EPD Result Interpretation and Analysis

This report is in addition to the EPD document generated for the Tradstock Whinstone products (setts, kerbs, and pavings).

EPD Result interpretation

The carbon footprint result (in terms of the Global Warming Potential - GWP) as published in the EPD report is **109 kgCO2e per tonne** of whinstone products (setts, kerbs, and pavings) over the lifecycle stages of cradle to gate (A1-A3).

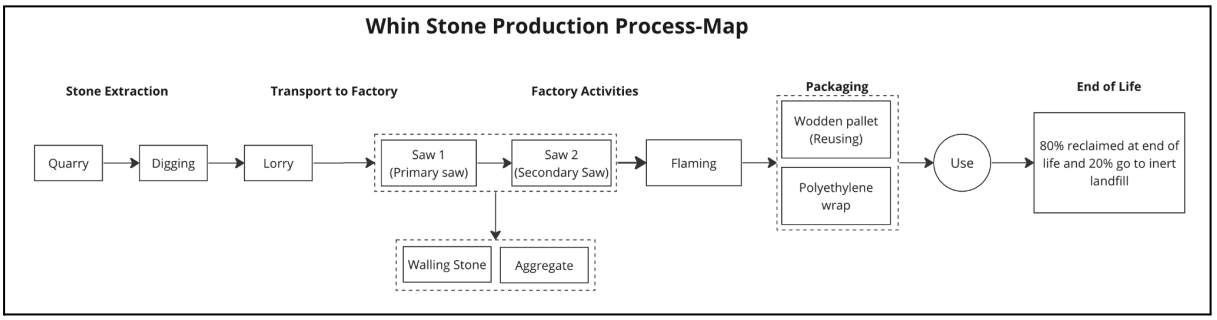
In terms of varying product specification (thickness), the table below displays the derived carbon footprint results per m2 of the products:

Product specification	**Carbon Footprint (GWP) - kgCO2e**	**Unit**
A1-A3 result for product @10mm thickness	3.2	kgCO2e/m2
A1-A3 result for product @50mm thickness	16	kgCO2e/m2
A1-A3 result for product @60mm thickness	19.2	kgCO2e/m2
A1-A3 result for product @75mm thickness	24	kgCO2e/m2
A1-A3 result for product @100mm thickness	32	kgCO2e/m2
A1-A3 result for product @120mm thickness	38.4	kgCO2e/m2

EPD Result Analysis

Key Contributor Analysis:
This section presents the hotspot results in terms of the key contributors towards the total GWP of the whinstone products (Figure 1). It is evident that the three biggest contributors are the diesel used by raw material extraction machines (37% of total GWP), Electricity used for Materials Handling (29.9% of total GWP), and Electricity used for the Production process (15.3% of total GWP).

This is followed by transports (10.9% of total GWP), and the use of packaging and protective materials (2.4% of total GWP). The use of consumables such as hydraulic oil, flocculant, etc and infrastructure items such as conveyor belts belong to the lower end in the list of significant contributors of the overall product GWP.



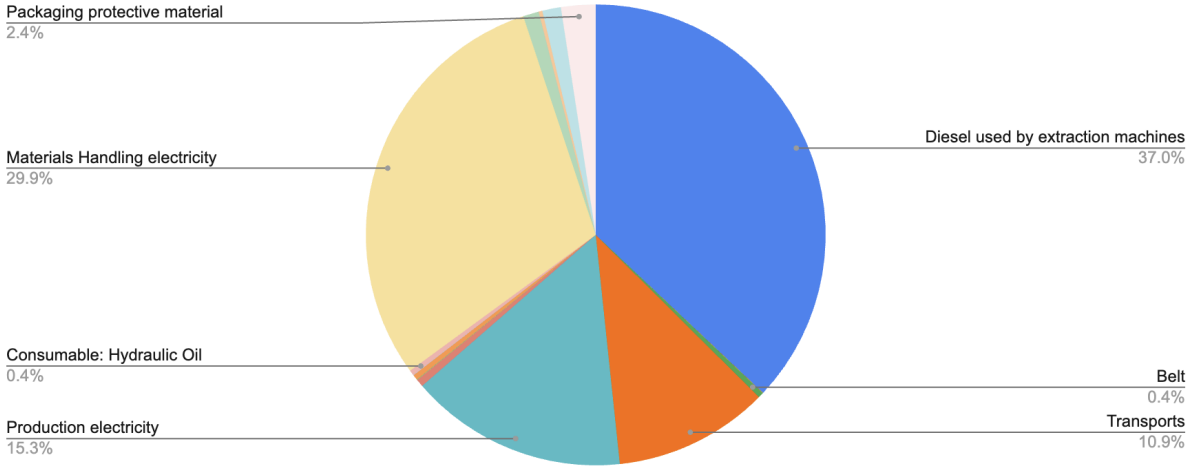


Figure 1 (Above) - Process map for the manufacturing of Whinstone products. (Below) - Key contributors towards the overall GWP of whinstone products

Benchmark Analysis (production only):

Product	LCA Scope	GWP (kgCO2e) per tonne
UK Portland Stone	A1-A3	137
Scottish Whinstone	A1-A3	109
UK Concrete Stone	A1-A3	121.18
Portuguese Granite Stone	A1-A3	117.25
Swedish Limestone Slab	A1-A3	120
Chinese Granite	A1-A3	130

For the comparison of carbon footprint pertaining to production of stone only, the GWP results published by various similar stone manufacturers in the market have been considered, as in the table above, and Figure 2 highlights that the production corresponding to Tradstocks experiences the lowest carbon footprint.

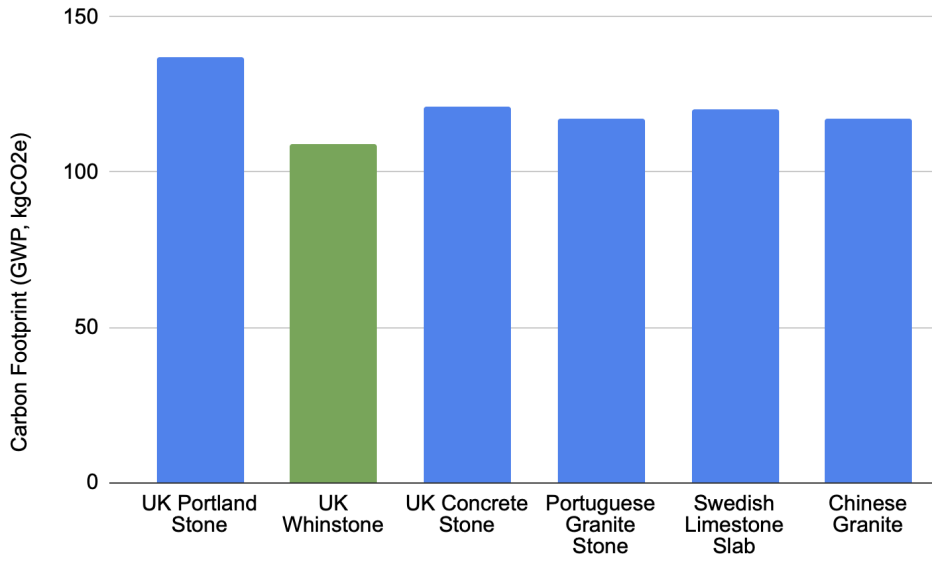


Figure 2 - Comparison of Carbon Footprint (GWP) for production of 1 tonne of stone

Benchmark Analysis (Procurement and Distribution):

Product	LCA Scope	Distance travelled (Land, km)	Distance travelled (Sea, km)	GWP (kgCO2e) per tonne stone
UK Portland Stone	A4	100	0	19.02
Scottish Whinstone	A4	50	0	9.51
UK Concrete Stone	A4	100	0	19.02
Portuguese Granite Stone	A4	160	2158	56.32
Swedish Limestone Slab	A4	285.75	1619.25	73.77
Chinese Granite (Suez Canal route)	A4	100	18709	243.52
Chinese Granite (Cape Town route)	A4	100	21636	278.65

For the comparison of carbon footprint pertaining to procuring stone, the location of various global stone manufacturers are considered to estimate transport distances. The carbon footprint GWP results are based on the assumptions of land transport carried out by Lorry (using diesel fuel, Euro 6, capacity of 16-32 tonnes) and sea transport carried out by Container ships. The background carbon database used for this study is Ecoinvent v3.10. Figure 3 highlights the huge benefits of procuring natural stone locally with carbon footprint being around 30 times lower for the Tradstocks Whinstone product compared to Chinese Granite stone.

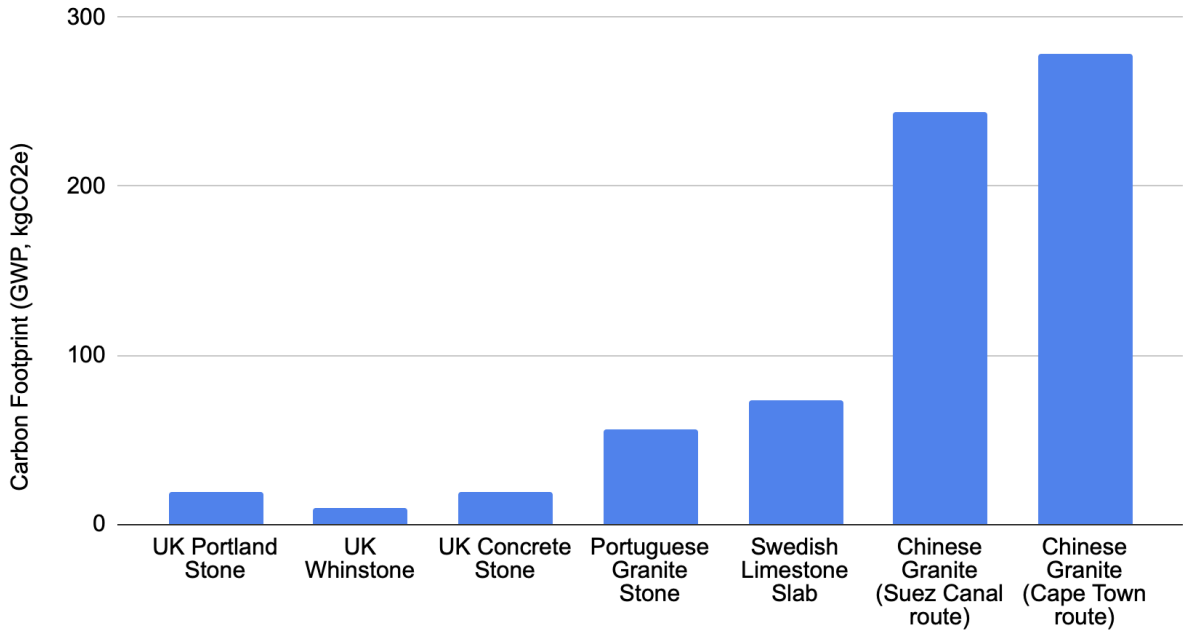


Figure 3 - Comparison of Carbon Footprint (GWP) for procurement and distribution of 1 tonne of stone