

As electric GSE gains more followers, so battery disposal takes centre stage



ELECTRIC DREAMS

The Editor visits TCR in Belgium, to catch up on its little-known environmental work.

When, as a result of your leasing and renting operation, you are faced with the disposal of 400 tonnes of batteries per year, clearly it's not enough to dump these outside the factory door for the local rubbish collection. But, with commendable respect for the environment, that's the total of lead-acid batteries that TCR, with the assistance of specialist Recupbat, is now recycling. According to Gerd Van Damme, the company's Group Asset Director, TCR actually started addressing this problem three years ago.

"All the batteries from our offices around Europe are collected and processed by Recupbat," he explains. "This company is trying to be as environmentally friendly as possible: its HQ has solar panels, for example, and its actual CO₂ emissions are very slight. To compensate for even this low level of pollution, it is actively planting trees." It's worth noting at this point that an amazing 97% of a lead-acid battery can now be recycled; the same is not true of li-ion, as will be seen later.

TCR, he goes on to say, invests around £1.5m a year on batteries and chargers. Of its total leased equipment, around 3,000 units are powered by electric; these are mostly bag tractors, beltloaders and stairs but there are growing numbers of loaders and pushbacks swelling this ratio. However, the picture isn't quite that straightforward.

"The overall percentage of battery-powered equipment is actually rather stable," states Van Damme, "although the quantity of equipment we lease is growing year-on-year. And while the infrastructure side of the affair is changing, the airport is still the stumbling block when it comes to

adoption of this innovative technology.

"I don't believe that certain new airports are actually ready for electric yet," adds Van Damme, underlining the fact. "We've supplied diesel GSE to Gatwick airport on the basis that, when they are ready with the charging facilities, we will be happy to swap some of it for electric. But around Europe, in the main, we have been successful with electric GSE. In most areas of the world I personally see a willingness to go electric, both on the part of handlers and airports."

The lithium conundrum

Whilst this is encouraging news in this green age, some readers of this magazine have already gone down the li-ion route. So how did that side of technology sit within the TCR portfolio?

"We're looking at lithium-ion batteries as well as other combinations," reveals Van Damme. "Having tested lithium batteries, we are offering them to interested customers. We feel that they are best suited to GSE that is intensively used – things like ▶

DID YOU KNOW?

According to TCR, leasing an electric bag tractor is actually cheaper than leasing a diesel version. Additionally, the cost of an electric beltloader differs little from the price tag of a conventional, diesel-powered example.

RECYCLING OPERATIONS

cargo tractors, for example. They are also ideal for hot environments, which is why the Middle East has been very interested in the technology. Handlers don't, I feel, really need li-ion in Europe for the less intensively used equipment.

"Where the technology is working in hot environments, we have designed the battery so that it is well ventilated around its core; a cooled power source is an advantage. I also think that the future is one of several power options, and that it won't revolve around just one."

Li-ion batteries, for all their manifold benefits, fall down at the last hurdle: that of recyclability. It costs a great deal to recycle a lithium battery and the process isn't too environmentally friendly. The trick with lithium, once its performance level drops significantly, is to re-use it. Thus the likes of Renault, for example, will exchange a customer's older car battery for a new example, and put the li-ion battery to work in the EDF network.

Cradle to cradle journey

Van Damme uses a curious expression when he talks about GSE: he speaks of a cradle to cradle journey. That's not a misprint nor yet again a reflection on Van Damme's (excellent) command of English: he simply refers to the fact that the battery enjoys an ongoing existence, thanks to the recycling process, and that emissions are taken care of along the way.

"TCR has developed a tool that will calculate the CO₂ emissions for all aspects of the life of GSE, and for every model in its fleet," he observes. "This is of use to illustrate to potential battery-powered GSE users the benefits of going green. But there are lots of questions that have to be answered. What about the source of the electric power, for example?"



"I predict that we'll be offering more and more electric GSE"

Gerd Van Damme, Group Asset Director, TCR



Around 400 tonnes of used batteries are recycled every year by TCR

"In general, we've found that the handlers are very receptive to this type of technology, whereas the airports take more persuading. However, handlers and airports do talk to each other.

"In the longer term, I predict that we'll be offering more and more electric GSE. The new diesel engine tiers, in particular that of Tier V, require much greater investment. We've heard the stories about the equipment not getting hot enough to

burn off the accumulated particulate. With the extra cost of the GSE, which can be up to 50% more of the original price, I feel that electric will gain ground."

If there is one main concern about electric power, it is that of range anxiety. Customers, says Van Damme, worry that the GSE will suddenly stop working. He says that a certain amount of education is required to get around this problem; maybe different visual aids could help matters here.

"Telematics is really the answer, though. It's not standard on all equipment at TCR but it's always offered to clients. We are conducting trials right now to see how and where it might be best implemented – then we'll act."

TCR is arguably not alone in its concern over the environment but it's interesting to see its strategies and how, in its particular way, it is helping to mitigate the problems arising from greenhouse gases. **ghi**