US\$2.6 billion) per year.

Food

The UK relies on imports for around two-fifths of the food on its shelves, worth £64 billion in 2024. Of this, about £25 billion (39%) went on products that cannot be produced domestically at scale, such as coffee, orange juice and cocoa.

Beyond Europe, Brazil was the UK's leading food supplier by volume and a major supplier by value, sending around 1.4 billion kilograms (or 1.4 million tonnes) of food worth nearly $\pounds 1.2$ billion last year. This is similar in value to imports from China and the United States but significantly higher in volume, underscoring Brazil's central role in what ends up on British plates.

Some of the top imports included forms of prepared or processed meats, but most are fresh fruits, and crops that are highly susceptible to the worsening impacts being caused by climate change.

Soy

The UK's closest connection with Brazil is for soy, which underpins intensive livestock production. In 2024, the UK imported £243 million of Brazilian soy - around 60% of total soy imports. Around 90% of imported soy is used for animal feed. This figure is likely higher for Brazilian soy given that about 98% of it is genetically modified to withstand the heavy use of herbicide, while direct consumption of gene-edited foods remains low in the UK. British poultry is most closely connected, as soymeal is the main protein source in intensive feed systems. While viable alternatives such as peas, beans and oilseed meals exist, a wider shift would require structural changes in farming systems.

Extreme weather has increasingly disrupted soy production in Brazil. Droughts and heatwaves have affected the Amazon, Cerrado and southern grain belts, with record-low river levels in 2024–25 delaying exports. The 2023 Amazon drought was found to be around 30 times more likely because of human-induced climate changeⁱⁱ.

Deforestation and climate change are leading to less rainfall, undermining natural cooling systems and damaging agricultural productivity - climate change is projected to reduce soy yields by roughly 6% for every 1°C of warming. Most concerning, scientists say a tipping point could be reached where the environmental conditions become unsuitable for a tropical rainforest in the Amazon, This point could be crossed if just 20-25% of the amazon were destroyed - and an estimated 14-17% has already been

deforested¹. The impacts would be devastating, with irreversible losses of biodiversity and cultural value, changes to regional and global weather patterns, and implications for agricultural productivity and global food supplies^v. A change of this magnitude would also accelerate global climate change, as the Amazon would shift from being a carbon sink to a source of emissions, through fires and plant die off².

The main drivers of deforestation in the Cerrado and Amazon are beef and soy production³. Wiviii Most soy expansion happens on land that has already been cleared - often for beef pasture. Indirectly, soy plantations drive land use change by increasing land values, pushing cattle ranching deeper into forest frontiers, and expanding in regions like the Cerrado where protections are weaker⁴.

Coffee

Brazil is our largest supplier of green coffee beans, typically providing 30-35% of the UK's unroasted beans, worth around £225 million in 2024. As the world's top producer of Arabica, much of the coffee arriving via European partners also originates from Brazil.

Coffee is among the most climate-sensitive crops, with 97% of production occurring in countries highly vulnerable to climate change. In Brazil, hot and dry conditions linked to El Niño reduced expected yields in the 2023/24 harvest, driving price spikes that peaked in March 2025. Reducing emissions to net zero and restoring climate balance is essential for the long-term viability of crops like coffee.

Chicken

Chicken is one of the UK's most valuable direct food imports from Brazil, reflecting its role as a global poultry powerhouse. In 2024, the UK imported £143 million - about 51,000 tonnes - of Brazilian chicken, or 13% of total UK chicken imports, below the 95,370-tonne tariff-free quota agreed post-Brexit^{viii}.

Brazil's poultry sector is closely linked to its soy industry, since soymeal is the main protein feed for broilers. This means the environmental consequences of and pressures on soy, namely deforestation, drought and rising temperatures, also affect poultry supply chains.

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BRAZIL FOOD IMPORTS

Beef

Brazil is the world's second largest beef producer and the largest exporter. Brazil is an important supplier of beef to the UK, accounting for 5–10% of imports in 2024 - around £91 million worth - making it the second-largest source after Ireland. About two-thirds of this is corned beef, with the rest mainly frozen or processed products.

Most export-oriented beef comes from the Amazon and Cerrado biomes*. These regions have faced severe droughts and record heat in recent years, worsening pasture stress and water scarcity. Peer-reviewed research shows rising heat stress in Brazil's main cattle-producing zones, driven by human-induced climate change*i.

Extensive cattle ranching is the number one culprit of deforestation in virtually every Amazon country, and it accounts for 80% of current deforestation.XII This deforestation is not only responsible for 3.4% of global emissions each year, but is pushing us close tipping point that could see the Amazonian ecosystem become too dry to sustain itself. Brazil has 88% of the Amazon herd, followed by Peru and Bolivia. While grazing densities vary among livestock production systems and countries, extensive, low productivity, systems with less than one animal unit per hectare of pasture are the dominant form of cattle ranching in the Amazon.XIII

Tropical fruit and sugar

Brazil is a key source of tropical fruits that cannot be grown in the UK's climate, including guavas, mangoes, mangosteens, papayas, limes and melons.

In 2024, the UK imported around £48 million of guavas, mangoes and mangosteens (29% of UK imports), £49 million of fresh melons excluding watermelons (48%), and £36 million of fresh watermelons (29%). Imports of fresh limes were worth £23 million (87%), while fresh papayas totalled £11 million (86%). Brazil's share of UK imports varies widely but remains strong across categories, underscoring its often dominant role in supplying tropical fruits to British consumers.

Raw cane sugar is another key commodity, with UK imports from Brazil worth around £97 million in 2024, accounting for roughly 37% of total UK sugar imports. These flows of fruit and sugar contribute to year-round food availability and manufacturing supply in the UK while supporting agricultural livelihoods in Brazil. However, they also highlight the growing need for climate-resilient supply chains, as extreme heat, drought and storms increasingly threaten tropical crop yields across Latin America.

Brazil's fruit and sugar exports are increasingly exposed to climate extremes. In recent

years, prolonged droughts and record heat have strained crops and water systems across key producing regions, with strong scientific evidence that human-driven climate change has made such events far more likely. In 2023–24, severe dry conditions linked to the Amazon drought reduced sugarcane yields in Brazil's centre-south region, while heat stress in the northeast raised irrigation demand for fruit production^{xiv xv}. These pressures have contributed to lower yields and rising global sugar prices.

Orange juice



Brazil is the world's dominant citrus producer, producing roughly one-third of all oranges globally and supplying over 70% of the world's orange juice exports, largely from the state of São Paulo^{xvi} xvii. Orange juice remains one of the most visible links between UK consumers and Brazilian agriculture, reflecting both countries' deep trade ties in agri-food commodities.

However, the sector has been hit hard by climate stress and disease pressures. Prolonged droughts, heatwaves and the spread of citrus greening disease (Huanglongbing) have reduced yields and squeezed processing capacity, contributing to higher prices over the past decade^{xviii} xix. These shocks have highlighted how climate change and biological risks in Brazil can ripple through global markets and affect the affordability of everyday products in the UK.

How Climate Change in Brazil is Driving Up the Price of Your Morning Coffee and Orange Juice

Coffee prices in commodity markets rose sharply at the end of 2023 and continued to climb through 2024, reaching a peak in March 2025**. The rise was driven largely by extended droughts in Brazil** – the world's largest coffee exporter – and extreme weather made more likely by climate change in Vietnam**.

Although global commodity prices have risen rapidly, much of the impact has yet to reach consumers. According to FAO estimates, it typically takes around one year for changes in raw coffee prices to filter through to retail prices, with effects lasting at least four years. Will UK Coffee prices rose 13.4% in the year to September.

Since their peak in March, commodity prices have remained elevated, rising again with dry weather in Brazil during the flowering season raising concerns of a poor harvest.xxiv xxv

Orange juice has been similarly impacted. As the world's dominant exporter of orange juice, extended droughts, heatwaves and crop disease outbreaks in Brazil have pushed up prices. As a result, the average price of fruit juices remains 30% higher than it was in June 2022, with orange juice rising over 130% since 2020***.

Solutions

Cutting emissions

The only solution to halt climate change, and avoid ever worsening climate impacts that threaten food supplies, is cutting emissions to net zero, so as to stop adding greenhouse gases to the atmosphere. The Paris Agreement seeks to limit temperature rises to 1.5°C above pre-industrial levels. At <u>around 1.3°C of warming</u>, we already see the threats and growing danger; this only worsens with each fraction of a degree of temperature rise.

The global clean energy transition – the principal means of achieving net zero – has been driven by policy decisions flowing from nations' commitment to Paris, with investment in renewables internationally now running at twice the level of investments in fossil fuels each year.

Until we get to net zero emissions, to stop extreme weather getting worse, we will continue to see increasing volatility in our food system. This is because the stable climate that our crops and livestock have been developed to thrive in is rapidly changing.

Adapting to worsening impacts

We also need to adapt to the climate impacts we're seeing now, at the <u>current rate of warming</u>, especially as we remain on track, as global policy commitments currently stand, for temperature rises <u>between 2.6° and 3.1°C.</u> Farmers, everywhere, are among some of the most vulnerable to climate extremes.

Climate finance from wealthy nations to producer countries with low climate readiness is a key part of the solution, supporting farmers to adapt to climate impacts and secure their crops and livelihoods – both for consumption at home, and for export. Alongside cutting emissions to net zero, to limit further temperature rises, this will help reduce volatility in our food system. In turn, this supports British retailers in keeping supplies and prices stable for UK consumers.

Nations that met at COP29 in Baku agreed that climate finance will rise. Although nowhere near the £1.3 trillion a year by 2035 that experts say is needed globally, world leaders agreed the level should treble from the current \$100 billion a year to at least \$300 billion.

Despite this, 2025 has seen many nations retreat from commitments on overseas development assistance. In the US, Trump has closed down USAID. In the UK, the government has significantly cut the Official Development Assistance (ODA) budget to partially offset an increase in defence spending. The ODA budget funds our climate finance commitments, which includes support to farmers all around the world who grow staples like rice, bananas, coffee and a whole range of fresh fruit and vegetables that we import.

Some other nations have made similar decisions on their aid budgets, although the government in Germany notably increased defence spending in a way that not only earmarked €500 billion for climate infrastructure, but also further embedded commitment to climate neutrality by 2045 into the German constitution, recognising the security implications of climate change.

The UK is already coming to the end of its third round of climate finance commitment, which will total £11.6 billion over five years, from 2021/22 to 2025/26. Some of that goes in bilateral support, directly to nations that need our support. And some of it goes via large, global multi-lateral funds, such as the Green Climate Fund. <u>ECIU analysis</u> in 2024 showed

that UK climate finance, via the six largest multi-lateral funds, had contributed to at least 348 projects supporting overseas farmers hit by climate change in 111 countries, 84 of which (76%) grow food sold on UK supermarket shelves.

Food security is an element of national security. Withdrawal from overseas aid and climate finance would leave some of the world's most vulnerable farmers exposed to climate change, with the potential to undermine global food production.

UK support to Brazilian farmers

Climate finance from the UK is, amongst other things, used to support farmers and the agriculture sector in some of the countries on which we are most heavily reliant for food imports. Some of that is via direct bilateral climate finance programmes, and some is via global multi-lateral finance institutions, into which the UK contributes along with other major developed economies. Here are two examples of direct climate finance support to food producers in Brazil.

1.

UK climate finance supported the <u>Rural Sustentável programme</u> that runs from 2016-2026. Its aim is to reduce deforestation by improving agriculture and land use practices among rural producers in Brazil. It directly supports the implementation of the Low-Carbon Agriculture Plan by the Brazilian Ministry of Agriculture.

Activities supported include forest restoration on degraded pasturelands and the adoption of sustainable low-carbon agriculture, which can improve agricultural production whilst protecting native vegetation. This is leading to a more sustainable system of agricultural production – safeguarding food supplies – whilst also securing sustainable livelihoods for rural communities across the Amazon, Cerrado and Caatinga areas of Brazil.

The Caatinga biome within this programme is located in Northeast Brazil, where agriculture plays a key economic role; it is home to approximately 32% of Brazilian farms. Traditional agricultural practices, such as the use of slash and burn and overgrazing, are common, causing land degradation and increasing desertification. The project has provided technical assistance to small and medium-size local farmers in the adoption of climate-smart technologies in addition to training farmers and rural organizations to support adoption of these technologies. Support to value chains and market access has strengthened the capacities of small farmer organisations through the financing of collective benefits, such as water storage, seedling nurseries, smallscale storage facilities, and tools for compost production.

2

UK climate finance has also supported the <u>REDD+ Early Movers (REM) programme</u>, which helps reduce emissions from deforestation, and is also supported by Germany and Norway. UK support in two Brazilian states – Acre and Mato Grosso – as well as in Colombia, has helped cut 31 million tonnes of carbon emissions by protecting forests. The money earned from the results-based payments is reinvested to keep reducing deforestation, strengthen local policies and institutions, and support forest communities. This includes funding projects that empower Indigenous Peoples and local communities, promote sustainable farming, and improve cattle and soy farms on already degraded land.

To date, funding invested has benefitted over 100,000 rural, traditional, farming, and Indigenous families supporting them to develop more sustainable income sources. By working with people living in and near the forest, the programme is able to strengthen

the supply chains of native products, including banana, honey and acai. Supporting communities in this way helps to move beyond a focus on tackling illegal deforestation, to also reducing legal deforestation.

Endnotes

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