Unit 6 Fryers Works
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1st March 2020

Imagineers Carbon Neutral Products Declaration – March 2020

As of March 2020 all of our foam promotional products will be Carbon Neutral. This has been achieved by examining all of the elements and processes of their manufacture to calculate their CO2e. Then a combination of reducing emissions and using UK based carbon offsetting programs we have brought their net Co2 impact to zero.

The carbon offsetting program we have decided to use is the Woodland Trust, they manage, protect and add to the UKs forests. A £100 donation to them has the net effect of capturing 4 tonnes of carbon. We will be keeping a total Co2e saved on our website.

The information below broadly details the different contributions towards the total carbon offset required per product. Where applicable sources of information are given.

Foam
Foam manufacturing – 1kg of foam = 3kg Co2e (Source: Carpenters Ltd)
Foam delivery – 0.9kg Co2e per Km (Source: donbur.co.uk/DEFRA)

Ink (screen print)
Ink manufacturing – 0.004kgs Co2e per Kg of ink. (Source: supplier)
Ink ingredients – 6.5 – 7.5kg Co2e per Kg of ink (Source: ECM/Plastics Europe, TDMA)
Ink delivery – 201gCo2/km (Source: .gov.uk/google maps)

Ink (full colour)
Ink manufacturing – 1.12kgs Co2e per L of ink. (Source: Supplier, Epson 2018 report)
Ink ingredients - ~3kgs Co2e per L (Source: estimate – supplier currently unsure, awaiting update)
Ink delivery – 201gCo2/km (Source: .gov.uk/google maps)

Transfer paper
Paper manufacture – 0.018kgs Co2e / A4 size paper (Source: Sustainable Bates Ecologic 2010)
Paper delivery - 0.00167kgs Co2e / m (Source: theyworkforyou.com / commercialfleet.org / google maps)

Polyester
Fibre generation – 9.52kg Co2e per tonne (Source: Oecotextiles.wordpress.com)
Energy for production – 6.89kwh per m (Source: Oecotextiles.wordpress.com)
Energy for heat setting – 135kwh / approx. 240m/hour (Machinery website)
Delivery and transport of fabric – 0.005858kgs Co2e/m (Source: theyworkforyou.com / commercialfleet.org / google maps)

Adhesives

Glue for open cell foam – 0.133kgs Co2e/m2 (Source: Industrieverband Klebstoffe e.V.)

Delivery of open cell foam glue – 0.0121kgs Co2e/m2 (Source: theyworkforyou.com / commercialfleet.org / google maps)

Manufacture

Machinery electricity consumption - ~0.053kwh per product (Source: Machine plates + machine suppliers websites)

Electricity to Co2e conversion – 1Khw = 0.283 Co2e (Source: Rensmart.com – based on UK electricity generation)

Factory heating – ~0.00989kg Co2 per product (Source: Gas meter and carbonindependent.org & DEFRA for conversion from Kwh to Co2e)

Delivery

DPD Local courier – Carbon neutral delivery as they offset any emissions themselves (Source: https://www.dpd.co.uk/content/about_dpd/csr.jsp)

Pallet delivery – $3.38x10^{-3}$ KgCo2e/Km (diesel truck) (Source: 'Characterizing the Carbon Footprint of Wood Pallet Logistics – Carron et al, 2014)

Dedicated vehicle: HGV (artic) - 0.9kgCo2e/Km average based on source info. (Source: https://www.theyworkforyou.com/wrans/?id=2013-03-01a.144740.h)

Luton Van - 0.193kgCo2e/Km (Source: https://www.commercialfleet.org/tools/van/co2-emissions/?BodyType=luton&Manufacturer=ford&Model=&CO2To=&EquaMpgFrom=&SortBy=Manufacturer&SortDesc=False&FuelType=)

Disposal

Manufacturing waste for open cell foam is recycled – all screen printed foam products can be recycled if returned to us.

Disposal of products after use into normal waste processing – 0.00kgCo2e/kg (EfW/Recycling Centre) (Source: Defra 2014 – 'Energy recovery from residual waste' & Eriksson and Finnveden 2009 – 'Plastic waste as a fuel – Co2 neutral or not)

Offset provider

Woodland Trust – (Source: https://www.woodlandtrust.org.uk/support-us/give/personal-carbon/)