



## Carbon Footprint Ltd

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## Verification of Warwick Music's Product Carbon Emissions Calculation

Warwick Music Group commissioned Carbon Footprint Ltd to verify the carbon emissions (CO<sub>2</sub>e) calculations for their plastic alternatives to brass instruments, including the world's first plastic trombone. These products include the plastic instruments, nylon carry bag, and all associated packaging.

### Verification of calculation

Warwick Music has produced a calculator tool to calculate the carbon footprint of its products using data from internal research and a previous LCA produced by Stopford Energy & Environment, in association with Keele University. During the audit, it became apparent that the emissions factors used were based on accurate proxies, despite this Warwick Music have since, from advice given by Carbon Footprint Ltd, updated these emissions factors to improve calculation accuracy. These were then calculated separately by Warwick Music.

The calculations were verified by Carbon Footprint and confirmed to follow best practice of the methodology, and guidance as set out by the UK Government and World Resources Institute (WRI) for a cradle to grave product carbon footprint assessment. The emissions factors used are sourced from the Defra<sup>1</sup>/BEIS<sup>2</sup> emissions factors (2019), EcoInvent v3.6 (2019), PlasticEurope (2015), and Waste & Resources Action Programme (WRAP 2012). The only aspect of the cradle to grave process excluded from their calculations is the usage section, as general cleaning would be the only emissions source.

### Verification of dataset

Warwick Music provided picture evidence for the weight of the products and the materials included. Departure and destination locations were taken from company records, for the transport between suppliers, factories and ports. The distances were then spot checked against the figures used within the calculation. During the audit, a few discrepancies were found and corrected by Warwick Music. This included the freight distances originally being over converted. For product distribution, shipping distances were calculated using known ports, with known truck distances to distribution centres used. In terms of emissions associated with raw materials and transport to end customer, DEFRA's methodology document was used to provide the estimated transport distances.

<sup>1</sup> Department for Environment, Food and Rural Affairs (Defra)

<sup>2</sup> Department for Business, Energy and Industrial Strategy (BEIS)

Carbon Footprint Ltd is a UK registered Company No. 4532520

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## Results

Below is a consolidated table showing Warwick Music's product footprint calculation results for all products, the average emissions per product have been modelled on all instruments sold in their 2019 financial year:

Product	Average emissions per process (kgCO <sub>2</sub> e)					Average Emissions per product (kgCO <sub>2</sub> e)
	Production (incl Raw Materials) *	Sea Freight	Road Freight	Usage	Disposal	
pBone	8.97	0.36	0.19	-	0.03	9.55
pBone mini	6.56	0.31	0.13	-	0.03	7.03
pTrumpet	6.98	0.25	0.14	-	0.02	7.39
pCornet	3.78	0.19	0.09	-	0.02	4.08
pBuzz	1.16	0.02	0.06	-	0.01	1.25
pTrumpet hyTech	24.42	0.46	0.24	-	0.04	25.17
<b>Average</b>	<b>8.65</b>	<b>0.27</b>	<b>0.14</b>	<b>-</b>	<b>0.03</b>	<b>9.08</b>

\*Including Acrylonitrile butadiene styrene (ABS), nylon carry bags, plastic bags and cardboard boxes.

## Carbon Footprint Assessed

By completing the verification, Warwick Music has qualified to use the Carbon Footprint Standard branding (shown below) for a 24-month period for all Warwick Music products (pBone, pBone mini, pTrumpet, pCornet, pBuzz, pTrumpet, and the hyTech).



CO<sub>2</sub>e  
Assessed  
Product



**W M G**  
Warwick Music Group

Yours sincerely,

A handwritten signature in black ink that reads 'Myles Howard'.

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