

# Shifting the balance of (lithium) power

**Australia currently has one of the worst rates for battery recycling in the developed world, and with lithium-ion power equipment sales increasing, Australia is yet to rise to this waste challenge. John Polhill, National Development Manager at Envirostream, explains.**

Australia is rapidly shifting toward lithium to power all our mobile devices, our homes and transport, and our outdoor power equipment. The advancement in lithium battery technology means equipment that traditionally relied on mains power or petrol engines can, for the most part, be powered by lithium batteries. Lithium-powered innovation brings advantages over traditional power delivery of no dragging cables, low noise, no emissions and light weight equipment, to name a few.

As with all technology shifts there are problems to overcome. One such problem is the safe disposal of the batteries at end-of-life. The batteries contain hazardous materials that can cause problems when disposed into landfill. At present, Australia has one of the lowest battery recycling rates of any developed country. Annually, 18,000 tonnes of batteries require disposal in Australia – the equivalent of a staggering 750 million AA batteries with 95 per cent of them ending

up in landfill - making us the worst battery recycling country in the OECD.

What needs to change? Firstly, we need to acknowledge the issue and put controls in place like the forthcoming Victorian Landfill Ban – which will make it illegal to place electronic and electrical products including batteries into the bin from 1 July 2019 – and understand why it is unsafe to throw batteries into the bin at home or at work.

Batteries contain hazardous materials that can cause damage to the environment and human health when thrown into the bin. They can also cause fires at landfills creating further health issues.

Whilst landfill bans and education are suitable controls to begin diverting batteries away from the bin and into the recycling sector, there needs to be a cost-effective collection and recycling system to really shift the balance of power away from landfill disposal.

Making it accessible and affordable for consumers and businesses to adopt battery

recycling as part of their general responsible business operations is the key to increasing the low recovery rate and recovering the materials in Australia, moving away from how we traditionally export our waste batteries.

By processing onshore we add value to a waste stream and turn it into a material stream. Creating recoverable materials to be used back in the manufacturing sectors creates jobs, protect brands, and protects the environment from improper disposal.

These are the principles upon which Envirostream's business model is based: onshore material recovery. This is a true circular business model designed to challenge the last decade of expensive, offshore battery recycling that has led to only a 5 per cent recovery rate.

Based on over two and a half years continuous R&D and now in the third year of operation, Envirostream has constructed a commercially viable battery recycling plant that can recover around 95 per cent of the materials used in batteries – including copper, steel, aluminium and a graphene metal oxide that is used as an input material in cathode manufacture – making Envirostream Australia's first and presently only, Lithium battery processor.

It is not only Envirostream's material recovery that is circular – the economics are too. By utilising the revenue from the recovery of the materials, the front-end costs can be reduced to challenge landfill disposal as the cheapest option, and in some cases removing the cost to recycle batteries all together, producing the lowest cost and most efficient onshore material recovery solution for batteries in Australia.

To find out more and keep batteries out of our landfill, contact Envirostream Australia on [info@envirostream.com.au](mailto:info@envirostream.com.au) or 1800 72 72 74.

