

Where There's Muck, There's Brass

Simon Hundal,

general manager for Betts Environmental thinks there is a lack of precious metals recovery in the waste management industry, saying there are a variety of precious metals-bearing materials still ending up in landfill

We're all familiar with the phrase, "where there's muck, there's brass," and despite vigorous protest to the contrary, you don't have to look too far in the waste management industry for shining examples. It is something of a paradox then, that the sector is so well versed in the trading of lower value materials like paper, cardboard and plastics, yet overlooks expensive commodities such as precious metals.

Take silver for example: the link between silver and prosperity is so deep-seated that the words "silver" and "money" are the same in at least 14 languages, yet vast quantities of valuable, silver-bearing material are regularly consigned to deep burial or incineration when they might easily be recovered and brought back into circulation. There are a number of reasons why this material slips through the net, but at a time when cost efficiencies are a priority, and resource scarcity threatens to push prices skywards, the repercussions of ignoring such a valuable revenue stream border on the negligent.

So how common are precious metals? The reality is that the majority of large waste management companies with contracts across industry, in areas like the NHS, aerospace and engineering, paint manufacture, munitions manufacture, casting or battery sectors are likely to be collecting precious metal waste, possibly without being aware of its significance. Silver-bearing x-rays are not only employed by the medical profession, but also used in industry to identify faults in high specification engineering designs. Even deodorants contain silver and, last year, the NHS spent £26m on silver-bearing wound dressings alone, much of which will have been bulked up and sent to hazardous landfill or incineration.

For a precious metals specialist, this is frustrating. In recent years, as investors have shifted their money from stocks and shares to more reliable, solid assets, prices have seen a steady rise, with silver almost doubling in two years. At Betts Environmental, this increase means we have been able to develop our rebate model and offer clients substantial returns on stock such as x-ray film. Market prices fluctuate, but a typical example from the engineering sector in 2011 saw a customer benefit from a rebate of £138 000 from 38 591 tonnes of x-ray film, fixer and silver flake – not a figure to be sniffed at in the current climate. For public sector organisations in particular, the opportunity to receive an income for material that previously incurred disposal costs is a serious consideration.

Upping Awareness

THIS BEGS the question as to why waste management firms haven't seized the baton and run with it. Firstly, dealing with special types of waste requires bespoke equipment not currently available to your average collection and disposal firm. Many organisations are already looking to invest billions to upgrade or expand infrastructure for standard household or commercial recycling, and don't have the expertise or inclination to add precious metals recovery into the mix.

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Second, awareness across the sector is low. In reality, with or without in-house equipment, large waste management firms could become precious metal commodity traders in their own right. They already trade paper and cardboard, they could equally start to trade gold, silver or platinum and see the resulting benefits extend far beyond the bottom line.

Clients are becoming more savvy and, as large organisations develop corporate social responsibility (CSR) reporting, waste will increasingly fall under the spotlight. Material such as medical x-ray film, for example, which is often classified as hazardous waste and omitted from reported corporate recycling figures, may start to appear above the radar. Meanwhile, procurement managers who take stock of the budget spent on silver-bearing items are beginning to question why purchase prices continue to increase while disposal costs remain constant.

The beauty of precious metal recovery is that responsible destruction not only makes a considerable contribution to recycling rates, but also generates significant profit. The waste management company is then able to choose how to manage the income – it can pay the third party overheads and claim any profit from the recovery process, or forgo the recycling costs and maintain a revenue-neutral arrangement.

For those that choose to claim the profits, payback can be decisive. We worked with a major waste management player to recover the silver from a silver cyanide generated in the wash product of one of its customers. With this type of material, the cyanide still has to be sent for onward disposal, but it is possible to extract metals from it first. The waste management firm charged its client £2 000 for the disposal of 1 000 litres; we were able to process this material and

recover silver from the cyanide solution to the value of £9 500. Previously, this material had been sent for incineration.

Standards And Professionalism

IN A highly competitive market, the rebate model represents an attractive proposition for those tendering for contracts or seeking to offer added value to existing clients. The level of rebate is a matter for the waste management firm to negotiate, but even on a cost-neutral basis, the benefits extend to all involved. Where the client previously paid a charge for the collection and disposal of material to landfill or incineration, the metals – and embedded plastics or cardboard elements – will now be fully recycled, either at no cost or returning a profit to the customer. It is a tempting offer, with clear competitive advantage.

However, waste managers need to be alert to potential hazards. We're all aware of the issues associated with the unscrupulous export of waste electrical and electronic equipment (WEEE), and certain precious metal-rich materials have also found markets abroad. Apart from the obvious absurdity of paying to send material overseas, where it will be manufactured into new, high value products and sold back to the UK, data security is a serious issue.

Medical x-ray film in particular contains sensitive data such as names, addresses, and dates of birth, which mean it must be disposed of responsibly. In addition to auditing third parties to ensure a robust data trail, waste managers or clients should be asking for wider assurances: Does the company collect the material itself? Does it destroy it itself? Is it recycling the material and accessing the right markets? And perhaps most crucially, is this work taking place in the UK?

Clearly identifiable systems and standards help to indicate the professionalism of an organisation. ISO 2700, required for working with the Ministry of Defence, is the highest data integrity standard available, while the European Standard BS EN 15713:2009 gives recommendations for the management and control of confidential material destruction, to ensure that such material is disposed of securely and safely. These safeguards cover areas such as the use of secure collection vehicles, tracking of data and checking of staff with the Criminal Records Bureau.

Currently, large quantities of our precious metals are disappearing through a loophole, being sent abroad or, quite literally, going up in smoke. However, with a little innovative thinking the whole supply chain could benefit. Systems are already in place and waste management firms should be seeking forward-looking models and pre-empting changes in legislation to spearhead the market instead of playing catch up. [CIWM](#)



The Author

With over 20 years experience in innovating and managing within multi-national accounts in the waste and recycling sector, Simon Hundal joined Betts environmental as general manager in 2008. Part of the Stephen Betts Group – a family business established in 1760 – Betts Environmental specialises in precious metals recovery from waste streams.