Fast facts about plastic bags

A quick-reference resource based on science not spin

Facts and calculations based on UK Environment Agency Report SC030148/2011

De-bunks the 'greenwash' – well worth reading

MAIN MESSAGE

The lightweight supermarket "vest-style" carrier bag is the most environmentally-efficient with the lowest carbon footprint if re-used or recycled. **IF THESE BAGS ARE BANNED OR TAXED IT WOULD BE WORSE FOR THE ENVIRONMENT**

The real CO_2 impact of plastic bags compared with everyday life

UK average daily car journey
= 10kg of CO_2 SO 1 x 30 mile trip

=

3 years of average household plastic bag impacts

Just one long haul return flight
= 1750kg of CO_2 Equivalent to

=

More than 500 years of plastic bag impacts for a typical household

The total annual UK consumption of 6.5 billion carrier bags

=

Just one 8 mile trip for every car registered in the UK

Or put another way...

The total annual UK consumption of 6.5 billion carrier bags

=

Around 2 hours of flight activity at Heathrow Airport

Wow! So why are we bleating on about carrier bags?

Why thin bags are better

Comparing the total global warming potential (GWP) of all carrier bag materials

Total global warming potential shown in Kg/$C0_2$ equivalency

BAG TYPE	AVERAGE BAG WEIGHT (g)	$C0_2$ EQUIVALENT PER 1KG OF BAGS	$C0_2$ EQUIVALENT PER BAG (KG)
HDPE Thin Supermarket Bag	8·12	1·578	0·0128
Oxo Degradable Carrier Bag	8·27	1·750	0·0145
Starch Based Biodegradable Carrier Bag	16·49	4·184	0·0690
LDPE Bag for Life	34·94	6·924	0·242
Non Woven PP Bag for Life	115·83	21·510	2·491
Woven PP Bag for Life	120	23·088	2·770
Plain Paper Carrier Bag	55·2	5·525	0·305
Cotton Bag	183·11	271·533	49·720
Jute Bag	190	273·111	51·891

DATA SOURCE: LIFE CYCLE ASSESSMENT OF SUPERMARKET CARRIER BAGS REPORT SC030148, PUBLISHED BY THE ENVIRONMENT AGENCY WITH ADDITIONAL MANUFACTURER'S DATA FROM EUROPACKAGING PLC

So what do the figures mean?

To get impacts down as low as a typical lightweight supermarket bag, we'd need to reuse the following bags many times

A Paper Bag has to be re-used 4 times whereas most are never re-used at all

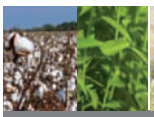
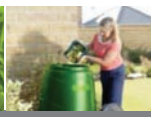
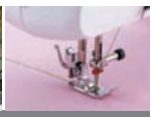
An LDPE 'Bag for Life' has to be re-used 5 times

A Non Woven PP Bag has to be re-used 14 times

A Cotton / Jute Bag has to be re-used 173 times

Textile bags attract nasty germs, need regular washing = even more impacts!

Where do the impacts occur?

		 FROM OIL WELL	 TO POLYMER PLANT	 TO BAG MANUFACTURER	 BAG PRODUCTION	 SHIPPED TO WAREHOUSE	 DELIVERED TO STORE	 WASTE IMPACTS	 CARBON FOOTPRINT PER BAG
	HDPE Thin Supermarket Bag	$C0_2$ Impact from total oil extraction = **7.68g** (60%)		$C0_2$ Impact from total manufacture = **3.584g** (28%)		$C0_2$ Impact from total transport = **0.896g** (7%)		**0.64g** (5%)	**12.8g**
	Oxo Degradable Carrier Bag	$C0_2$ Impact from total oil extraction = **8.7g** (60%)		$C0_2$ Impact from total manufacture = **4.032g** (28%)		$C0_2$ Impact from total transport = **1.015g** (7%)		**0.725g** (5%)	**14.5g**
	Starch Based Biodegradable Carrier Bag	$C0_2$ Impact from grown crops = **End of Life***		$C0_2$ Impact from extraction production of raw materials = **34.5g** (50%)		$C0_2$ Impact from total transport = **13.8g** (20%)		**20.7g** (30%)	**69g**
	LDPE Bag for Life	$C0_2$ Impact from total oil extraction = **157.3g** (65%)		$C0_2$ Impact from total manufacture = **48.4g** (20%)		$C0_2$ Impact from total transport = **16.94g** (7%)		**19.36g** (8%)	**242g**
	Non Woven PP Bag for Life	$C0_2$ Impact from total oil extraction = **1,868g** (75%)		$C0_2$ Impact from total manufacture = **249.1g** (10%)		$C0_2$ Impact from total transport = **249.1g** (10%)		**124.55g** (5%)	**2,491g**
	Woven PP Bag for Life	$C0_2$ Impact from total oil extraction = **2,077g** (75%)		$C0_2$ Impact from total manufacture = **277g** (10%)		$C0_2$ Impact from total transport = **277g** (10%)		**138.5g** (5%)	**2,770g**
		 FROM CROP PLANT	 COMPOSTING (END OF LIFE)	 FABRIC WEAVE	 BAG MAKING	 SHIPPED TO WAREHOUSE	 DELIVERED TO STORE	 WASTE IMPACTS	 CARBON FOOTPRINT PER BAG
	Plain Paper Carrier Bag	$C0_2$ Impact from grown crops = **End of Life***		$C0_2$ Impact from material production & manufacture = **228.75g** (75%)		$C0_2$ Impact from total transport = **39.65g** (13%)		**36.6g** (12%)	**305g**
	Cotton Bag	$C0_2$ Impact from grown crops = **End of Life***		$C0_2$ Impact from material production & manufacture = **42,262g** (85%)		$C0_2$ Impact from total transport = **4,972g** (10%)		**2,486g** (5%)	**49,720g**
	Jute Bag	$C0_2$ Impact from grown crops = **End of Life***		$C0_2$ Impact from material production & manufacture = **44,110g** (85%)		$C0_2$ Impact from total transport = **5,189g** (10%)		**2,595g** (5%)	**51,891g**

*The Carbon Dioxide absorbed during the crop's life is given off during bio degradation of the bag at composting.

The really realistic solution

Whatever environmental issue we are talking about, there is one universal solution – Reduce, Re-use and Recycle. Plastics offer this solution more than any other option for carrier bags so we can all:

- Reduce the number of bags we use and choose the bag which offers the most resource reduction (lightweight plastic or plastic bags-for-life)
- Re-use our bags time and time again for shopping and for other purposes (76% of British households already do this. Are you one of them?)
- Recycle any bags you don't need. (You can do this at over 5000 supermarket collection points but remember these take conventional plastic not the heavyweight, mixed material or fabric bags). Then the bags can be turned back into bin bags or other useful products like litter bins!

P.S. only 0.03% of litter is plastic supermarket bags so why let litter louts get away with it?

Why plastic bags are bags better

Myth Busters

Conventional plastic bags have the greatest environmental impacts **UNTRUE**
Conventional plastic bags have the lowest global warming potential **FACT**

Plastic used for bag production seriously depletes oil reserves **UNTRUE**
Plastic used for bag production largely comes from bi-products of oil refining such as naphtha and ethylene **FACT**

Heavy-duty, hand-finished, shopping bags are better for the environment **UNTRUE**
Heavy duty bags may be designed to last longer but require far greater resource in production which together with transportation and storage impacts negates any perceived environmental advantage **FACT**

Bags made from natural and sustainable materials (such as cotton and jute) are better for the environment **MYTH**
Using these materials for bags wastes all the resources needed for growing the materials and requires an unrealistically high incidence of re-use before they even come close to the low impacts of plastic (which can always be recycled) **FACT**

Biodegradable plastics are better for the environment **MYTH**
Biodegradable plastics can wreck conventional plastic recycling systems, can give off methane when decomposing and have limited re-use options due to their shorter life **FACT**

What UK Retailers have achieved since 2006

- ✓ **40% fewer plastic bags issued**
- ✓ **4 Billion fewer plastic bags used**
- ✓ **5000 new plastic bag recycling sites**
- ✓ **More recycled plastic in bags**
- ✓ **61% less virgin plastic used in bags**

Carrier Bag Consortium
Making Life Easier to Handle
www.carrierbagtax.com

Useful websites references are:
http://www.wrap.org.uk/downloads/LA_FactSheet_6_Carrier_Bags.5b784c57.10716.pdf
http://www.environment-agency.gov.uk/research/library/publications/129364.aspx
www.use-less-stuff.com
www.carrierbagtax.com
www.incpen.org

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