

March 2011

Newsletter for customers and employees

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MeWa supplies recycling line for scrap tyres to South Korea

All over the world, ginseng is valued as a medical cure-all and great fount of energy. A short while ago a MeWa plant was set up in Geumsan, the home of ginseng, and is now recycling used tyres ready for pyrolysis. At this site shredding technology from Gechingen in Germany can now prove its own powers.



Congratulation on the new recycling plant: Andy Kim (Another WTE), Frank Gröschl, Elmar Kniesel (both MeWa) and Jinhwan Kim hope to continue the good business relationship.



In Geumsan/South Korea there is even a monument in honour of ginseng.



The UNI-CUT® SP tyre wire cleaner in use.

The Geumsan region in South Korea is famous for growing, producing and trading in ginseng.

In the home country of the famous health-giving root, shredding technology from Gechingen in Germany can now prove its own powers. By locating in Geumsan, tyre recyclers Another WTE have placed their business in direct proximity to partners who produce moulding bladders for the tyre industry. The elastic bladders are used by a nearby tyre manufacturer in the production of new tyres.

Another WTE delivers process steam from the own pyrolysis plant to this production plant for moulding bladders. For this purpose MeWa installed a new recycling line in Geumsan in January 2011, which for the first time in Asia, incorporates a process that can even recycle all the steel cord from the tyre beads to a high quality standard.

The used tyres are first pre-shredded before being fed into the MeWa UG 1600 granulator. Another WTE then feeds the granulated rubber directly into its own pyrolysis plant.

However, ten to twenty per cent of the weight of a used car tyre is made up of steel. It is in the form of wire cord embedded in the bead of the tyre and cannot be processed by pyrolysis. Therefore, a magnet above the conveyor belt removes the steel cord from the process as it is conveyed from the granulator. The steel is in a very „impure“ condition at that point, however. The mixture is still made up of rubber and fabric adhering to the wire cord. Suitable neither for pyrolysis nor for recycling at a steelworks, this mixture of materials had represented an unsolved problem for Another WTE.

UNI-CUT® SP Tyre wire cleaner

Over the past two years, MeWa has set about tackling the problem of the contaminated steel cord and developed the UNI-CUT® SP tyre wire cleaner, a special machine capable of almost completely separating rubber residues from the wires.



The tyre wire cleaner combines the advantages of a low-wear mill with the dynamic properties of a granulator. Without using delicate blades, the machine strips

the rubber off the steel cord by rubbing it against the stator shaft, thereby separating out the individual fractions. At the end, the wire emerges with a purity of greater than 98% in a quality that can be used in steel melt shops.

High-purity steel cord

The rubber, on the other hand, is fed back into the original material flow and onto the pyrolysis stage. The pyrolysis plant produces carbon black, oil and gas from the scrap tyre granulate. With these fuels Another WTE produces process steam and delivers it to the neighbouring production plant for the moulding bladders.

The tyre wire cleaner is designed to process around one tonne per hour. To be able to operate the plant at full capacity, Another WTE also buys in steel cord waste from other tyre recycling plants in South Korea.

High performance goes with the territory in the land of ginseng. ■

Ginseng



In its Asian homeland, ginseng is considered a universal curative. It has been valued for its all-round healing powers for thousands of years. It is thought to help reduce stress, strengthen immunity and have rejuvenating and life-extending effects. Because of its world-wide popularity, the plant is now also cultivated in China, Russia and the USA.

MeWa QZ cleans mixed metal and plastic waste

Berlin business recycles metal separator fraction

GRUNSKÉ Metall-Recycling GmbH & Co. KG in Oranienburg recently commissioned a new plant for cleaning metals that have already run through sorting systems for domestic and industrial waste. Using a Querstromzerspaner, the company is able to operate a highly efficient system producing ferrous fractions with a high level of homogeneity.

Based in the North of Berlin, the recycling company Grunske has been handling metal separator waste from mechanical and biological recycling facilities, bulky household item recyclers and waste sorting plants for many years. In such plants, the metals are removed from the process by magnetic separators at a very early stage in order to protect the equipment used in the subsequent phases against excessive wear. But plastics and fabrics get easily caught on the pieces of wire and sharp-edged metal and are so extracted from the material flow along

with the metals. On average, the metal component of the mixed waste supplied is about 60 to 70%. Visually, the relatively high metal content of the material is not obvious at all. Which explains why it generally has little attraction for metal dealers and steelworks.

Company founder Klaus Grunske spotted here a gap in the market and in MeWa he found the ideal partner for making his idea a reality. In the past, metal waste mixed up with plastics could only be resold at low prices, so Grunske's business

set itself the task of finding suitable technology to be able to effectively sort the material in-house. The aim was to „clean“ the metal scrap. In other words, to separate the ferrous and non-ferrous components from the mixture of materials and recover them in extensively homogeneous form.

QZ with many advantages

For the past four years MeWa has done pioneering work in the metal waste separation sector, developing an improved version of the patented Querstromzerspaner (QZ) precisely for this application. The machine enables mixed materials to be efficiently separated with minimal wear to the equipment and was literally tailor-made for Grunske's requirements profile. „The QZ has clear advantages to other types of machines and plant solutions,“ states Axel Sievers, special scrap division manager at Grunske, in explanation of the reason for the innovative concept. „It has no problem handling even heavy metal parts. Whereas a scrap mill would jam if large solid pieces were fed in.“

The separated pieces of material exit the machine via an outlet after only a few seconds. Even large solid items such as steel beams or guide rollers are no problem. Low machine wear, straightforward maintenance and the quality of the output have ensured extremely efficient operation of the recycling plant in Oranienburg since the end of 2010.

As a safeguard against hazardous materials such as pressurised spray cans, a gas detection unit permanently monitors the inside of the machine and explosion protection has been integrated for emer-



gencies. After leaving the QZ, the material is carried to a wind sifter by a conveyor. First of all, the light materials are separated from the rest. Finally, an overband magnet picks the ferrous component out of the mixture. What is left is the coarse material and the non-ferrous fraction, which are removed by a cyclonic separator.

At the end of the building, a continuous flow of steel scrap and non-ferrous metals which is separated to an efficiency of 98 % leaves the conveyor belt. The steel industry needs feeding continuously. ■

Oranienburg



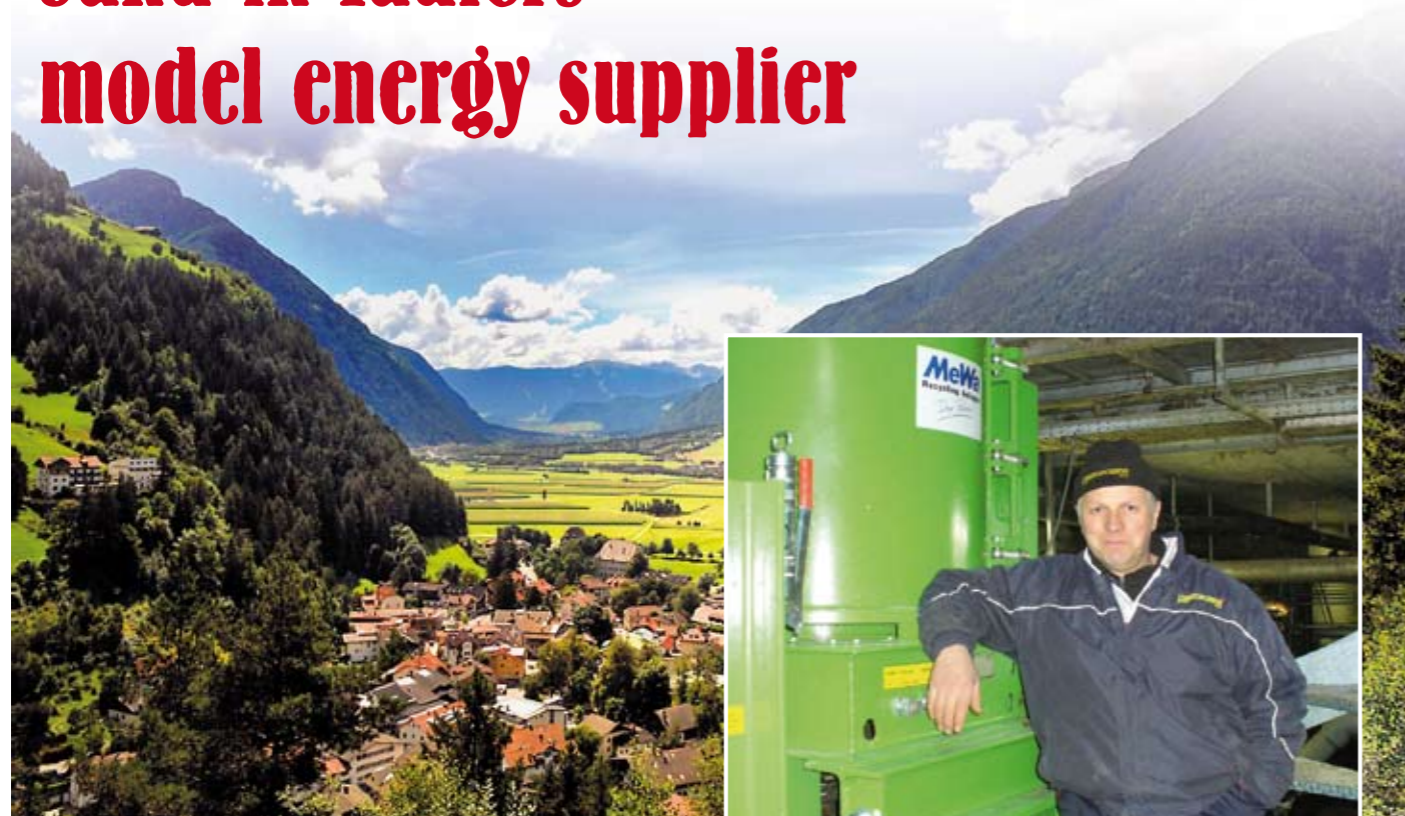
With a population of 30,000, the town of Oranienburg lies just 30 km north of Germany's cosmopolitan capital, Berlin. Right in the city centre stands the Schloss Oranienburg palace. Louise-Henriette of Orange had it built as a symbol of hope immediately after the end of the Thirty Years War. The Electoral Princess established model farms, dairies and social institutions such as the first orphanage in the Brandenburg Marches. Her son, King Friedrich I, had special affection for Oranienburg. He had his mother's palace opulently converted to create the first baroque summer residence in the Brandenburg Marches.

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MeWa Recycling Maschinen
und Anlagenbau GmbH
Gültlinger Straße 3, 75391 Gechingen
Editor: Harald Pandl
Tel. 0049 (0)7056 925-0
E-mail: info@mewa-recycling.com
Internet: www.mewa-recycling.com
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Sand in Taufers – model energy supplier



Managing director Paul Prenn.

The community of Sand in Taufers in the Italian South Tyrol has set itself the target of eliminating the CO₂ emissions of its population. A decisive factor in achieving that aim is renewable energy.

Sand in Taufers and its 5,300 inhabitants are forging ambitious plans. Local government and citizens are collectively engaging in numerous projects aimed at permanently reducing the carbon footprint of their community. They rely on energy-efficient structures and buildings and consistent use of renewable energy.

The village now employs the entire spectrum of alternative energy sources to provide eco-friendly electricity and heat. A wind turbine has been erected as well as several photovoltaic solar arrays, hydro-electric plants and a biomass district heating plant that runs on locally sourced wood.

Very early on, the local farmers joined together to set up a biogas plant that produces 910 kW of electrical energy. When first completed in 2002, it was the first co-operatively organised biogas plant in South Tyrol. The 50 or more farmers involved run the plant almost entirely on cow dung and slurry from their own herds.

Bio-QZ processes cow dung

And now the plant has been modernised and substantially extended. To be able to condition the dung better for fermentation, a MeWa Querstromzspanner (Bio-QZ) has been integrated in the process. From now on, Paul Prenn, managing director of the Genossenschaft Biowatt Taufers cooperative will feed around 70 tonnes of the demanding substrate into the digesters.

With the aid of the Bio-QZ, a compatible infeed system, a new generator and another digester, the co-operative can produce an extra 999 kWh of electricity and 600 kWh of heat. That energy is either fed into the electrical power grid or supplied to the local district heating plant respectively.

Exemplary energy community

In that way, the methane-rich animal droppings are converted into green energy and the community of Sand in Taufers in the heart of the Italian Alps has taken a large stride towards becoming „an exemplary CO₂-free energy community“. ■



Cattles play a major role in the energy supply of Sand in Taufers.

Biodiesel from out-of-date food



The ambitious aspiration of the company Néa Anakiklosi in Greece is to make biodiesel out of food that has passed its sell-by date. Using a Bio-QZ supplied by MeWa and a subsequent press-compacting stage, the food packaging is opened up and cleanly separated from the high-fat-content organic matter.



Left to right: regional sales manager Björn Hötger, MeWa sales agents in Greece Dimitris Kanakopoulos and Dimitrios Melissourgos, and plant operator Charalampos Migiadis.

One glance at the sell-by date is enough to still the hunger pangs. The packets of crisps, chocolate bars, packets of biscuits, chocolate eggs, drinks in cartons and cans, pots of yoghurt, packets of butter or frozen pizzas are no longer suitable for consumption.

But they still seem as appetising as ever to the green colossus in the shady factory shed. The MeWa Querstromzspanner gulps them down into its bulbous belly by the pallet-load. Packaging and all.

About one hour's drive by car to the north of Athens, the Biocompost Group company Néa Anakiklosi recently started operating a pioneering recycling process for out-of-date foodstuffs. The energy-rich foods contain large amounts of animal and



Compacted packaging.

vegetable fats and so form an ideal basis for producing biodiesel.

QZ opens up the packaging

The MeWa QZ 1200 specially designed for handling biomass can do in this plant what it can do best. In a single operation,

the Bio-QZ opens up the packaging and works the contents into a homogenous mass. Hot process water is added so that the fatty foods are quickly separated from the plastic packaging.

The mixture is washed again on the outfeed auger so that solids and liquids are separated. A press subsequently compacts the packaging material for easier loading and transport. The liquid organic waste passes through a further sanitisation stage before finally being collected in large tanks.

Everyone gets what they deserve. The QZ gets the out-of-date food and the hungry holidaymakers in Greece the olives and feta cheese on offer at the local taverna. ■

Electrical scrap recyclers visit MeWa plants

The recycling industry traditionally meets in January at the International Electronics Recycling Congress (IERC). This year was the tenth anniversary. With its fantastic winter scenery and favourable location, Salzburg has established itself as the ideal meeting place for those in the business of recycling electrical waste.

The picturesque backdrop of the snow-covered Mozart metropolis may have been a motive for more than 450 delegates accepting the invitation to Salzburg again in 2011. But there were at least as many reasons to travel to Austria from a business standpoint. Because when national re-use and recycling rates are published, the Alpine republic is generally right at the top of the rankings. Several ultramodern recycling plants operate in the immediate catchment area of the conference centre.

The EU Commission will shortly agree on binding new higher collective targets for electrical waste, while many other countries also faces major challenges in the recycling of electrical scrap. The stream of used electrical equipment is growing year on year and in many countries the construction of a functioning infrastructure is still in its infancy. One of the possible solutions could be to export the European standards for recycling technology worldwide.

Refrigeration recycling in Kematen

The convention delegates were thus taken on an extended tour of the recycling facilities. The itinerary included two plants erected by MeWa and considered pioneering in their field with their use of QZ technology. The refrigeration appliance recycling facility operated by UFH RE-cycling in Kematen is not only exemplary in ecological terms. Since 2009 it has been returning the best output results, high throughput rates and economical figures.



Powerful partners: recycling entrepreneur Harald Höpferger (right) and MeWa managing director Helmut Oberguggenberger.

Hospitality in Innsbruck

In Innsbruck, recyclers Höpferger have been running an electronic scrap plant with an annual capacity of 17,000 tonnes since 2005. There too, visitors were able to see for themselves the high quality of the output fractions that the MeWa QZ 2000 has been reliably producing since it first went into operation.

Harald Höpferger not only provided the technological highlight of the event



in the shape of his recycling facility. The entrepreneur also offered convention attendees traditional hospitality in a winter wonderland setting. So another gathering in Salzburg in 2012 is already a definite date. ■

