Bioenergy Insight

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Biogas boost

Decarbonisation and energy security goals provide new opportunities

Pellet innovation

Pioneering fuels to help utilities cut emissions

Regional focus: US

Mavitec Green Energy continues to develop its innovative depackaging solutions and is now introducing a Paddle Washer to clean plastic waste and reduce costs

The power of the Paddle Depacker

Due to growing food waste issues globally, the need for smart and efficient depackaging solutions has arguably never been more important.

Mavitec, a Dutch designer and producer of high-quality recycling processes and one of the leaders in the international rendering industry, is celebrating its 20th anniversary this year. The company is responsible for the Paddle Depacker, a system that has proved itself with high separation efficiency and short payback times and is now ready to conquer the rest of the world.

With a growing number of installations — over 75 now in Europe — Mavitec Green Energy (the firm's green division) is gaining a bigger part in the company's share. Mavitec Green Energy developed the Paddle Depacker, a high capacity depackaging machine that separates the organic material from the packaging, six years ago. The machine handles up to 30 m^3 material per hour and turns various types of food waste into clean organic soups (> 99.5% clean with official laboratory results). The clean organic output complies with the latest European legislation and is suitable for several purposes such as biogas and biodiesel installations. The machine also produces a clean packaging output.

Unique paddle system

Thanks to a unique system of adjustable paddles and interchangeable screen sizes (6-50 mm) the organic output is adaptable depending on the nature of the input and the requirements for downstream valuation of the organic soup. The machine is very robust, easy to operate, low maintenance and easy to clean. Nowadays, the Paddle Depacker proves to be one of the most efficient solutions to the challenges of bio-waste and food waste management.

Four Paddle Depackers processing 60 tons of food waste per hour

More materials possible

The machine can handle a wide variety of food waste, from dry products to wet and mixed products. After a lot of testing, the list of materials is now unlimited; all kinds of food waste are possible. Think of unsold supermarket products, kerbside waste, dairy products, chocolate, cookies, crisps, bread, sauces, canned products, and packaged products such as fish, vegetables and beverages.

As the demand for smart solutions for depacking food waste is increasing, Mavitec Green Energy has been expanding its activities across Europe. The UK has 10 installations and the first Paddle Depacker is still in operation since its introduction in 2016. The installations depack a variety of products including supermarket returns and kerbside waste. Some customers are even using double Paddle Depacker systems with a capacity of around 30 tons per hour.

Mavitec has also seen a significant increase in other markets, for example Croatia, with five machines installed, but also in Poland, Lithuania, Slovenia, Slovakia, and Czech Republic.

Processing 60 tons of food waste per hour

Mavitec Green Energy's latest showpiece is the impressive installation of four Paddle Depackers in the Netherlands, processing 60 tons of food waste per hour. Mavitec built one of the largest recycling installations in Amsterdam, including more than 30 conveyors, two giant raw material bins, and two organic receiving bins with centrifugal pumps. The client, a leading waste-to-energy company, selected the Paddle Depacker to process various kinds of supermarket products and organic waste to turn it into a clean organic soup for use in biogas installations. The clean plastic fraction is suitable for recycling.

Innovation: cleaner plastic

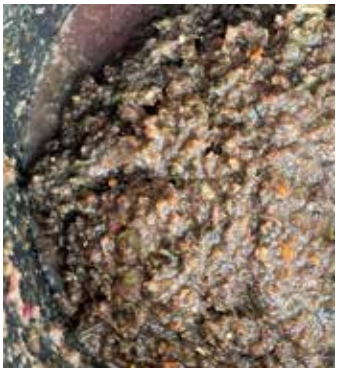
Mavitec Green Energy continues engineering and innovating. One of this year's features will be the introduction of a new machine for creating a cleaner plastic fraction — another aspect becoming significantly more important for customers, besides a clean organic fraction.

Mavitec's dewatering press has already reduced the volume of water in the food waste conversion process. Its latest solution is the integration of a Paddle Washer within the Paddle Depacker line. This machine washes the plastic packaging, decreasing the weight and resulting in lower costs. After a successful testing period this spring, the machine will be available to market soon.

Test your material

The Paddle Depacker is also available for rental. Two years ago, Mavitec Green Energy introduced a mobile unit on a trailer to make it possible for clients to test their own material on site. Due to its success and to make it possible to serve more customers, a second roadshow of the mobile unit has been added to the product range this year, offering the perfect solution to test material or to increase capacity temporarily if needed.

For more information:
Visit: mavitec.com



Organic output

INNIO, Concord Group to develop four biogas plants in Malaysia

INNIO has signed an agreement with the Concord Group to develop four biogas power plants in Malaysia using palm oil waste.

INNIO and Concord Group signed a memorandum of understanding to build the four facilities in various parts of Malaysia. The project emphasises Malaysia's efforts to achieve its COP26 commitments in moving away from fossil fuels and increasing renewable energy projects. The country recently raised its National Renewable Energy Capacity target from a 20% increase to a 31% increase of renewables in its energy mix by 2025.

The biogas plants will deliver sustainable power to the grid while capturing methane. Each plant is expected to operate two INNIO Jenbacher high-efficiency biogas engines, collectively delivering more than 8 MW of power to the grid.

The Jenbacher Type 4 engines, for which INNIO will also supply long-term servicing, are known for their dependability, efficiency, and fuel and solution flexibility. This makes them an excellent technology to advance Malaysia's plans to reduce its reliance on fossil fuels.

"INNIO has more than 500 Jenbacher engines currently operating on biogas and deploying about 1 GWh in the ASEAN region," said Carsten Dommermuth, vice-president and general manager APAC at INNIO Jenbacher.

"Our Jenbacher Type 4 biogas engine fleet delivers reliable

and fuel-efficient heat and power, where the additional surplus energy is fed into the power grid as a renewable, dispatchable power source. We are pleased to power with the Concord Group to provide technology that helps Malaysia meet its climate goals."

Datuk Khairuddin bin Tan Sri Mohd Hussin, CEO of Concord Renewable Energy, commented: "Having successfully worked with INNIO in the past, we can think of no better technology to support our clean energy goals. We look forward to continuing to work with INNIO's advanced Jenbacher technology to help us meet growing energy demand while reducing emissions." ●