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Innovation and optimisation

UPGRADE YOUR FACILITY

Processing organics can be 10% cheaper and energy consumption can be lowered up to 70%. These are just two examples, but research shows that 90% of the facilities are underperforming. We are on a mission to optimise your plants performance. We have a unique Organic Waste Knowledge Centre, built on years of experience and we are constantly working on innovative solutions and upgrades. Reducing costs, improving quality, maximise the re-use of nutrients and reducing greenhouse gas emissions are essential part of our innovations. Below you can find three examples of our innovations.

RE-USE OF THERMAL ENERGY

Composting generates massive amounts of thermal energy. Innovative technology from Waste Treatment Technologies (WTT) can catch this process heat and use it somewhere else as an alternative energy source. Useful applications for this thermal energy are:

- Heat process buildings to increase the temperature in wintertime. This also lowers the relative humidity inside the building and thereby improves building conditions.
- Pre-heat the process fresh air to improve evaporation rates and reduce cycle times. Throughput can be increased considerably for facilities in colder regions.
- Use the heat to dry other types of products like RDF, biomass, peat, etc.
- Sell the heat to neighboring operations that have a high heat demand, like greenhouses.

With WTT's technology/upgrade it is possible to produce up to 1000 kWh of thermal energy potential per ton of throughput.

Maximise:

Throughout Biogas production, compost quality-controlled process availability

DO MORE WITH LESS

Minimise:

Consumables
Electricity consumption
Water consumption
Personnel
Residues
Parts

THE PERFECT AIR FLOW

A lot of facilities run with sub-optimised air flows, which costs a lot of energy. Our process engineers are constantly looking to improve this in both new facilities and existing facilities. If an interesting business case can be developed, we perform Computational Fluid Dynamics (CFD) simulations to optimise the specific area, like the spigot floor or the biofilter inlet, in the best way possible. The result of the simulation allows us to redesign and replace the suboptimal inefficient parts. Optimizing the air flows can result in more than 5% energy savings.

THE NEXT STAGE IN ODOUR ABATEMENT

Odour abatement systems are at the core of each organic waste treatment facility. The buildings are ventilated to remove contaminated air and process air is treated with a wet-scrubbing process to remove ammonia. A by-product from this scrubbing process is ammonium sulfate, an interesting fertilizer that can be marketed to local farmers. WTT developed a two-stage acid scrubber that greatly improves the ammonium sulfate quality. In addition, this system prevents contamination from causing blockage in the wet scrubber. This greatly reduces pressure losses and decreases energy consumption. In addition, maintenance costs can go down with 50% and downtime is reduced.



For us it is very important to control our operational expenses. In cooperation with WTT we can maximise the running efficiency of the facility and we can produce and manage the waste much better, which gives us a financial gain.

Matthew Piotrowski
Operations Manager, Veolia, Southwark

Let's partner together to make a more sustainable future.

We cooperate with local partners to deliver technology for building sustainable and state-of-the-art organic waste treatment facilities and enable our partners to become the best operator.

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**How
about
yours?**