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# Heat production by composting

## SAVING ENERGY

With the increasing importance of renewable energy and rising interest in by-product heat utilisation, Waste Treatment Technologies (WTT) has developed a technology to be able to maximise the useful thermal energy production. Massive amounts of thermal energy are generated by the composting processes, which form a huge untapped resource for bio-energy. Collection of this heat can either be used for on-site purposes and save a lot of energy by heating buildings, pre-heat process air or dry other types of products, but it can also be sold as a source of renewable energy for neighboring operations like greenhouses, factories, heating networks or other demands for hot water. Capturing waste heat plays a valuable role in offsetting dependence on fossil fuels, reducing operating expenses and increasing productivity.

## EXPERIENCE

WTT's approach builds on over 25 years of experience with in-vessel composting in which the feedstock is aerated and all process conditions are optimally controlled by our control system. WTT has improved this existing technology and complemented it with specialised heat exchangers and a smart energy management system to capture all residual process heat and make it available for other processes.

Most types of organic feedstocks are suitable as a feedstock for combined heat and composting systems. Examples are: SSO, leaf and yard waste, spent mushroom compost, MSW and manure.

WTT already has experience in heating of process buildings, mushroom farms, and greenhouses. Our technology can be applied in new composting facilities, or it can be retrofitted in existing composting installations.

We have experience in the heating of process buildings, mushroom farms, and greenhouses. Our technology can be applied in new composting facilities or it can be retrofitted.



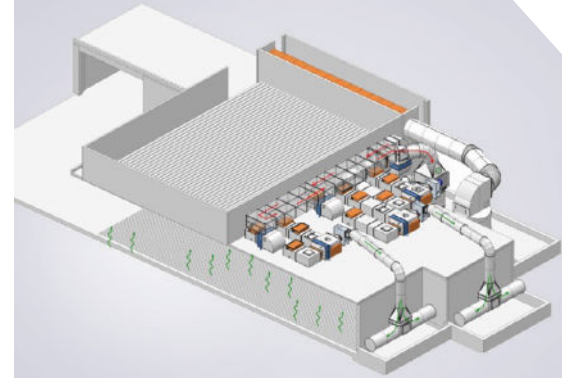
## THE PROCESS

The composting process is managed in several phases, each of which are designed to shorten time-to-temperature and re-use and capture the available thermal energy. The feedstock is composted in completely enclosed composting tunnels, making it possible to perfectly control all process conditions and emissions. By running at thermophilic temperatures higher temperature heat can be captured. Depending on the type of feedstock up to 2600MJ (75m<sup>3</sup> natural gas equivalent) per ton of feedstock can be captured.

## WE THINK AHEAD

We are committed to delivering quality throughout our cycle of service. We specialise in solid preparation and strive to anticipate our customers' critical requirements.

Our system of delivery is built on years of operational experience and extensive knowledge. From process design and engineering to testing, installation, training, and customer support. We strive to maximise cost efficiency and focus on customer needs. In addition, our solutions are sustainable aimed at preserving finite natural resources and reduction of greenhouse gas emissions.



**Re-use of heat saves our facility yearly about 900.000 cubic meters of natural gas. In addition, we have enough production to sell heat to neighboring operations. At full capacity we could save about 2 million cubic meters of natural gas.**

**Pieter Van Den Boomen**  
Co-Founder Upcycling Netherlands

## Applications

- Heat process buildings in wintertime
- Pre-heat process fresh air to improve evaporation rates and reduced cycle times
- Use heat to dry other type of products like RDF, biomass, and peat
- Sell heat to neighboring operations that have a high heat demand, like greenhouses and factories
- Sell heat to district or city heating network

**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.*

**T +61 (0) 456 374 318 E [info@mecbio.com.au](mailto:info@mecbio.com.au)**

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