Jamila's Ethical Coffee Beans (1kg) comparative to Conventional Coffee Beans (1kg)

Studies, such as Nab (2020) mentioned above, have quantified the CO_2eq from sustainably sourced and conventional coffee beans from Brazil and Vietnam. The sustainably sourced values, pre-transportation, are likely like those from the farms we source our coffee in Uganda and Tanzania since the farming methods are almost identical.

To compare a conventional coffee bean to our coffee beans we deviated from the 2020 UCL study. Sustainable growing and milling processes for Vietnam and Brazil were averaged, since the farming process described in the study is identical to that of the farmers in the Ankole and Kagera Farmers' Cooperatives. The exportation emissions were also changed due to this to reflect the different sourcing location. Jamila's Ethical Coffee beans are packaged using nature flex, a fully biodegradable material that is manufactured in the UK. The packaging emissions and transport associated with the packaging was also changed due to this.

Conventional (kg CO2eq kg^{-1} green coffee beans) taken from Nab (2020)			
Emission source	**Vietnam**	**Brazil**	**Average**
Growing	1.04	1.01	1.025
Milling	0.10	0.14	0.14
Exportation	11.77	10.44	11.105

Without accounting for packaging, this gives a total average for 1kg of green coffee beans as **12.27 kg CO_2eq**.



Sustainable (kg CO_2eq kg^{-1} green coffee beans) taken from Nab (2020)			
Emission source	Vietnam	Brazil	Average
Growing	0.08	0.05	0.065
Milling	0.10	0.08	0.09

Sustainable (kg CO_2eq kg^{-1} green coffee beans) transport emissions			
Farmers' Cooperative	Ankole	Kagera	Average
Exportation	0.275	0.431	0.353

Without accounting for packaging, this gives a total average for 1kg of green coffee beans sustainably farmed as 0.508 kg CO_2eq, roughly 24 times less than conventional coffee.

Jamila's ethical coffee beans are packaged in 62g of Natureflex packaging, the same dimensions of packaging for conventional coffee beans would equate to 60g of PET plastic ***(Petfilm)***. Whilst PET is lighter and recyclable, its quality is diminished due to recycling, and it is not biodegradable. This will inevitably lead to the material eventually reaching a landfill. Microplastics, which have been linked to neurocognitive disorders such as dementia, may be produced during the PET's time in a landfill. Natureflex is a cellulose based plastic which is fully biodegradable at both home and industrial composting sites, this means no microplastics will be produced because of the packaging. Natureflex is also a more carbon-friendly option, with it producing **0.235 kg CO_2e per 62 g packet** (Futarama, Natureflex manufacturer for their 2025 values), compared to PET packaging which **produced 0.403 kg CO_2e per 60 g packet** (Carboncloud, Climate Hub, Plastic pouch PET/PE/BOPP).

This provides an overall CO_2e for Jamila's Ethical Coffee Beans of 743g kg^{-1} green coffee beans, around **17 times less than the conventional coffee beans** which produce 12.673 kg CO_2e kg^{-1} green coffee beans.

