

Custom Waste Management Solutions for Complex Problems

Ryan van Heerden, EnviroServ's Senior General Manager: Commercial Inland, discusses the complexities of modern-day waste management and the multifaceted, customised solutions being implemented to help industries meet legislative requirements, sustainability targets, and reduced waste to landfill volumes.



“Waste management tends to be oversimplified because many of the intricacies involved in managing industrial waste are viewed through the lens of household waste collection,” begins Ryan van Heerden, Senior GM for EnviroServ. People often overlook the processes involved in managing industrial waste and the very high volumes of waste produced, he points out. “But this keeps us excited about what we do. It is a vast industry with ever-changing requirements—regarding legislation, new technologies, the waste streams themselves, and many new repurposing, resource reuse, and value-recovery opportunities,” he says.

“In this day and age, everyone and every business should take waste management seriously—not only for compliance but also for the ethical and responsible aspects, which are vitally important. In this economic climate, however, businesses must pay attention to the bottom line, so it might not always be the biggest priority. That’s where we at EnviroServ come in—we need to find ways to extract as much value as possible from each client’s waste.

“If there is money to be made, it becomes far easier to persuade industrial waste producers to implement responsible sorting,

management, and collection processes,” he notes, adding that properly dealing with waste is a fundamental aspect of the sustainability agenda.

EnviroServ, he continues, takes a holistic view of every customer’s waste and the challenges they may have. “We don’t seek out single waste streams with easy solutions. We provide total waste management services that are guided by the waste hierarchy principles embedded in our legislation,” van Heerden tells MCA.

The very first step in this hierarchy is to produce less waste—or to be more resource-efficient. As a waste management company, he says, EnviroServ has the experience and expertise to help customers segregate their waste at-source, so that it can then be categorised and properly measured. “This is a value-added service we perform with all our industrial clients because it enables waste to be properly reported, giving producers a far better understanding of where, why, and how much is being produced. This immediately encourages companies to optimise their processes toward generating less waste in the first place,” he explains.

Segregating waste at-source—by material or type—is also essential for maximising the value of waste resources. “Low-hanging fruit is easy to sort and recycle, such as plastic

bottles and cardboard, for example. But industrial waste streams can be more challenging to segregate and beneficiate. However, if the volumes and the sources of these challenging wastes are known, it becomes possible to minimise the amounts used or phase them out.”

Ryan van Heerden cites composite packaging, for example, which often gets mixed in with cardboard or simply discarded in general mixed waste bins to be sent to landfill. Mixed canteen wastes, such as contaminated cardboard food trays and disposable coffee cups, are also routinely discarded as general waste. “At EnviroServ, we can provide micro-sorting services to customers producing large volumes of complex waste mixes. We analyse the breakdown of these streams, and after advising on how to reduce difficult-to-recycle materials, we put in place better segregation models for extracting more recyclables.”

By providing visibility and understanding of everything being discarded, producers can change input and/or output materials so that the waste is either easier to recycle or compostable, for example.

Food Waste Initiatives

Using compostable packaging materials opens up composting opportunities, which can divert waste away from landfills. “Customers often do on-site composting, using EnviroServ-



Left: EnviroServ provides total waste management services that are guided by the waste hierarchy principles, which places landfill as the least preferred waste management option. **Right:** Dough waste from bakeries is being collected for further processing and use as a key ingredient in animal feed.



supplied vessels where all their organic and compostable waste produced on-site can be composted. Where solutions are volume-dependent, we also make use of partners and off-site composting facilities, where we put together a network of industries producing suitable compostable waste, with combined volumes justifying the opening of a managed solution. The geography plays a role, but we have now established several composting sites,” says van Heerden.

EnviroServ, he continues, has established reprocessing networks for used vegetable oils for a wide range of customers in the catering industry. “The oil is cleaned and recycled for use as a fuel oil. There have been many advancements over time, where recyclers can handle more and more contamination, making recycling these oils more cost-effective,” he adds.

EnviroServ further services a number of major multinationals in several industries, including the food and beverage industries. “For one of our key clients, we are very proud to have successfully delivered a zero-waste-to-landfill solution, and we have maintained 100% diversion from landfill for over five years now,” he says, adding that achieving 100% free-from-landfill can be expensive, but reducing material waste costs and raising added value from the waste collected can make it viable.

“We’ve done a lot of work in the animal feed industry, which is proving to be a fantastic way to raise the value of food-based waste streams. High-protein food wastes are ideal for animal feed.”

There is a lot of dough waste available from bakeries, but raw dough cannot be fed to animals because they cannot tolerate the yeast. “We have successfully developed a way to neutralise the yeast. The dough-based product can then be further processed for use as a key ingredient in animal feed,” he informs MCA.

Segregating waste, including food waste, can be a costly exercise, depending on where in the value chain it is coming from. The food might need to be de-packaged before being



EnviroServ makes use of partners and off-site composting facilities to service a network of industries producing suitable compostable waste.

recycled, and EnviroServ offers mechanical separation units that can be put in place to mechanically separate packaging from the product.

The SUEZ Partnership and the Circular Economy

About two years ago, EnviroServ had a change in shareholding, with the SUEZ Group, a leading global provider of environmental solutions, taking on a 51% share of EnviroServ. “This has been fantastic for us in that we now engage with globally experienced people with new and cutting-edge technologies,” says van Heerden.

“Being part of a very large multinational group is a massive benefit. It gives us access to advanced technologies and global best practices, enhancing our capabilities. Our service offering has expanded to include water, wastewater, waste-to-energy and chemical recycling, for example,” he notes.

“Along with the whole world, we are now looking at the circular economy, with the goal of trying to keep resources in circulation for as long as possible. There are certain waste streams that some customers produce that can actually be directly taken into another industry as a resource. We are looking closely at some of these waste streams and developing the networks to make these levels of circulation happen,” he says, citing as an example the use of tailings from mines as feedstock

for brickmaking.

“It is not simple, though. A lot of problems need to be resolved, and a value chain needs to be put in place for every separate opportunity. We have to look into absolutely everything: the chemistry of the resource, its toxicity and hazard classification, the calorific value, the legal requirements for its use, and a whole lot more. We do have our own fully accredited in-house laboratory to help us do this, though,” he adds.

“With a global focus on sustainability, industrial clients across the world are looking at waste differently. This is continuously increasing our scope and growth. There is also a lot of innovation coming out of global legislation and the multinationals we work with.

“We are firmly committed to helping companies meet their sustainability goals and environmental compliance requirements. We further strive to make sure we do things ethically.

“With SUEZ onboard, we have access to a massive bank of knowledge and experience, and we are proud of the fact that we’ve also got local shareholders, Royal Bafokeng Holdings (RBH) and African Infrastructure Investment Managers (AIIM). This gives us the best of both worlds—local support plus international experience,” Ryan van Heerden concludes.

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