

Free mattress collection service from households for recycling



Collection of mattresses from London households for recycling and recovery

This is an example of the collection of post-consumer mattresses for recycling. The London Borough of Lewisham carries out its own waste collections. It offers a free mattress recycling service to its residents. Items are collected and delivered directly to Matt UK, a mattress recycler located within the London Borough of Lewisham, for sorting and re-processing.

Key facts

Organisation: London Borough of Lewisham

Type of business: Local authority

Location: London

Type of non-textile: Post consumer mattresses from domestic sources

Type of collection: Collection from households

Tonnes collected per year: 211 tonnes in 2012/2013.

Re-use rate (2012): 4% mattresses re-used

Recycling rate (2012): 93% of mattress materials recycled

Recovery rate (2012): 7% of mattress materials recovered

Number of employees: 2 full time working on collections each day

Introduction and background

In 2009, Lewisham Council started to offer its residents a free mattress recycling service. The system was initially set up to counter a specific local waste issue using a sticker scheme, Originally residents used a sticker, obtained from any of the local libraries, to identify an unwanted mattress which they would leave out with their refuse and recycling bin for collection on their usual collection day. The refuse crews reported the mattress to the Council whilst carrying out their normal round and a separate collection round picked it up later in the day. The sticker has since been phased out as it was found not to be reliable enough and replaced by phone, email and online options.

Despite issues with the sticker, the service was very successful from the start, collecting 307 tonnes in the first year. This success led to the establishment of a dedicated mattress collection round in January 2010. Around 299 tonnes of mattresses were collected in 2010/11, 224 tonnes in 2011/12, and 211 tonnes in 2012/13. Since the start of the service over 30,000 mattresses have been collected and diverted from landfill.

Description of the operation

Following the phasing out of the sticker system, residents now request a free mattress collection by telephone through the call centre, or online, through the website. The council also runs "Love Lewisham", a web-based reporting system where residents can report fly tipping and other environmental problems using their mobile phones. Mattresses reported as fly-tipped through this service are also collected through the same route. The collection service is completely free of charge for mattresses and sprung bed bases, while the bulky waste collection service, which is available for other bulky items, has a charge of £15 for up to 3 items.

Once a request is logged, residents are advised the collection will occur within the next five days, though this usually occurs within 48 hours. Residents are asked to place mattresses on the ground floor in a location where they can easily be seen from the street. Mattresses should be kept out of the weather where possible as wet mattresses can become very heavy, posing a health and safety risk to the crew as well as reducing the reuse and recycling potential. Keeping mattresses dry is one of the biggest challenges in mattress collection.

Mattresses are collected from properties by two employees, operating a 3.5 tonne caged vehicle, collecting an average of 45 mattresses per day. Staff may work on different services according to operational needs and a proportion of the mattresses are collected by other 'Streets and Estates' mobile teams during their rounds. Once the vehicle is full, all bulky waste is taken to the Matt UK site at the Deptford Recycling Centre. Mattresses are tipped separately from other materials, usually one to three times a day. The vehicle can hold an average of 15-20 mattresses at a time, depending on their size and weight.

At the Deptford site the mattresses are graded into three categories: gold, silver and bronze. The gold mattresses are those of a re-usable quality. These account for approximately 4% of all deliveries and are diverted for re-use through local charities. The other categories are deconstructed manually to separate the different materials. The springs in mattresses rated silver are sent for refurbishment to make new low cost mattresses, while the springs in bronze mattresses are recycled, principally for scrap metal. A variety of other materials including cotton, nylon, polyester, felt and foam are recovered from the mattresses. Some of the textiles are washed on site to remove contamination from the fabric. The textile elements can be recycled in a variety of other textile applications such as wipers, insulation, filling for mattresses, padding and industrial oil filters. All materials are sent to reprocessors within the UK and Europe. Around 93% of materials extracted are recycled, while a small proportion (7%) of unrecyclable material is sent for energy recovery. No materials are sent to landfill.

Performance/outcomes

- Number of collections: Around 8,000 per annum by the mattress collection crew.
- Non-clothing textiles collected: 211 tonnes in 2012/13.
- Re-use rate: 4% of mattresses diverted for re-use
- Recycling rate: 93% of mattress materials recycled
- Energy recovery rate: 7% of mattress materials recovered

Innovation/good practice

From its origins as a street clearance service, this system is now a unique dedicated collection system which allows materials to be segregated and processed by a commercial reprocessor in compliance with the waste hierarchy. By providing a free mattress collection service, the London Borough of Lewisham provides residents with the ability to easily recycle their mattresses on disposal at no extra cost. Co-collecting flytipped mattresses with booked collections from households enables additional recycling and improves the local environment.

Description of costs and revenues

This box provides a summary of the main annual costs and revenues (detail given where provided).

Costs:

Licensing/set up costs: Existing facilities.

Collection vehicles: One 3.5 tonne caged vehicle (operating over a 35 km² area, estimated cost of a second hand vehicle £15,000)

Site vehicles: None required as mattresses delivered directly to reprocessor

Buildings: Existing facilities

Dedicated staff: 2 FTE working on collections each day, one driver and one loader (£60,000)

Fuel use: Fuel use of less than £5,000 per annum

Revenues:

Savings in disposal costs (Estimated £15,000-20,000) pa

Revenues on sale of materials for Matt UK

Conclusions/key learning points

This case study demonstrates how a street level collection service, combined with an effective third party waste management service, can create a successful mattress recycling service. The scheme has diverted over 30,000 mattresses from landfill to date, contributed to increasing Lewisham's recycling rates (by 0.17% per annum) and reduced the cost of disposal.

It also demonstrates the importance of the proximity principle to the viability of non-clothing textiles collection schemes. In this case mattresses are collected over a relatively small area (35 km²) by a single vehicle, reducing collection costs. The establishment of Matt UK within the council boundaries also allows them to be directly delivered to the reprocessor, cutting out any transfer or haulage costs.

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