

Zero waste to Landfill

By Marilize Worst – Managing Director, SmartMatta

Why Local Innovation is Key to Future Environmental Sustainability

Around the world, environmental sustainability has become a hot-button issue. Leaders are recognising that geopolitical stability and economic growth are intrinsically linked to sound environmental practices – and that ignoring scary statistics is grossly irresponsible. From an industry and private sector point of view, business leaders are under increasing pressure to ensure that they follow sound environmental best practices – or risk severe reputational and financial damage in the long term. In response to the many prods toward sustainability within business and industry, the concept of Zero Waste to landfill has become paramount. While it is undoubtedly an ambitious goal (particularly in the local context), business leaders and policymakers need to begin to adopt strategies and processes that take the country closer to Zero Waste to landfill...

“Zero Waste is a goal that is both pragmatic and visionary, to guide people to emulate sustainable natural cycles, where all discarded materials are resources for others to use. Zero Waste means designing and managing products and processes to reduce the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water or air that may be a threat to planetary, human, animal or plant health.” **Zero Waste International Alliance**[\[1\]](#)

In South Africa, the major barrier to achieving Zero Waste to landfill is the lack of waste to energy plants. Generally speaking, countries that are close to this goal have access to advanced technology and infrastructure that allows for incineration and co-processing, by way of example. Locally, co-processing is the only viable technology currently available, with pyrolysis (decomposing waste by high temperature) technology slowly gaining traction.

Reduction, Re-use & Recycling

Given the local technology and infrastructure restraints, SmartMatta’s Zero Waste to landfill solution takes a multi-faceted approach, focused on the following: reduction, re-use and recycling – and finally energy recovery through co-processing or other technologies.

In our view, Zero Waste is not a single exercise, but an iterative process. Waste should be targeted in a systematic manner to recover all recyclables, and to remove materials that can be re-used - thus working towards a sustainable Zero Waste target.

With the above in mind, we adopt a process driven approach to clients. Our goal is to re-engineer processes, reduce waste, re-use and recycle waste streams and to recover energy, thereby eliminating waste to landfill sites.

Internal Innovation

As it stands, we believe that the traditional waste hierarchy does not place sufficient responsibility on the waste generator/client to innovate internally before the generation of the waste stream. Indeed, moving waste up the hierarchy contributes to the principles of a circular and green economy, by way of:

- Reintroduction of resources back into the economy;
- Contribution to economic growth and job creation;
- Reducing social and environmental costs;
- Promoting system effectiveness.

Looking ahead, we suggest that there are three critical elements to a sustainable waste management plan: innovation - which focuses on understanding the clients’ processes and how the waste is generated; reduction of the waste - taking a systems approach to minimising the amount of waste generated; and re-use and recycling - which refers to all solutions in place for alternative uses of the waste material.