

NISP  TM

NATIONAL INDUSTRIAL SYMBIOSIS PROGRAMME



PLASTIC RECYCLING BUSINESS

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Market Analysis Summary

- The UK market produces over 5,000,000 tonnes of waste plastic each year
- Only 7% of this is recycled at present
- The rest goes to land fill and or incineration.

Waste Type

The Recycled process is capable of taking a very wide range of plastic types from a vast number of different sources.

We can take heavier, engineering plastics from scrap mouldings, car components, head waste, broken packaging, video cassettes, etc and lighter fraction plastics such as packaging waste, bottles, tubs, shrink wrap, bags, crisp wrappers, etc.

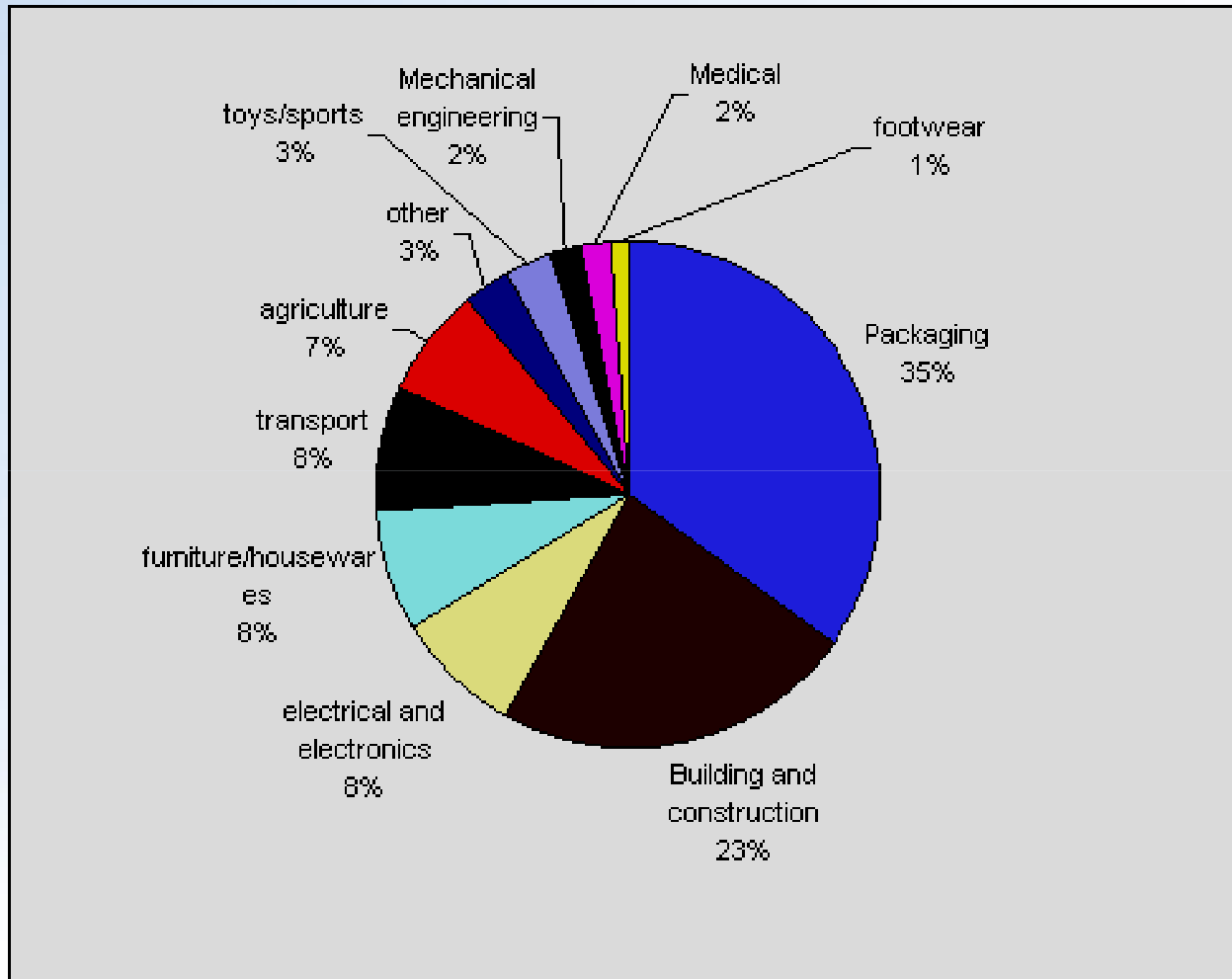
Waste Volume

DTI figures confirm that over 120 million tonnes of waste were sent to UK landfill in 2001 and that 27 million tonnes of that was municipal waste. Municipal waste accounts for 67% of all plastic waste in UK at present.

The world's annual consumption of plastic materials has increased from around 5 million tonnes in the 1950s to nearly 100 million tonnes today.

**We produce and use 20 times more plastic today than we did 50 years ago!
In the UK, a total of approximately 4.7 million tonnes of plastic products were used in various economic sectors in 2001.**

Packaging represents the largest single sector of plastics use in the UK. The sector accounts for 35% of UK plastics consumption and plastic is the material of choice in nearly half of all packaged goods as shown below.



There are about 50 different groups of plastics, with hundreds of different varieties.

All types of plastic are recyclable.

To make sorting and thus recycling easier, the American Society of Plastics Industry developed a standard marking code to help consumers identify and sort the main types of plastic.

These types and their most common uses are:



PETE is the most the commonly used plastic. PETE is used in soft drink bottles, water containers, vegetable oil bottles, dish detergent bottles, peanut butter jars, and most other clear plastic waterproof packaging.



High-Density Polyethylene (HDPE) also very common, is used to make film containers, vitamin bottles, milk jugs and butter tubs. Most store bags are formed from this plastic. Since it has a crystalline structure, "clear" products made from HDPE are transparent but hazy.



Vinyl/Polyvinyl Chloride (V) is used in the manufacture of food wraps, vegetable oil bottles, blister packages and clear health and beauty bottles.



Low-Density Polyethylene (LDPE) is used to make caps, plugs, netting, shrink wrap, garment bags and many other plastic bags. This plastic is similar in structure to HDPE but is less dense and more flexible.



Polypropylene (PP) Some plastics made with PP are refrigerated containers, butter tubs, yogurt containers, some bags, bottle tops, carpets and some food wraps.



Polystyrene (PS) plastics include throwaway utensils, meatpacking, protective packing, and some thick rigid colored plastic products. Plastics that have a wax coating over other coverings are also included in this category.



Other - The plastics included in this category are either layered, mixed plastics or thermosets.

WRONG WAY



RIGHT WAY



Example of introducing a new income stream Company 1

**Uses 1 skip per week on average £91.00 per week x 46 weeks per annum
£4186.00**

By some simple education on separating the plastics we reduced the amount of skips required to one a month (£1092) realizing a saving for the company of £3094.

Additional cost to achieve this is a Rampack baling machine at a cost of £20 per week £1040 per annum.

However we now purchase the baled plastic from them @ £65 per tonne giving an annual return of £1170.

Advantages: -

18 tonnes of plastic saved from landfill

Customer has £3302.00 added to bottom line

Customer is pro-active in recycling and not worried about up and coming new government legislation.

	OLD METHOD	NEW METHOD
SKIP COSTS	- £4'186.00	- £1'092.00
RAMPACK	0.00	- £1'040.00
PLASTIC SALES	0.00	+ £1'170.00
ANNUAL COST	- £4'186.00	- £962.00
!!!!!! TOTAL COST SAVING !!!!!!		
!!!!!! £3,302 PER ANNUM !!!!!!		

Company 2 (food industry)

Sent 10 tonnes of PP buckets to land fill every week at a cost of £45.00 plus taxes = £67.00 per tonne £670 per week. 46 working weeks per annum = £30'820.00

After our advice they installed a washing station and recruited 2 new employees one per shift, total cost of £26'000 per annum.

We pay £100.00 per tonne for the washed buckets.

Advantages: -

- 460 tonnes of plastic saved from landfill**
- Customer has added £50'820 to the bottom line**
- Customer is pro-active in recycling and not worried about up and coming new government legislation.**

	OLD METHOD	NEW METHOD
Land Fill Cost	- £30'820	Nil
New Employee Costs	£0.00	- £26'000
PLASTIC SALES	£0.00	+ £46'000
ANNUAL COST	- £30'820	+ £20'000
!!!!!! TOTAL COST SAVING !!!!!!		
!!!!!! £50'820 PER ANNUM !!!!!!		

How does Recycled UK's Service work?

We aim to make the whole process of looking after your plastic waste simple. We offer one point of contact and a high level of service collecting your plastic waste. We will increase your environmental performance and assure you of a high quality service and full legal environmental compliance.

We will carry out a full site survey - Recycled UK will visit the site to audit your plastic waste stream production and volumes, and check for legal compliance

We can supply relevant containers or alternatively you can provide your own - Once the site has been assessed, Recycled UK will recommend the type and quantity of containers required.



We will agree times for collection - During the initial consultation, plastic waste quantities will be assessed and a regular and convenient collection time agreed.

We will arrange in advance all relevant paperwork to ensure waste is removed, stored and disposed of within the law.

We will ensure relevant containers are emptied and ready to use - We will make sure containers are left clean.

We will file paper work in an 'on site file' - Once the relevant paperwork has been completed Recycled UK will file it in chronological order in your 'On Site' record collections file.





Once the collection is complete Recycled UK will ensure the removal of your plastic waste is beneficial to your business generating cost savings. (No need for expensive landfill skips).

Let Recycled UK remove the headaches of waste management from your business, we will become your plastic waste management system.



- **We can also assist with non plastic waste streams (by putting you in contact with non plastic recyclers)**
- **We take a professional pride in what we do.**
- **We are not a charity we are a business, however our aim is to make each collection contract beneficial to both parties not only in monetary terms but also in environmental terms.**



Recycled UK

Your waste is our business

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Recycling of 25 Litre Plastic (HDPE) Drums





- ORGANISATIONS INVOLVED
- Recycled UK Limited, NISP
- SUMMARY
- Approximately 12 million 25 litre plastic drums are consumed annually within the UK across a variety of industrial sectors. Most are used once and then consigned to landfill. Recycled UK Limited can recycle the drums provided they are washed and have no chemical residues, creating a major source of recyclable high density polyethylene (HDPE).
- BACKGROUND
- 25 litre drums are used in large amounts to transport and deliver chemicals to a variety of industries across the UK. Annually, 12 million drums are used, the majority of which are disposed of to landfill having been used just once. This represents a non-sustainable approach to managing finite petrochemical based raw materials. Recycled UK Limited have a site located within the West Midlands, where the highest concentration of drum use is located, that can reprocess the drums into a source of plastic for further use. The acceptance criteria are that the drums have been triple washed and that there are a minimum of 100 drums for collection, which is organised by Recycled UK Limited. In addition to reprocessing the plastic, this project will also prevent the leaching of residual deposits and toxins into the environment.
- THE NISP CONNECTION
- Having previously conducted a feasibility study into recycling plastic drums, NISP has identified a large number of companies wanting to develop a sustainable reprocessing route for the plastic drums. Through Recycled UK Limited, NISP can provide an outlet for these waste drums, saving disposal costs and decreasing the potential for contamination of the environment.
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