Based in the Netherlands, Mavitec Green Energy has developed highly efficient and effective equipment to fight food waste and contribute to a circular economy

Fighting food waste

Tackling the world's food waste problems is dependent on many things; a good collection service, solid legislation, and, of course, technology.

When Mavitec Green Energy developed the Paddle Depacker five years ago, it set out to make the process of sorting food waste from packaging as simple and effective as possible. Now, with over 60 installations across Europe, CIS countries and the Middle East, it is safe to say the company is well on its way to achieving its goal.

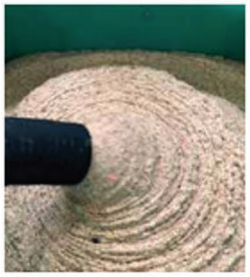
As food waste is considered more and more as a potential source of energy, successful waste management is about utilising the potential of this waste. The Paddle Depacker separates the organic material from the packaging and produces a > 99.5% output that complies with latest European legislation such as PAS110 (UK) and VEJ nr 9609 af 24/07/2018 (Denmark).

The latest laboratory results show less than 0.4% physical impurities in the organic output from various types of food waste for use in biogas installations and that the process helps to displace fossil fuels in the energy system. The Paddle Depacker also produces a clean plastic fraction, which is suitable for recycling.

Mavitec's clients vary from big municipal waste collectors to supermarkets, food producers, insect breeding farms, and biogas plants, all generating valuable products from organic waste.

"We have developed and supplied many installations in the form of depacking lines (starring the Paddle Depacker), resizing lines (our Martinaters), and storage and handling systems such as bins, hoppers and screw conveyors," said Pascal Albers, area sales manager at Mavitec Green Energy.

Complete food waste depackaging line at biogas plant in Romania



> 99.5% clean organic output

"The Paddle Depacker is an enhanced, high-capacity depacking solution for a great variety of food waste products. With its simple and low maintenance design and hydraulic opening doors for easy cleaning, the Paddle Depacker distinguishes itself from other systems."

Recently, the Paddle Depacker has been tested intensively on a wide range of materials and packaging at various plants, with promising results. The list of products that can be processed is still increasing and includes supermarket returns, dairy products, chocolate, cookies, chips, bread, sauces, and canned products such as fish, vegetables, and drinks.

Indeed, the company is extremely proud of its technology and prides itself on its contribution to biogas production.

"At this moment in time, it is simply the most efficient, easy-to-maintain, and best economic solution to depack a large variety of products," Mavitec's CEO Maco van Heumen told Bioenergy Insight.

Recycling companies, collectors, and owners of digesters are focused on finding an easy-to-use machine to depack material and still be able to produce a clean digestate, or 'soup'. One example is Mavitec's customer Genesis in Romania, which started with a small depacker, the Model S, and recently exchanged it for two lines, a big Paddle Depacker and a resizing line for unpacked waste. "The most important part is, the customer enjoys using it," said Albers.

Paddle Depacker separates organic material from packaging

With such a smooth system and impressively clean output, are there any limitations to using the Paddle Depacker?

"Of course there are limitations, just like other comparable systems. Keep out textiles, stones, or solid metal that is bigger than your fist," said Albers.

Mavitec is constantly improving its solutions to achieve optimal performance and the best possible results.

"We advise avoiding glass, as it may splinter and can enter the organic stream, but it won't damage the machine at all. Even large plastic bags are not a problem for our machine. The risk of getting wrapped around the spinning axle is a common problem, but we managed to innovate our technology and solved this issue as well, so bring on the big bags with waste!"

That's the power of the Paddle Depacker, a future-proof solution for the processing of all kinds of food waste, according to the company.

"Besides, our machine is designed to be easily accessible in case of failure; replacement of a blade or screen can be done in less than five minutes."

One thing that becomes clear very quickly when speaking with the Mavitec team is their passion for their equipment. Its technology is designed to help tackle the food waste crisis and produce a valuable product in the process. Having already apparently mastered the art of separation technology for food waste, what's next on Mavitec's agenda?

"We are working on a variety of solutions," said Van Heumen, "especially focusing on optimising the quality of the packaging to make it suitable for further recycling, as well as to gain all organics from the packaging. This will be our main challenge for the coming years. Our first machine in combination with our proven dewatering press will be tested on a full-scale solution."

"We are extending our service team to serve our existing customers even better," said Albers. "We want to take over the world and get every collector and recycling company its own Paddle Depacker and/or resizing unit!"

The Paddle Depacker is able to handle a wide variety of food waste up to 30 m³ per hour

Paddle Depacker in red and stainless steel

For more information:
Visit: mavitecgreenenergy.com