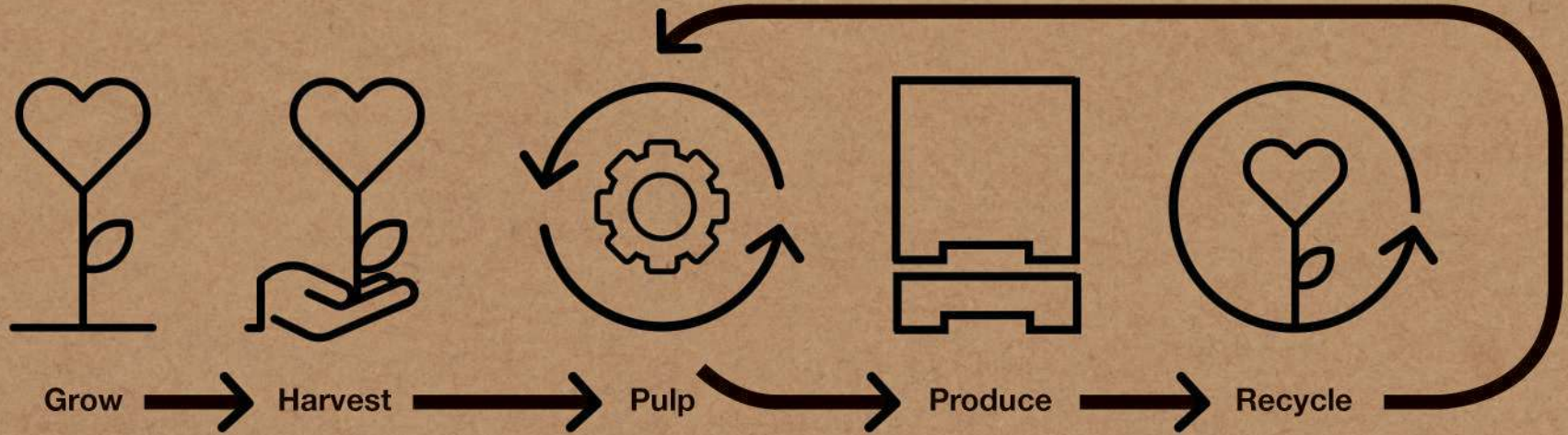


The life-cycle of the PALLITE® Pallet and Pallet Box



TOWARDS A TRULY SUSTAINABLE BUSINESS

Explorer, environmentalist and author Robert Swan once said:

“The greatest threat to our planet is the belief that someone else will save it.”

As a society, we know the importance of looking after our planet. We've heard about the risks of not doing so, and we know the ways - big and small - that we and those around us can contribute to tackling issues like climate change and dwindling natural resources.

At PALLITE®, we passionately believe in doing our bit to help. As a provider of alternative packaging solutions made from more than 80% recycled materials and themselves 100% recyclable after use, it would be easy for us to rest on our laurels, claiming we are already doing this by helping others do theirs.

But that's just not the way we work here.



We want to be a truly sustainable business.

To this end, we fund research into the environmental impact of our products at manufacture, throughout their use in our customers' supply chains, and at end-of-life. We want to understand how our operations impact the environment, and what we can do to make them less impactful in future. We want to provide the very best possible products in terms of sustainability, so that our customers can do their bit to save the planet just by making the simple decision to switch to PALLITE® for all their transit packaging and warehouse storage needs.

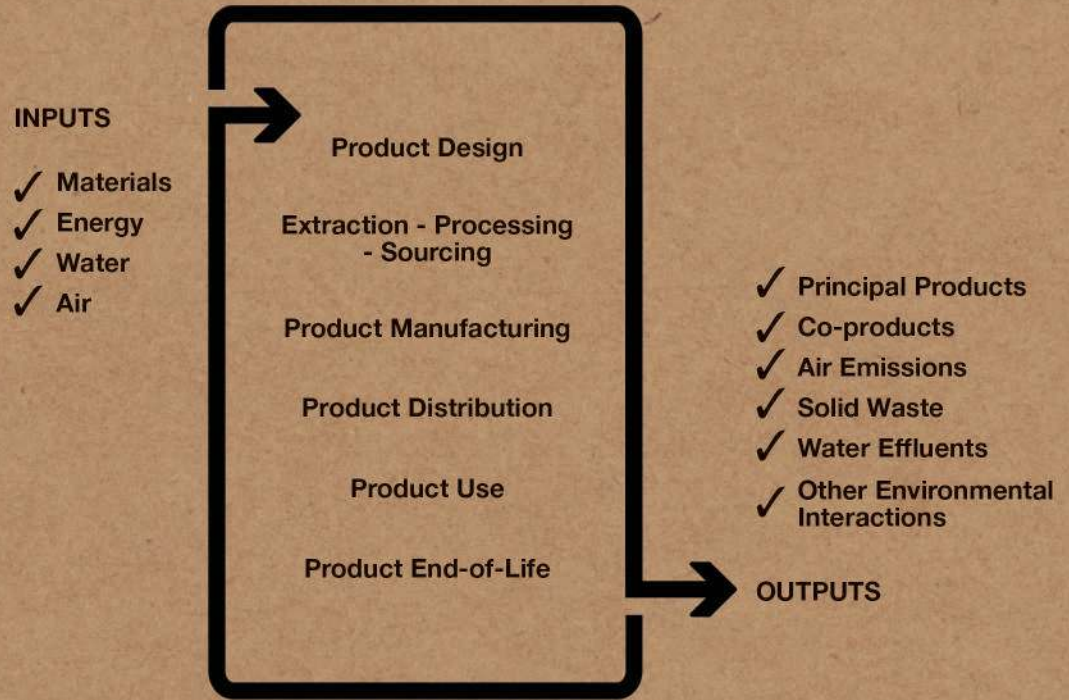
In this e-book we lift the lid on the truth behind two of our most popular products - the PALLITE® pallet and the PALLITE® pallet box - and find out just how environmentally-friendly they really are.

Independent Analysis

We commissioned Giraffe Innovation - Britain's leading eco-design consultancy - to undertake an independent full life-cycle analysis of both the PALLITE® pallet and the PALLITE® pallet box, comparing both with their traditional wooden equivalent. Calculations were based on each product being used just once and holding 500kg in weight.

Using transport via air freight as an example, and looking at both UK and Euro sized products, we asked Giraffe to consider every stage of the products' lives, from design, materials processing and manufacture, to distribution, use and final disposal. They were to consider all material and energy inputs into each stage, as well as emissions to air, land and water resulting from the products.

Their resulting analysis was modelled in accordance with the international standards on life-cycle assessment: ISO 14040:2006 and ISO 14044:2006.



Results.

In order to evaluate the life cycle impact of PALLITE® products compared to their wooden equivalents, Giraffe calculated the combined embodied impact of each pallet and pallet box, taking into account its manufacture, distribution, use and disposal. The company's experts also calculated the carbon footprint impact of the PALLITE® products across 30 journeys to determine what - if any - savings could be made in use.

For the purposes of the analysis, PALLITE® standard and euro pallet boxes were compared with a one-metre-high wooden crate, consisting of wooden collars and a plywood lid, on standard and euro wooden pallets.

EMBODIED CARBON FOOTPRINT

Embodied carbon footprint is the amount of carbon emission (CO₂e) needed to produce materials used in a product. It takes into account how many greenhouse gases are released throughout the supply chain during the life-cycle of the product from manufacture to disposal at the end of life.

PALLITE® PALLETS

Data shows PALLITE® standard and euro pallets both have a lower embodied carbon footprint than their wooden equivalents, thanks largely to their significantly lower weight:

Product	Wood pallet (kgCO2e)	PALLITE® pallet (kgCO2e)	Difference (kgCO2e)
Standard	10.379	6.514	3.865
Euro	8.160	6.452	1.708

PALLITE® PALLET BOXES

PALLITE® standard and euro pallet boxes are nearly four-times lighter than their wooden crate equivalents, while offering the same level of protection and being capable of carrying up to 1.5 tonnes. The lightweight properties of the PALLITE® products enable them to offer greater environmental and cost savings than their wooden counterparts.

For example, a PALLITE® Euro pallet box travelling 1,000km via air freight would result in an embodied carbon footprint of 106.13kgCO2e less than its wooden equivalent. It would use 65.8 litres less aviation fuel, saving £48 based on current prices. The same PALLITE® Euro pallet box would save 323.41kgCO2e across a long-haul distance of 5,000km.

Translation?



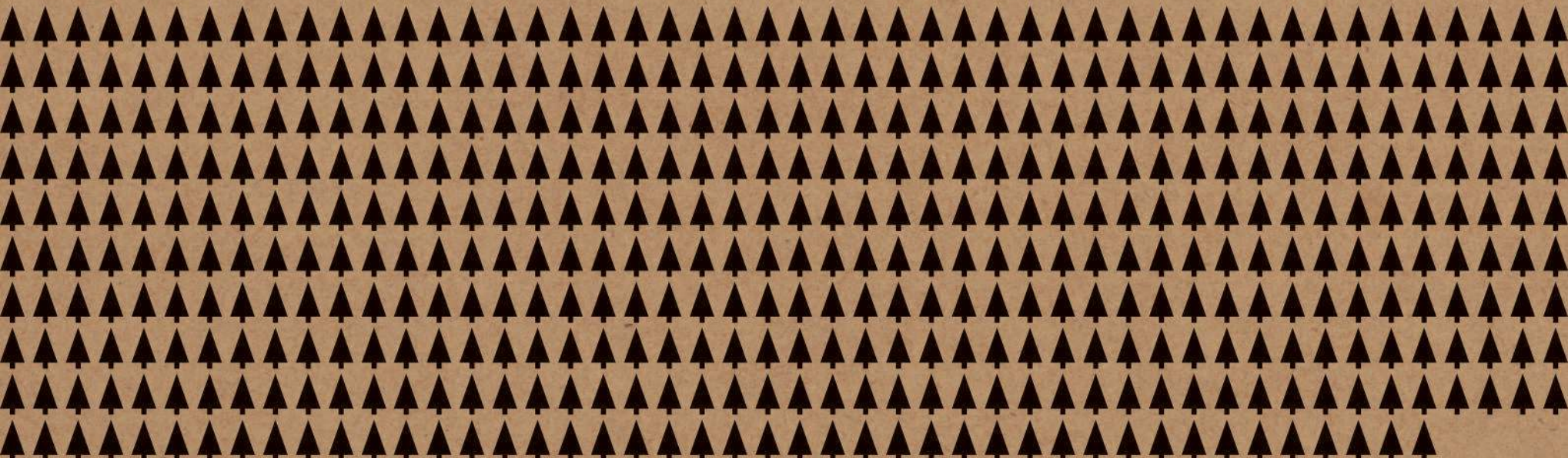
PALLITE® pallets are an environmentally-friendly option for any business wanting to switch away from using wooden pallets, contributing significantly less to global warming during their life-cycle than traditional wood pallets.



PALLITE® pallet boxes are also more environmentally-friendly than wooden pallets. They have a lower environmental impact when used to transport goods by sea and air freight, as well as over long distances by road.

Our vision?

There are currently around 42.5 million new wooden pallets in circulation in the UK. Imagine if enough businesses switched to PALLITE® that we could replace just 30,000 of those with PALLITE® paper pallets, and just 5,000 wooden pallet and cardboard box combinations with PALLITE® pallet boxes. Together, we would save 540 tonnes of virgin material, **the equivalent of 476 pine trees!** (That's enough to cover nearly five-and-a-half football pitches!)



Savings in use.

Savings in use figures were calculated by analysing each PALLITE® pallet and pallet box across various transport scenarios, based upon single use including its distribution to the customer, transporting the goods and end of life recycling.

PALLITE® PALLETS



PALLITE® standard pallet

	Distance miles equiv.	Reduction in transport kgCO _{2e}	Savings in load (t)	Reduction in pallet kgCO _{2e}	Total savings in kgCO _{2e}	Savings in diesel equivalent kgCO _{2e}	Total savings (£) in fuel
Road 33t articulated haulage	500	21.04	0.024	6.48	27.52	8.09	10.43
Ship	15,000	8.29	0.024	6.48	14.77	0.026	0.68
Air domestic	500	127.15	0.024	6.48	133.63	55.6	18.67
Air short-haul int.	1,000	84.88	0.024	6.48	91.35	37.1	12.53
Air Longt-haul int.	5,000	268.56	0.024	6.48	275.04	117.5	39.50

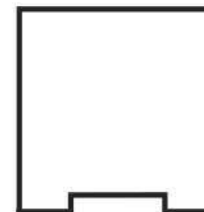
PALLITE® Euro pallet

	Distance miles equiv.	Reduction in transport kgCO _{2e}	Savings in load (t)	Reduction in pallet kgCO _{2e}	Total savings in kgCO _{2e}	Savings in diesel equivalent kgCO ₂	Total savings (£) in fuel
Road 33t articulated haulage	500	18.62	0.021	3.99	22.6	7.16	9.23
Ship	15,000	7.33	0.022	3.99	11.32	0.023	0.6
Air domestic	500	112.52	0.022	3.99	116.51	49.2	16.52
Air short-haul int.	1,000	75.11	0.022	3.99	79.10	32.9	11.01
Air Long-haul int.	5,000	237.64	0.021	3.99	241.63	104	34.95

Translation?

Put simply, this means that both PALLITE® standard and euro pallets demonstrated a significantly lower carbon footprint than their wooden equivalents in all the usage scenarios modelled. This means they result in lower greenhouse gas emissions and have less potential to contribute to global warming.

PALLITE® PALLET BOXES



PALLITE® standard pallet boxes

	Distance miles equiv.	Reduction in transport kgCO ₂ e	Savings in load (t)	Reduction in pallet kgCO ₂ e	Total savings in kgCO ₂ e	Savings in diesel equivalent kgCO ₂	Total savings (£) in fuel
Road 33t articulated haulage	500	27.73	0.031	7.84	35.57	10.66	13.74
Ship	15,000	10.92	0.031	7.84	18.76	0.0035	0.9
Air domestic	500	167.58	0.031	7.84	175.43	73.3	24.66
Air short-haul int.	1,000	111.86	0.031	7.84	119.71	48.9	16.44
Air Long-haul int.	5,000	353.95	0.031	7.84	361.79	154.8	52.10

PALLITE® Euro pallet boxes

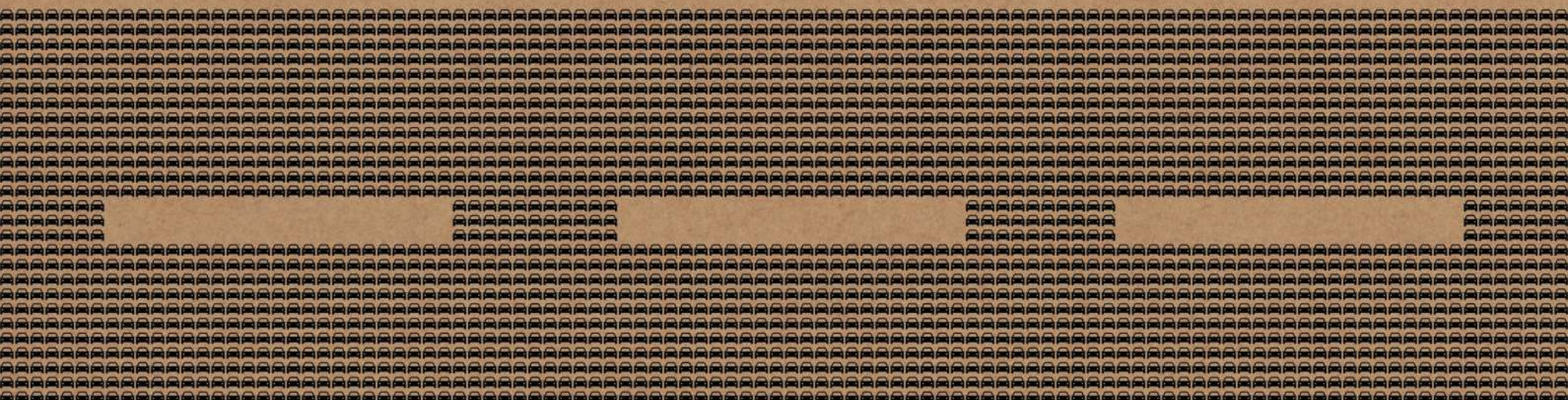
	Distance miles equiv.	Reduction in transport kgCO ₂ e	Savings in load (t)	Reduction in pallet kgCO ₂ e	Total savings in kgCO ₂ e	Savings in diesel equivalent kgCO ₂	Total savings (£) in fuel
Road 33t articulated haulage	500	24.89	0.028	5.74	30.63	9.57	12.33
Ship	15,000	9.8	0.028	5.74	15.54	0.0031	0.81
Air domestic	500	150.4	0.028	5.74	156.14	65.8	22.10
Air short-haul int.	1,000	100.4	0.028	5.74	106.13	43.9	14.76
Air Long-haul int.	5,000	317.67	0.028	5.74	323.41	139	46.76

Translation?

Again, both the PALLITE® standard and euro pallet boxes have a significantly lower carbon footprint than their wooden equivalents in all the usage scenarios modelled, demonstrating lower greenhouse gas emissions and having less potential to contribute to global warming.

Let's go back to that vision again...

If enough businesses switched to PALLITE® that we could replace 30,000 wooden pallets on a flight from Glasgow to New York with PALLITE® paper pallets, together, we would save 4,612 tonnes of CO₂e, **the equivalent of taking 2,600 cars off the road for a year!** (Yes, this is what 2,600 cars look like!)



Next steps.

At PALLITE®, we are committed to sustainability. We want to be a sustainable business, and to help our customers to improve their green credentials by providing them with environmentally-friendly products.

If you think your business could benefit from switching to PALLITE® products for your packaging and transport needs, why not get in touch to discuss next steps?

You can give us a call on 01933 283920 or email us at enquiries@pallitegroup.com

