



# When it comes to Environmental Responsibility for Printer Cartridges, the OEMs, Remanufacturers and New-Build Remans not Created Equal

**"I NEED TO FEEL YOU JERRY...SHOW ME THE MONEY!"**

*Jerry Maguire*

The February issue of *ENX Magazine* was dedicated to consumables. One topic we didn't cover was the environmental responsibility aspects of different cartridge options that resellers have available to them. We received several comments regarding this topic, so here are some thoughts:

## Which Business Model is Most Environmentally Friendly?

Almost all OEMs offer collection and recycling programs for all their cartridges. Remanufacturers also work hard to collect empty consumables so that they can remanufacture them. The new-build compatible (NBC) manufacturers...well, they do nothing.

So, that's it, then? The OEM and remanufacturers are the most environmentally friendly? Yes, but it's not quite that simple. Like so many things, you must follow the money.

## The OEM Business Model: HP

HP includes a prepaid return label inside every toner cartridge (which is also available through their website) or you can drop it off at most major retailers that sell their product.

This OEM sends the cartridge to a regional waste processing

partner who will shred and separate it into its base plastic and metal commodities. Those that have value will be sold and turned into new consumer goods. Those that don't have value (usually the plastics and toner dust) will be converted into things like asphalt, park benches, oils and cleaning agents. HP states that no cartridges returned to them end up in a landfill. The manufacturer claimed it used 18.8 million pounds of recycled plastic in the manufacturing of its new OEM cartridges in 2012. That was a while ago, but I suspect that HP is still matching or exceeding that today.

In my opinion, the HP model is the most environmentally friendly because in addition to the supply side efforts, only the OEMs actively try to collect/recycle all of the product they have sold. However, the reason is not altruistic. It is simply because with every cartridge an OEM collects, that is one less cartridge that can be remanufactured and take away market share. In this case, capitalism and environmental responsibility goals are well aligned.

Now for a bombshell! Recycling is not free. While some money can be reclaimed against the value of the recycled

commodities, it is a fraction of the cost associated with shipping empty cartridges, processing them and sending the recycled materials to Asian markets to be turned back into new goods. The cost is baked into the price of an OEM cartridge, and as OEMs are two to four times higher than the price of the other aftermarket categories, they have room. We'll come back to this at the end.

## The Remanufactured Business Model

The remanufacturers' raw material is an empty cartridge. However, due to the processes of taking empty cores apart and putting them back together, most cartridges are only reused once and are built from what are known as "virgin OEMs." Some cartridge models can be reused two or more times, but with this practice, there is an increased chance of quality problems related to issues such as leaking. I'm not sure if data exists on which providers reuse cores multiple times, but in my experience, it only relates to a handful of monochrome SKUs, and on occasions when virgin OEM is in short supply.

One area where remanufacturers could do more is in the collection of their sold/empty cartridges, because remanufacturing is only a landfill-delaying tactic. According to a 2011 study by Infotrends, "Nearly 94 percent

of the toner cartridges sold from the remanufacturers surveyed will ultimately be thrown away because most remanufacturers fail to collect their own products.”

As you dig deeper, unfortunately, the act of remanufacturing a cartridge may not be as environmentally responsible as you might think. For one, all the raw material core cartridges are shipped back to a central point where they are sorted, and that produces carbon in the shipping processes. Up to one-third are not able to be remanufactured because they get damaged in the collection process. Then, all the non-virgin cores need to be disposed of. Finally, the consolidated cores need to be shipped to the remanufacturer. While there are still a handful of smaller remanufacturers in the USA, the market leaders’ plants are outside of the U.S., in Mexico and the Far East, and fuel has to be burned to get them there and back again for sale as finished products. Finally, little more than the plastic core is reused, so most of the old components and spent toner dust need to be disposed of and hopefully recycled.

If environmental responsibility is important to you, then the question to ask your remanufacturing partner is what happens to all of the waste? The answer you want is that all waste, all of your provider’s facilities and all of their downstream partners are fully certified to the R2 standard. If they are, expect to pay a premium for their products, and rightly so.

### The New-Build Compatible Business Model

In last place are the providers of new-build cartridges. I

work in this sector now and I am unaware of any companies that either use recycled material in their manufacturing processes or make any attempt to collect the products that they sell. The main reason is economics. The cost of making a new-built shell (after capital costs of machinery) is low, as is the price at which these products are sold. Therefore, it makes no financial or environmental sense (after the carbon cost of freight is considered) to collect used cartridges and ship them back to China, where they were first produced, to be remanufactured.

### The Dollar Price of Recycling

According to Innovative Applications Corporation, a leading printer cartridge recycler in El Paso, TX, the price of recycling cartridges is dependent on a number of variables like volume, the commodity material salability in each cartridge (resins, metals, etc.) and their fluctuating market values. The cost can be as low as \$200 per ton for well-sorted bulk cartridges, and up to \$2,000 per ton where cartridges are shipped back in individual boxes (like the OEM return programs) and require more labor time and packaging recycling.

Therefore, assuming a 2.25-lb. cartridge as an average, the typical price to recycle at the R2 certification would be in the range of \$.80 to \$1.30. That sounds reasonable, right? Yes, but the largest cost in the process still needs to be added—the freight cost to ship it to the processing plant. If sent singularly by UPS, the return fee will be in the range of \$5-10 per cartridge,

depending on its size, weight and distance to the nearest processing center.

### Conclusions – The Money

The OEM business model is the most environmentally friendly in my opinion, but it behooves them to operate this way as their primary motivation in recycling is to take market share from remanufacturers. If you look at the gross margin dollars an OEM makes from new consumables (60-80 percent, I’m told) they have room to build the cost of recycling into their proposition. In a typical cartridge that sells for \$100, it’s feasible for them to build in a couple of dollars (2 percent) for end-of-life recycling, and they also have the volume to make the recycling economies of scale work. Remanufacturers, by comparison, must buy cores as part of their supply chain. They simply don’t have a business without this raw material. However, if an average reman is 50 percent (\$50) of the price of an OEM, those couple of dollars to recycle go from being 2 percent of their sales price to more than 4 percent.

The recycling cost percentage compounds further when looking at the price that an average new-build compatible is sold for. The most price-sensitive examples often sell for half the price of a reman (25 percent, or \$25 in this example). Therefore, it’s obvious to see that if a new-build provider added recycling into the price of their cartridges, it would add more than 8 percent to the price of their consumables.

Unlike an OEM, remanufacturers and new-build manufacturers have no

business incentive to recycle their sold cartridges. It’s a straight-up cost upon their businesses to do the right thing, and in today’s hyper-competitive, price-driven market, it’s understandable to see why this cost is not built into the price like it is with an OEM.

So, what about you or your customers? Is recycling old cartridges an important buying criteria for your consumable strategy? It is? Well, there’s good news. You can add it *à la carte* to any remanufactured or new-build cartridge. There are a number of recyclers that can help you directly if your current consumable provider doesn’t want to create a recycling program as part of its offering. Contact me at christianp@ldproducts.com for more information. ♦



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