



## THE WATER & ENVIRONMENTAL SERVICE BRANCH – SERVICES BEYOND ALL BOUNDARIES

**News:** REMONDIS enters the  
Turkish market

**Water management:** Energy from  
sewage treatment plants

**Environmental Services:** EKO-PUNKT  
throughout the whole of Germany

**People:** A dream comes true for a  
REMONDIS fan

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## JOINT VENTURE IN TURKEY

Turkey is looking to create a water and environmental service branch which protects the environment. With this aim in mind, the Turkish Sistem Group has founded a joint venture with REMONDIS. Osman Pepe, Minister of Environment and Forestry in Turkey, has also welcomed this cooperation work. **Page 6**



## WASTEWATER FROM FRUIT JUICE USED TO GENERATE ENERGY

The company, WILD, produces fruit juice concentrates and extracts for the international drinks and food industry at its plant in Spain. Its contracting partner, REMONDIS Aqua, generates energy – namely biogas – from the production wastewater which has a high sugar content. **Page 20**



## EKO-PUNKT GAINING GROUND

The dual system run by REMONDIS is called EKO-PUNKT. EKO-PUNKT will have been approved throughout the whole of Germany by the end of this year. The applications have been submitted to the relevant authorities – and EKO-PUNKT is already playing a major role in the states of Hamburg and Bavaria. **Page 30**

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Dr Hermann Niehues,  
Chairman of the  
Supervisory Board

## EDITORIAL

Dear Readers!

### REMONDIS INTERNATIONAL

Exactly 25 years ago, REMONDIS took the plunge and started doing business on the other side of the world: in 1982, it opened its first branch in Australia. Indeed it was REMONDIS' first ever foreign branch. A daring move which soon proved to be a successful one. Since then, REMONDIS has become a global player, offering its services in 24 countries around the world. And, since the beginning of the year, REMONDIS has gained a further "nationality": with its new joint venture, it has succeeded in entering the market in Turkey (page 6). Read about our projects in the Spanish Valencia region (page 20), in Poland (p. 33) and in Switzerland (page 39).

### CLOSED CYCLES FOR A BETTER CLIMATE

The whole world is talking about the weather. Floods, retreating glaciers and droughts are all obvious signs that our climate is changing. Each day, REMONDIS employees play an active role in protecting our climate. Using state-of-the-art technology, they recover raw materials from waste, generate alternative forms of energy and have implemented all aspects of the law banning untreated waste from being dumped at landfills. The environmental service branch in Germany and its activities have become

an international model for others to follow. The German EU presidency means an opportunity to ensure the high standards of the waste and environmental laws implemented in Germany are established in all EU member states. By doing so, Europe can play a significant role in protecting the environment and slowing down climate change. Read about this topic in the guest commentary by the EU Environment Commissioner, Stavros Dimas (page 4) as well as in our report on page 14.

### NATIONALIZATION IS SLOWING DOWN THE MARKET

All citizens should have the right to fair and transparent service charges. And so, in the future, steps must be taken to ensure that all of the services provided by the water and environmental service sectors to its citizens, and for which the citizens must pay, have undergone a competitive process and are offered with the same framework conditions. Some municipalities and municipal joint ventures, however, are currently in favour of nationalizing services and projects. Nationalization prevents positive, competition-oriented developments – a very un-European situation. It is, therefore, high time that changes were made to German competition law! You can learn more about the facts and figures against nationalization in the interview on page 16.

I hope you enjoy reading this issue!

Dr Hermann Niehues

Guest commentary

# It's high time steps were taken to protect the climate

A GUEST COMMENTARY BY EU ENVIRONMENT COMMISSIONER STAVROS DIMAS

Since the "Intergovernmental Panel on Climate Change" (IPCC) presented their latest report in February there can be no more doubt that our climate is undergoing a change. Severe climate changes can be expected and it is almost certain that the main cause of these are the greenhouse gases emitted by human activities. Europe's environmental service branch can play a decisive role in slowing down this process.

The report forecasts some devastating changes. According to its figures, global temperatures will probably have risen by between 1.8°C and 4°C by the end of the century – in the worst case scenario by even 6.4°C. This would lead to sea levels rising by 18 to 59 centimetres during the same period. Both changes would mean devastating economic, social and ecological consequences for people all over the world.

**"If Germany digs its heels in, then the rest of Europe will follow suit."** EU Environment Commissioner Stavros Dimas

In view of these alarming predictions about the greenhouse gas effect, it is high time rigorous action was taken to ensure global temperatures rise as little as possible. There is an urgent need for the international community to start negotiating again to sign a new global climate agreement to follow on from the Kyoto Protocol. It is essential, for example, that the USA, Russia, China and India – the four countries emitting the greatest amounts of environmentally damaging greenhouse gases – participate in these measures. The first step of the package of measures put together by the European Commission is for industrial countries to have reduced their emissions by 30 percent by the year 2020 (compared with 1990).

We must use every opportunity available to us to protect our climate. This includes reducing carbon dioxide levels as well as reducing the amount of methane emissions, a gas which is highly damaging for the climate and which is

released by, among others, landfill waste. The ban on dumping untreated waste in landfills, such as has been in force in Germany over the last two years, has played a decisive role towards Germany achieving the targets laid down in the Kyoto Protocol. This shows that a Europe-wide landfill ban would help to achieve such objectives. Furthermore, efforts must be increased to extract raw materials and sources of energy from waste in Europe to conserve resources and protect the climate.

Germany has a special role to play when it comes to pushing through global climate targets. The German government holds both the EU and the G8 presidency and can, therefore, make some decisive contributions towards setting the future path for sustainable, international climate protection. I am confident, therefore, that German citizens will live up to their responsibility by setting examples for climate protection. If, however, Germany digs its heels in, then the rest of Europe will follow suit. And if Europe refuses to change, then the rest of the world will too.

My recommendation to the European economy is to react to developments even before regulations have been put into place – early innovations, as has been the case in the past, mean competitive advantages. Public awareness of environmental problems is growing all the time and consumers prefer to use sustainable products and sustainable companies. Germany has been setting an example for Europe and the rest of the world, especially when it comes to using alternative forms of energy, recycling raw materials



and using modern environmental technology. If, and I very much hope this will not be the case, the USA and China refuse to take part in the measures to prevent climate change, Germany and the countries within the European Union will be better prepared for a future with less carbon dioxide and so will find themselves in a better competitive position.


#### Short profile

- born in Athens in 1941
- studied law in Athens and New York
- worked as a lawyer on Wall Street and then for the World Bank
- active in the Greek "New Democracy" party since 1977
- held various minister positions (trade, agriculture, industry)
- EU Commissioner for the Environment since 2004



# Turkey increases its efforts towards protecting the environment

REMONDIS FOUNDS A JOINT VENTURE WITH THE TURKISH MARKET LEADER, SISTEM YAPI

An aerial night photograph of a city, likely Istanbul, showing a dense urban landscape with numerous illuminated buildings. In the foreground, a large industrial facility, likely a wastewater treatment plant, is visible, featuring several circular tanks and modern buildings with bright lights. The sky is a deep blue, and the city lights create a vibrant contrast against the dark background.

Turkey is proving to be both highly ambitious and committed to its target of improving its infrastructure for air pollution control, waste management and wastewater treatment to meet the standards of the European Union. The Sistem Group, the leading company within environmental engineering in Turkey, has now signed a cooperation agreement with REMONDIS.

(continued on page 9) →

Getting down to details

# Milestones on the path to further protecting the environment

AN INTERVIEW WITH OSMAN PEPE, TURKISH MINISTER OF ENVIRONMENT AND FORESTRY



**REMONDIS aktuell:** What targets is Turkey trying to achieve as far as its environmental and waste management laws are concerned?

**Osman Pepe:** Our Ministry is determined to adapt Turkish environmental and waste management laws to reflect the standards of the equivalent laws in Europe's most developed countries. One of our aims is to supply all of the districts in our country with clean drinking and process water as well as to treat wastewater from households and the industry in an environmentally friendly manner. Besides this, waste is being separated in some of the larger cities in Turkey with the recyclable materials being fed back into the economic cycle.

**REMONDIS aktuell:** Can you describe the changes that Turkey has achieved over the last few years within its water and environmental service branches?

**Osman Pepe:** Over the last five years, thanks to the support from both our citizens and Parliament, we have succeeded in passing many new laws and ordinances. Very few changes had been made in this area prior to this. These new laws represent milestones on the path to a greater awareness and protection of the environment in Turkey. More

than 50 percent of our statutory provisions have already been adapted to EU directives. We believe, however, that what we have achieved is not yet enough as we still have a lot to catch up on as far as our environmental infrastructure is concerned.

**REMONDIS aktuell:** What areas of the water and environmental service branch are you looking to improve next?

**Osman Pepe:** Setting up waste sorting and treatment plants is, we believe, extremely important in order to solve our waste problems and prevent pollution caused by household waste. The conditions and special features of the individual regions must, of course, be taken into account when implementing such projects. We are also continuing to push forward our plans within the area of thermal treatment plants. Over the next seven years alone, we are planning to invest a large share of our capital outlay, namely 35 billion euros, in the water and environmental service branches.

**REMONDIS aktuell:** How would you assess the cooperation work between Turkish and German companies in this sector?

**Osman Pepe:** In principle, we both welcome and support investment projects from the private sector. We are prepared to provide all kinds of support as we realize that it will be very difficult to carry out all the work within such a short space of time. German companies make up the greatest share of foreign businesses investing in Turkey. Germany has extensive experience of both the environment and waste management. For this reason, we welcome the large number of cooperation projects in this market segment such as that between REMONDIS and Sistem Yapi. Being the Ministry, we are interested in introducing the highest levels of environmental technology into Turkey whilst keeping the costs as low as possible.

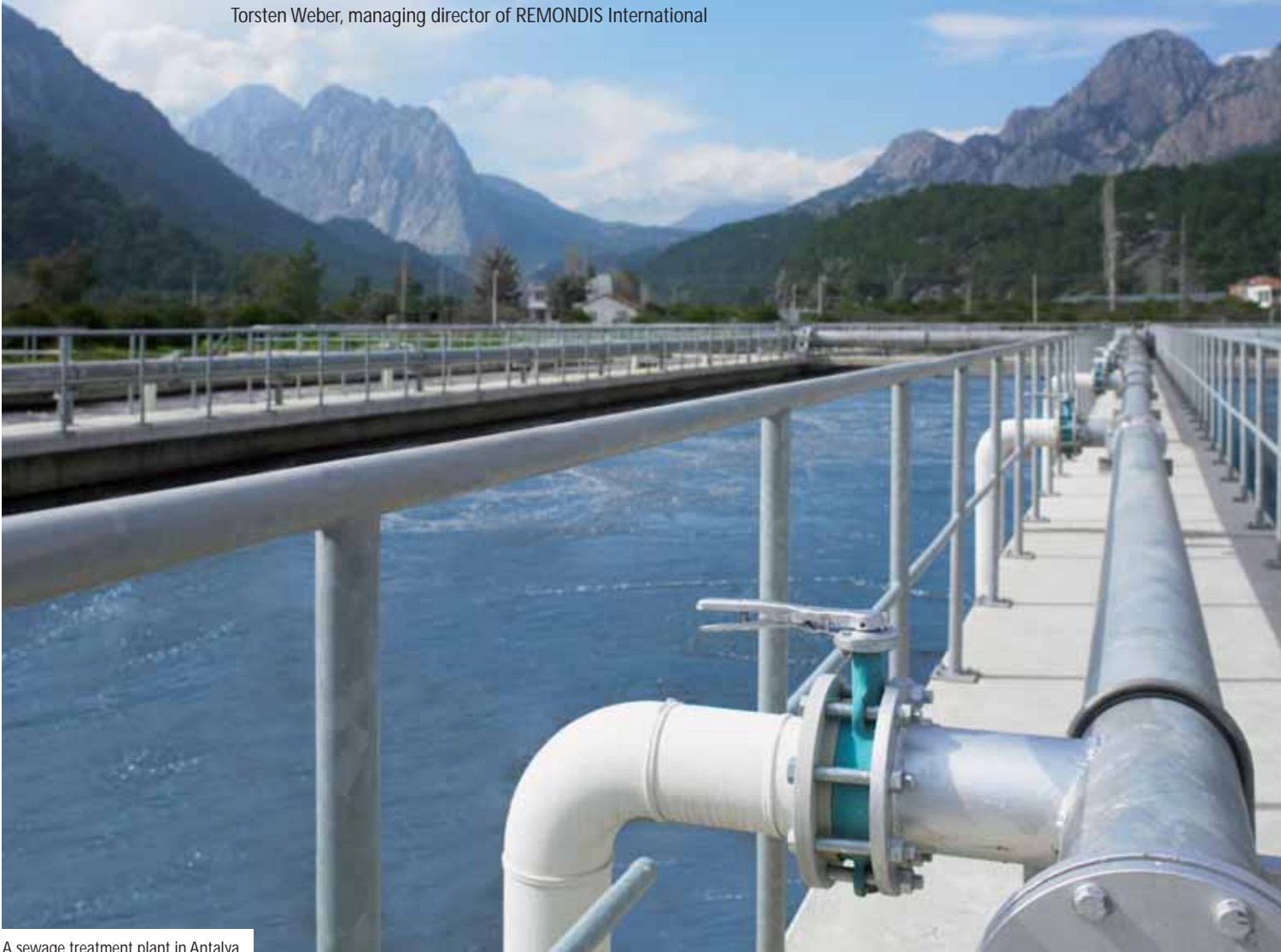
*This interview was held by Ilker Sel and Katja Dartsch*

There are more than 1,100 branches of German or German-Turkish companies in Turkey



“Turkey is a very interesting market for us as there are many regions in the country which do not yet have modern recycling and waste disposal plants nor are such facilities efficiently operated.”

Torsten Weber, managing director of REMONDIS International



A sewage treatment plant in Antalya

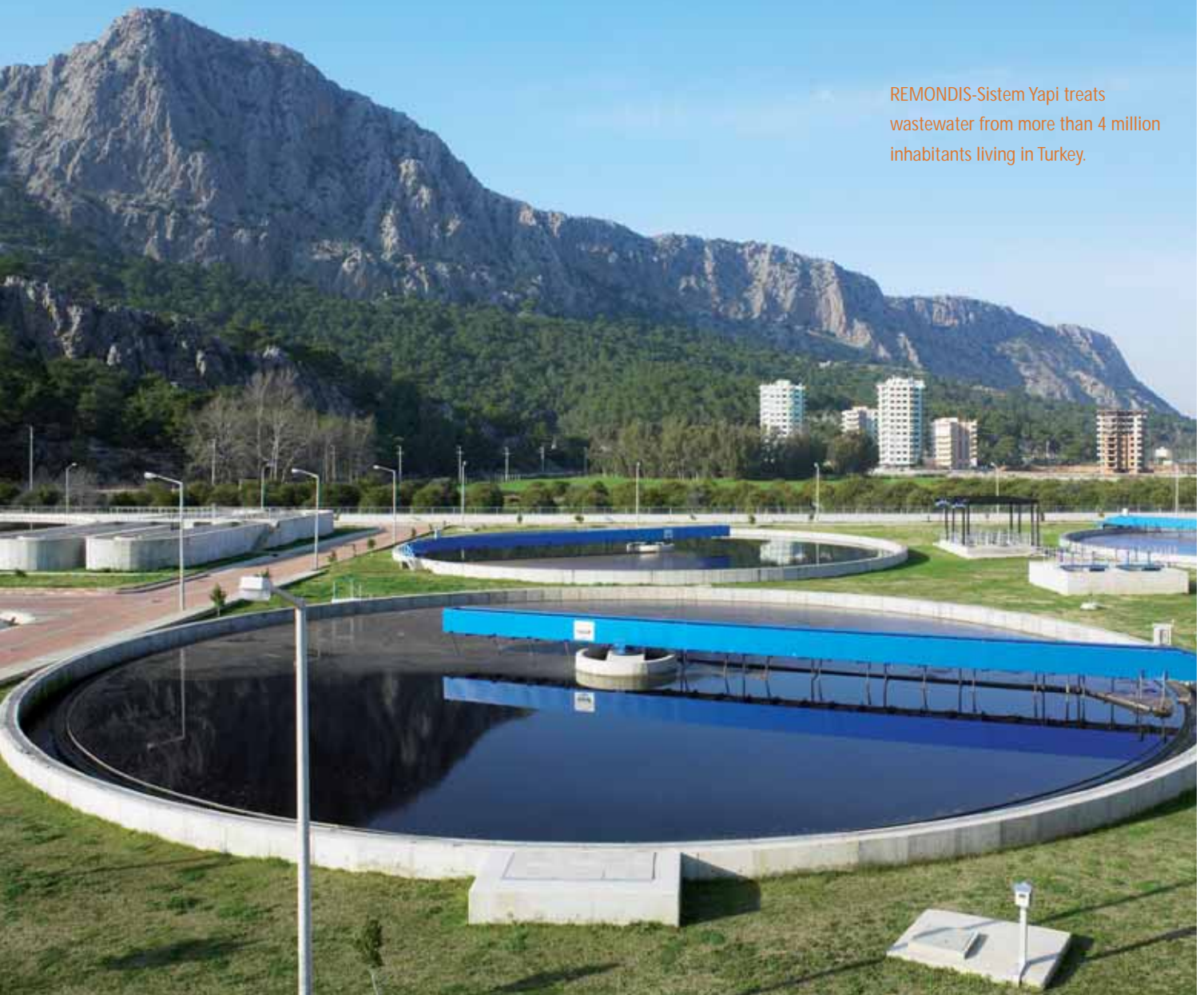
At the beginning of the year, Sistem Yapi and REMONDIS founded a joint venture. For REMONDIS, which holds a majority share in the newly founded company **REMONDIS-Sistem Yapi**, this joint venture means it is entering the Turkish market for the first time.

Over the last few years, there have been many changes within the Turkish environmental sector: the environmental and waste disposal laws have become stricter, separate waste collection has been introduced in some of the larger cities and a packaging ordinance has even been implemented. However, in some regions of the country, with its approximately 70 million citizens, not only is the necessary know-how and experience still lacking but also

logistics solutions and the necessary treatment capacities. The individual district authorities have received instructions from the Government to invest in new, modern recycling and waste disposal plants. To achieve this goal, they need experienced and reliable partners.

REMONDIS-Sistem Yapi currently operates ten wastewater treatment plants in the cities of Antalya, Bursa, Fethiye, Izmir, Balikesir and Malatya. This means that REMONDIS-Sistem Yapi is responsible for treating wastewater from more than 4 million inhabitants. A total of 145 million euros had previously been invested in the plants which are all only a few years old. The aim of the new company is to expand within the water and environmental service sector. →





REMONDIS-Sistem Yapi treats wastewater from more than 4 million inhabitants living in Turkey.

Besides efficiently operating drinking water supply facilities and wastewater treatment plants for municipalities and industrial customers, REMONDIS-Sistem Yapi also offers logistics services as well as planning, constructing and operating processing plants, sorting plants, composting plants and thermal treatment plants. REMONDIS-Sistem Yapi already employs more than 200 people. Its head office is located in Istanbul.

Since its foundation in 1971, the Sistem Group has become market leader in the area of environmental and industrial engineering. With its workforce of 850 people, this well-known company group has an annual turnover of around 70 million euros. The Group had not previously been active in the area of waste collection, recycling and disposal. "We want to change this. And as REMONDIS already has many years of international experience within this sector, we are really pleased to be working together with them," commented Ugur Dincer, the main partner of the Group. *(dartsch)*



The activities carried out by REMONDIS-Sistem Yapi in Turkey include operating ten water treatment plants.

# A branch undergoing change

## LUDGER RETHMANN ON THE DEVELOPMENT OF THE ENVIRONMENTAL SERVICE BRANCH

Ludger Rethmann has been the board spokesman at REMONDIS for seven years. His grandfather, Josef Rethmann, had founded the company which has, under the management of his father Norbert Rethmann, developed from a small forwarding company into the world's largest family-run business within the water and environmental service sector. During an interview with REMONDIS aktuell, Ludger Rethmann spoke about the developments within the branch – and about its future.

**REMONDIS aktuell:** Mr Rethmann, how has the environmental service branch developed over the last few decades?

**Ludger Rethmann:** The branch has undergone three significant consolidation phases in Germany. At the beginning of the 80s, large American businesses, such as Waste Management and BFI, tried to get a foothold on the German market. This was the first time that foreign companies had become active within the German environmental service branch. They took over plants such as the WIP in Hamm and companies such as Schreiber, Otto and Böckmann. However, the profits made were below the expectations of the Americans and now they have not only pulled out of the German market but also out of the whole of Europe.

**REMONDIS aktuell:** That was the end of the first consolidation phase. When did the second and third phases take place?

**Ludger Rethmann:** In the 90s, it was the large energy providers which pushed their way onto the environmental service market. Examples of this are the takeovers of Ties Neelsen, Edelhoff and Trienekens – all of them medium-sized, family-run businesses, whose owners had even held the position of president of the BDE, the Federal Association of the German Waste Management Industry. The energy providers have, however, also pulled out of this sector because of the low profits. The third consolidation phase began at the turn of the new century: in the form of private equity funds. The Duales System Deutschland GmbH (DSD), for example, belongs to the US American equity fund, KKR, Kohlberg Kravis Roberts & Co. The financial investor groups, Apax and Blackstone, are behind the German waste management company Sulo – including Cleanaway. And



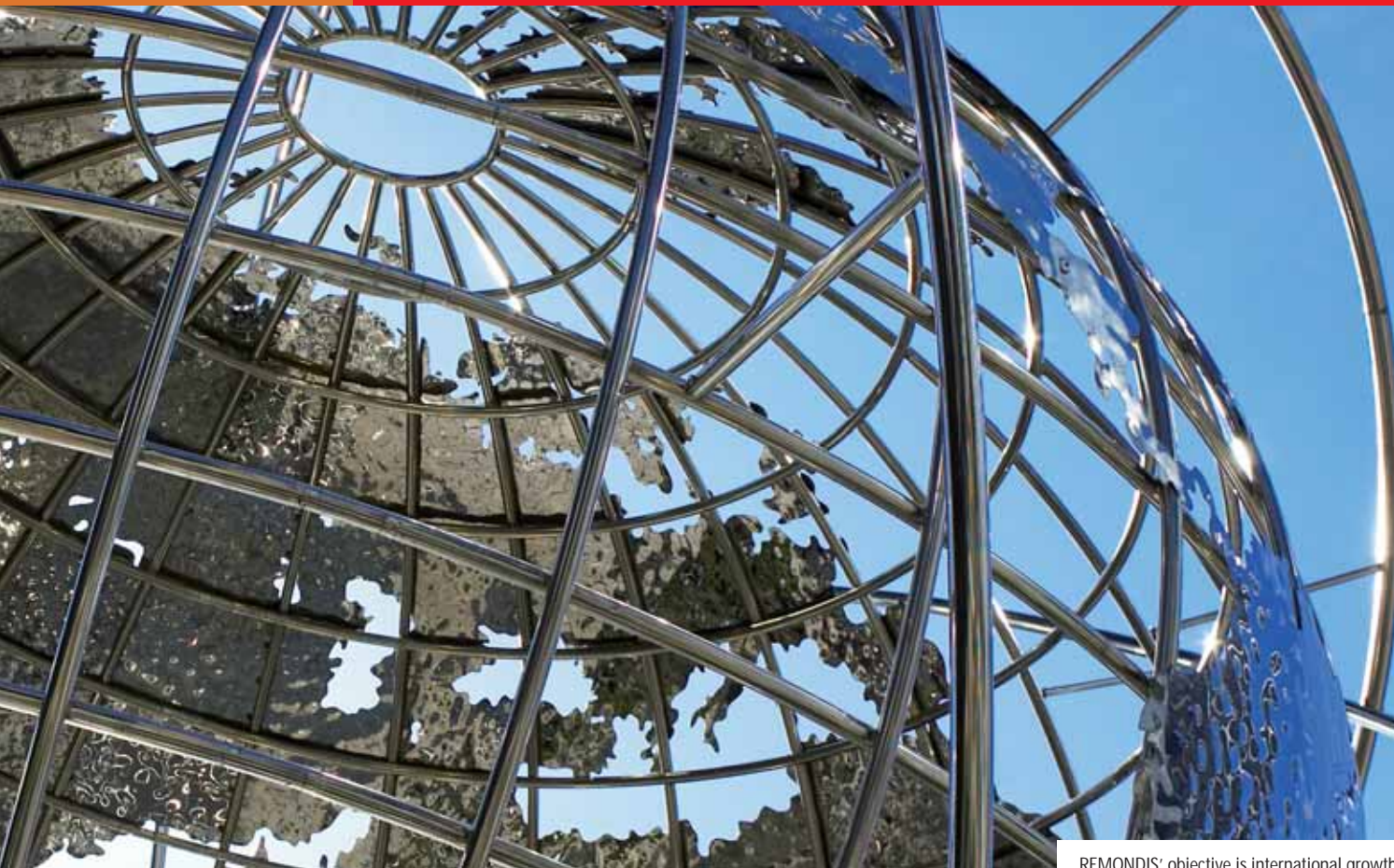
**“ We only invest in thermal treatment plants when we are sure that we will have the necessary volumes of waste when they are put into operation. Anything else would be fatal.”** Ludger Rethmann, board spokesman at REMONDIS

the large Dutch companies, AVR and Van Gansewinkel, have recently been bought up by the equity companies, CVC, KKR and Oranje-Nassau.

**REMONDIS aktuell:** What influence do private equity companies have on the European environmental service branch?

**Ludger Rethmann:** It is a well-known fact that equity businesses swoop into companies, implement measures to optimize profits and then sell them again quickly. This leads to a consolidation of the branch and a rapid change in ownership. Sulo and DSD, for example, which were taken over by equity companies only a few years ago, will soon be up for →

Three consolidation phases have left their mark on the branch – and there is no end in sight.



REMONDIS' objective is international growth

Almost all of the large family-run companies within the environmental service sector in Europe have been sold.

sale. We must get used to the fact that we will be dealing with new companies and new owners every five years. And we must face all the consequences: there are hardly any other businesses on the market with long-term objectives now that most of the large family-run companies in Europe have been sold or split up. This means that third-party investors are needed as in the USA. We'll have to wait and see whether the equity companies are happier working in the environmental service branch than the energy providers and the Americans were in the past.

**REMONDIS aktuell:** Putting this consolidation to one side: what other factors have influenced the environmental service sector?

**Ludger Rethmann:** One of the main reasons for the development of the branch over the last few years has been the fact that EU environmental and waste management laws have become far stricter. These have had a positive effect leading to many technical innovations within the branch. Whereas waste was simply placed in landfills in the past, nowadays, reusable substances are recovered in high-tech plants and recycled. These facilities are very expensive and greater sums of money need to be invested. Another very important change is the fact that the market is becoming more and more international and global. REMONDIS is now active on three continents in 24 countries.

**REMONDIS aktuell:** The EU-wide aim of moving away from landfills towards recycling waste and especially the implementation of the German TASI law has resulted in the demand for incineration capacities in Germany being higher than the supply for the first time ever.

**Ludger Rethmann:** That's right. Material which in the past would have been placed in landfills now undergoes thermal treatment – with its well-known positive effects on protecting the environment and preventing climate change. In order to be able to cope with the larger volumes of waste for incineration, many state-of-the-art co-incineration plants, substitute fuel plants and waste incineration plants have been built over the last few years. As the demand is so high at the moment, even the most expensive plants such as the ones in Asdonkshof and Augsburg, which in some cases charge more than 200 euros a tonne to incinerate household waste, are running at full capacity. The prices will, however, fall again soon.

**REMONDIS aktuell:** And why?

**Ludger Rethmann:** Prices will fall because too many companies are currently investing in thermal treatment plants without being absolutely sure of having the necessary input to run at full capacity. They have invested because of the lack of capacities since the summer of 2005 but have com-

pletely failed to take the long-term market developments, the increase in material recycling and demographic developments into account. That is a fatal mistake to make. On the one hand, there are investment costs involved which will not be paid off for at least 15 to 20 years. On the other hand, there will probably be a clear overcapacity in just two years' time. The result will be insolvencies or high charges for the inhabitants, if prices fall to such an extent that the costs are not covered. This will be the case, if – as was the case three years ago – there is only an additional contribution of 15 to 30 euros for substitute fuels. This makes the building of new substitute fuel power plants especially problematic. REMONDIS has not been involved in building new substitute fuel plants nor have we signed agreements with such plants for longer than two to three years.

**REMONDIS aktuell:** But REMONDIS is currently building a WIP in Staßfurt and has extended its existing plants.

**Ludger Rethmann:** Approximately four years are needed to build such a plant – from the initial idea, to planning it, to receiving the necessary approvals, to building it and finally to putting it into operation. The decisions to build or extend the plants you mentioned were, therefore, taken before the TASI law was drawn up and passed or we had already participated in a project before the TASI law. We are working on becoming one of the suppliers on the market with the largest plants with the lowest costs for household waste or commercial waste similar to household waste – and we only invest when we are sure that we will have the necessary volume of waste and at the right price when the plant goes into operation by signing long-term contracts. As we are not expecting there to be any positive developments as far as substitute fuel plants are concerned – as with biomass-fired power plants – we have not taken

part in projects to build substitute fuel plants nor have we signed long-term agreements with such facilities.

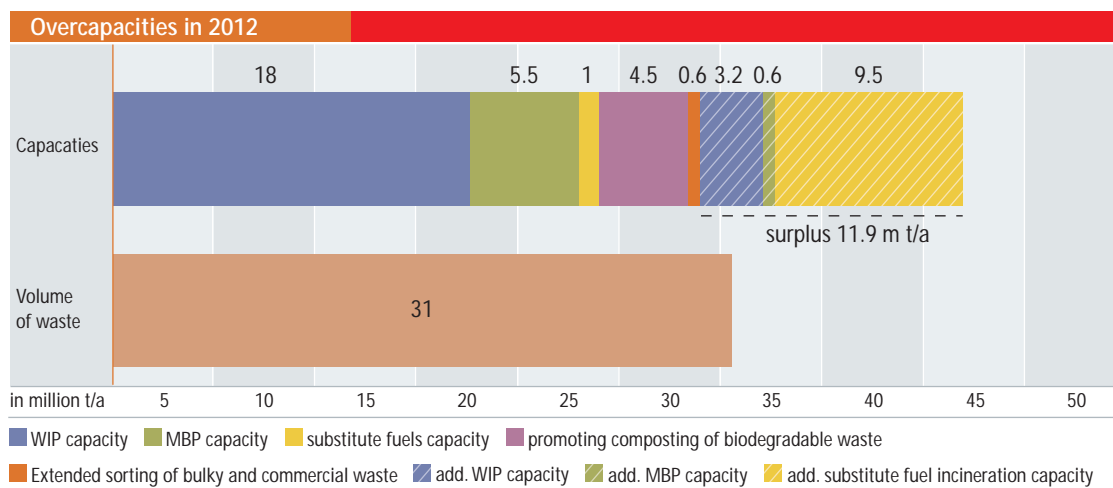
**REMONDIS aktuell:** Let's look into the future. Where is the branch heading and where is REMONDIS heading?

**Ludger Rethmann:** The consolidation, I talked about earlier, will continue in the German market. This shall continue in an environment where the turnover of the dual system in Germany has fallen by more than 50% over the last few years and where it will continue to fall – even though the services provided have remained practically the same. This will lead to further disillusionment and adjustments within the market. It is also possible to observe a fall in the prices for waste collection. But there are still growth opportunities for us here: the two largest market players in Germany collect waste from just over 20 percent of the population. As a comparison: in the neighbouring countries such as in France and Spain, the three largest companies within the branch serve far more than half the population.

If we, at REMONDIS, wish to maintain our position on the German market despite the continuing consolidation then we must carry on buying businesses and expand further internationally. Besides this, it is essential to be versatile and to react to the needs of our customers. The turnover from the classic household waste collection services now makes up only five percent of REMONDIS' overall turnover. Today, the majority of our turnover comes from the industrial processing of recyclable materials, from the water management business, industrial cleaning services and from the area of hazardous waste. Especially the national and international water management business will become more and more important for our company.

*This interview was held by Katja Dartsch*

**Building boom: so many thermal treatment plants are being built at the moment that there will soon be overcapacities.**



Estimated future development of overcapacities in Germany and the Netherlands. Volume of waste from private households and commerce.



Climate protection

## Using waste – protecting the climate

THE ENVIRONMENTAL SERVICE BRANCH IS HELPING TO PREVENT CLIMATE CHANGE

The Stern report, the Oscar-winning Al Gore film and the IPCC's research results have all started up the discussion about climate change again. What is certain is that the climate is already changing. Just how much it will change, depends on how everyone behaves. The water and environmental service branch is actively helping to slow down climate change – and its international potential is huge.

Compared to 1990, almost eight times more fossil fuels such as oil, gas, and coal are being saved today thanks to the increase in the amount of energy and material being recovered from waste.

(source: German Ministry of the Environment)

Heat waves, floods, withered up crops: climate change is a threat to the whole planet. By the year 2100, global temperatures will probably have risen by several degrees, the polar icecaps and glaciers will have melted, sea levels will have risen (see guest commentary on pages 4/5). It is high time that steps were taken to slow down the rise in temperature as much as possible. The water and environmental service branch can also contribute towards considerably reducing greenhouse gas emissions.

“People who only think about industry or traffic emissions when discussing climate change are being short-sighted,” the BDE, the Federal Association of the German Waste Management Industry, believes. A significant contribution towards protecting our climate can be made by using environmentally friendly waste treatment methods – German companies like REMONDIS are showing how this can be achieved. In Germany, the ban on dumping untreated waste in landfills (TASi law – Technical Guidelines for the Treat-

“ The fact that Germany holds the EU Presidency means it has the opportunity to set the future course towards a modern and sustainable supply of energy in Europe.” Sigmar Gabriel, German Minister of the Environment



ment and Disposal of Municipal Waste) has led to a drastic reduction in emissions of landfill gases, such as methane, which are damaging to the environment. Between 1990 and 2005, emissions of CO<sub>2</sub> equivalents were cut by many millions of tonnes – a quarter of the total reduction in Germany during this period (see table). Thus the contribution from REMONDIS and other companies from the environmental service branch towards achieving the objectives laid down in the Kyoto Protocol concerning the reduction of greenhouse gases lay at around twelve percent.

Unlike in Germany, there is still considerable potential in most of the other EU countries if the EU landfill directive is consistently implemented. “A European TASI is essential if the climate is to be protected. We have proven in Germany that it is feasible,” the BDE says. According to a study drawn up by the BDE, the Federal Ministry of the Environment and a wildlife protection agency, an EU-wide landfill ban would mean a 110 million tonne reduction in CO<sub>2</sub> equivalents, almost ten percent of the overall European target.

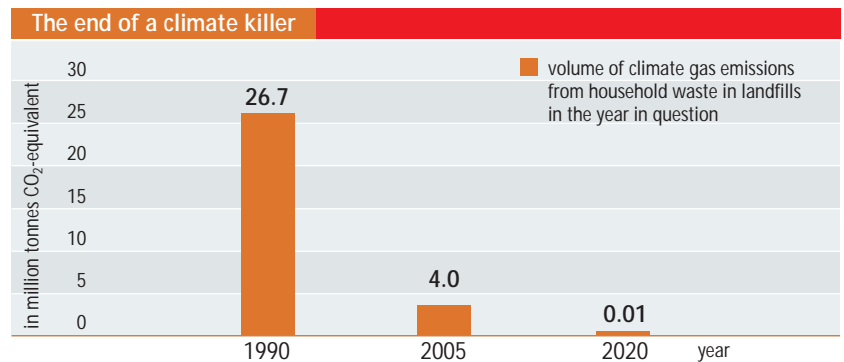
Besides moving away from landfills, there are many other ways in which the water and environmental service branch can have a positive effect on slowing down climate change. Waste is certainly the most environmentally friendly source of raw materials and energy. As the amount of raw materials recovered from waste increases, so fewer raw materials need to be extracted from the ground and fewer primary raw materials need to undergo energy-intensive processes. In Germany, more than fifty percent of all municipal and production waste is used for material recovery or generating energy. In some cases, such as packaging, this figure lies at even 80 percent.

Waste, such as that processed in modern incineration plants and power plants run, for example, by REMONDIS, substitutes fossil fuels such as coal, gas and oil. And, as municipal waste consists, for the most part, of organic material like wood and textiles, the process of incinerating these materials is CO<sub>2</sub>-neutral. Thermal treatment plants such as REMONDIS' EVZA in Staßfurt in the German state of Saxony-Anhalt also supply neighbouring industrial plants with energy. The increased use of biogenous waste as a source of biogas, such as that carried out by REMONDIS Aqua during the wastewater treatment process for the Küstenland Milchunion in Mecklenburg-Vorpommern or for the WILD Group in Spain (see page 20), is a further example of how the branch can protect the environment.

These examples show there are great opportunities hidden in waste to protect both the environment and the climate. The environmentally friendly recycling processes, which have to a certain extent been implemented in Germany, must also be implemented across the world to make full use of their potential. The German government should keep this fact in mind and use its EU and G8 presidencies to make some decisive contributions towards setting the future course for a multilateral climate agreement to replace the Kyoto Protocol which expires in 2012. (dartsch)

Sir Nicholas Stern, previously Vice-President of the World Bank, has put the future costs of climate change at 5 to 20 percent of global GDP each year. If, however, steps were taken immediately to slow down climate change, then the costs would lie at 1 percent of annual worldwide GDP.

The landfill ban has meant a great reduction in environmentally damaging emissions.



source: IFEU study 2006, German Environment Agency

“Value-added tax is an important source of income for the Federal Government. In Berlin alone, many millions of euros are lost to the Government each year because household waste is collected by a municipal business which is exempt from paying VAT.” Egbert Tölle, board member at REMONDIS



The “Reichstag” building in Berlin, the seat of the “Bundestag”, the lower chamber of the German Parliament



# Privatisation instead of nationalization

REMONDIS IS CALLING FOR EQUAL TAX LAWS AND A FREE MARKET

More than 60 percent of all municipalities have now privatized their “waste collection and recycling” services. The trend is still towards privatization – even though the competitive situation between private and municipal service providers is still clearly distorted as they are treated differently both as far as taxes and the awarding of contracts are concerned.



REMONDIS board member, Egbert Tölle

**REMONDIS aktuell:** The private environmental service branch is calling for equal treatment when it comes to taxes and awarding contracts. What is it referring to exactly?

**Egbert Tölle:** On the one hand, it is referring to value-added tax. Private water and environmental service businesses have to charge value-added tax, municipal companies do not. This unfair situation has existed for more than 20 years and has become worse as value-added tax has gradually risen from 11 to 14, to 16 and now to 19 percent. The BDE, the Federal Association of the German Waste Management Industry, has submitted an official complaint to the EU Commission. **On the other hand, we are also calling for a transparent and non-discriminatory competitive contract award procedure oriented towards the EU Public Procurement Directives.** The fact that municipali-

ties can award contracts as they wish (in-house privilege) means competition is ruled out and encourages decrepit municipal structures.

**REMONDIS aktuell:** There has been an increase in the number of reports in the media about municipalities which are nationalizing their waste collection and processing services. Is this a new trend?

**Egbert Tölle:** No. There is a clear trend towards the privatization of environmental services. Last year alone, for example, the cities of Cottbus, Gera, Schwerin (see page 37) and Düsseldorf privatized their household waste collection and recycling services by creating Public Private Partnerships. Across the country, the market share of municipal service providers has been falling continuously and is →

now below 40 percent. Within the area of hazardous waste and commercial waste, this figure has even dropped to just ten percent. And only seven percent of sales packaging is disposed of by municipal businesses. The trend towards privatization and putting services out to tender is something which should be welcomed. **If a market functions properly, then the State can only benefit from this. Innovative competition has been the result wherever private companies have been awarded contracts.** Only if this happens, is it possible for the water and environmental service branch to contribute towards the political targets of protecting the environment and creating a sustainable raw material economy.

**REMONDIS aktuell:** So it is only a matter of a few individual cases?

**Egbert Tölle:** Yes, there are a few individual examples of re-nationalization with political reasons often being put forward to justify the move. The City of Bergkamen is often quoted as an example. It has brought its electricity and gas supplies as well as its waste management sector back into municipal hands and it is also intending to take back responsibility for its water supply. What you should realize here is that the mayor of Bergkamen is also the president of the City and District Association.

**REMONDIS aktuell:** What does this mean for the inhabitants?

**Egbert Tölle:** All these services – from the supply of electricity to water – will no longer face competition. A municipality which does not put services out to tender but provides the services itself without using a contract award procedure does not have to compete against others on the market. Cost efficiency no longer plays a role. This often means higher service charges for the inhabitants of the area. The background to this is that municipalities use the so-called cost-cover principle – this means, if they need

more money, they can charge this to the inhabitants and the charges are not transparent for the inhabitants (see table).

**REMONDIS aktuell:** Are there any other reasons why municipalities should wish to carry out waste recycling and disposal services themselves?

**Egbert Tölle:** Municipalities use the waste collection charges to set the income of their own businesses and protect their municipal structures under the guise of fulfilling their obligation to ensure basic requirements are provided. They fix service charges from which their own municipal businesses profit. Many municipal businesses use these to subsidize loss-making divisions. The consumer protection agency has discovered a difference in service charges between different municipalities of up to 500 percent with there being no plausible reason for such a difference. Consumer protection groups have suggested that the services should be put out to tender to make municipal waste service charges more transparent.

**REMONDIS aktuell:** The European Union has signalled that it wishes to stop the tax advantages enjoyed by municipal businesses as they lead to distorted competition. What changes would such a move mean?

**Egbert Tölle:** We would very much welcome such a move as it would pave the way towards fair competition. If the VAT tax advantages were to be scrapped, then the municipal companies would have to compete on the market without their 19-percent advantage. For the inhabitants, of course, it would be even better if the market were completely liberalized as is the case in some other countries: then each home owner can choose with which service provider he or she would like to work together – just as they do for electricity or their telephone.

*This interview was held by Katja Dartsch*

The waste charges refer to a fortnightly collection of a 120-litre household waste bin incl. food and garden waste in 2006

#### Waste collection charges in the Rheinisch-Bergisch district

	municipal service provider	private service provider
	City of Bergisch-Gladbach	City of Burscheid
Waste charges	375.72 euros	169.20 euros

Source: Association of Taxpayers NRW



# Europe wants bins for green waste

THE EUROPEAN PARLIAMENT GETS THE WASTE FRAMEWORK DIRECTIVE UNDER WAY

Approximately 1.3 billion tonnes of waste are produced in the European Union each year. And this figure is likely to grow. One of the targets of the EU is to prevent and recycle waste wherever possible. This will soon include every EU citizen throwing away their green waste in a separate bin.

The European Union is currently working on an amendment to the 30-year-old Waste Framework Directive. The aim is to ensure that the **volume of waste** in the EU member states does not continue to grow. The amount of waste produced in 2012 should not be greater than that produced in 2008 and after that the volume should decrease more and more until 2020. 50 percent of household waste and 70 percent of construction and industrial waste must be being recycled by then – that is the target. During the bill's first reading, the European Parliament voted in favour of the amendment by a great majority.

After the Commission had failed over many years to introduce a **waste framework directive for green waste**, something many member states had been calling for, REMONDIS now particularly welcomes the fact that the Parliament has drawn up a separate paragraph in the Waste Framework Directive to deal with green waste. Green waste is not collected separately in many EU countries and even in Germany only 50 percent of all households have a bin for green waste. "Each year, 4.5 million tonnes of green waste is thrown away with residual waste and so wasted in Germany even though excellent compost could be produced from it," explained Aloys Oechtering, managing director of REMONDIS' composting division. The new EU directive is the signal for an EU-wide introduction of the green waste bin and the basis for processing high quality compost. "Now those municipalities which have so far refrained from using the green waste bin and so from contributing towards protecting the environment and preventing climate change

will now have to rethink their strategy." The initial target laid down in the directive is for all EU member states to have set up a separate collection system in their countries for green waste within the next three years.

Another core feature of the directive is its 5-stage **waste hierarchy**: preventing waste is top of the list followed by (2) re-use, then (3) recycling, (4) other processing procedures and finally (5) environmentally friendly disposal methods. "We have taken an important step towards preventing the generation of waste in Europe," Jutta Haug, MEP for the German SPD party, commented on the decision of the Parliament. "Otherwise we will find ourselves drowning in waste."

**The EU Environment Ministers will discuss the new Waste Framework Directive this summer and then it will pass through Parliament again. The revision should have been completed by the end of 2008.**

The Parliament rejected a "principle of autarky" for municipal waste disposal in favour of free borders: residual waste should be disposed of in plants which are most environmentally friendly, even if they are in other EU countries. Jutta Haug and Karl-Heinz Florenz, MEP (CDU), were disappointed that the efficiency criteria for disposal and recycling plants were rejected. In an interview with the FAZ, Mr Florenz said the Parliament had wasted an opportunity to cut greenhouse gas emissions. *(dartsch)*

International

# Biogas generated from wastewater from fruit juice production

## REMONDIS AQUA EXPANDS INTO SPAIN

Nestled between the citrus fruit plantations in the Spanish region of Valencia, the company, WILD VALENCIA S.A. produces fruit juice concentrates and natural extracts for the international drinks and food industry. REMONDIS Aqua is responsible for treating the production wastewater.



As WILD VALENCIA's site in Carcaixent in Valencia had enjoyed strong growth, their existing wastewater pre-treatment facilities needed to be extended. REMONDIS Aqua has been chosen to build and operate new wastewater facilities at the plant. An essential feature of the new facilities is the anaerobic pre-treatment (without oxygen) of the water. During this process, micro-organisms are used to transform components in the wastewater, which has a high sugar content, into biogas.

The biogas can be used as a source of energy for the production process and so can substitute natural gas. "The technology also minimizes both electricity requirements and the volume of sludge needing to be disposed of compared with the conventional aerobic biological processes used

at other plants," explained Dr Lars Meierling, a member of the management at REMONDIS Aqua. This is REMONDIS Aqua's first project in Spain.

WILD VALENCIA belongs to the international WILD Group which is based in the German city of Eppelheim near Heidelberg. WILD is the leading international privately run producer of natural ingredients for the food and drinks industry. The company has become particularly well known thanks to its soft drink "Capri-Sun" which is now sold in more than 100 countries around the world and produced in 18 countries. The family-run business employs 2,500 people. The plant located in the Spanish city of Carcaixent was founded in 1987 to process citrus by-products. *(dartsch)*

Energy is generated from the organic contents of the wastewater during the treatment process.



The orange is the most widely grown citrus fruit in the world. On average, each German citizen drinks 8.9 litres of orange juice a year.



A crop of oranges from Valencia

# Profiting from partnerships

PROF. CARSTEN HANEKE ON THE FUTURE OF PUBLIC PRIVATE PARTNERSHIPS

Public Private Partnership projects are continuously growing in importance: public authorities work together with companies from the private sector and make use of their resources and know-how. Prof. Carsten Haneke is currently in the process of setting up a PPP Institute at the University of Bremerhaven. The institute aims to create networks, take over a practical role as intermediary and provide its support to found and optimize PPPs.

PPP projects help to clear investment backlog more quickly.

**REMONDIS aktuell:** Professor Haneke, in what areas do PPPs tend to be set up?

**Prof. Carsten Haneke:** Throughout the whole of the infrastructure sector. Ranging from the area of defence – most PPPs are found within the army, navy and air force, a fact which is not very well known – to supply and waste management sectors to administration, hospitals and schools.

**REMONDIS aktuell:** How has the area of PPPs developed over the last few years?

**Prof. Carsten Haneke:** The sector has grown by an incredible amount. Whereas there were only 20 projects in 2000/2001 with an investment volume of just under 50 million euros, today there are more than 200 projects with an investment volume of over 2 billion euros. Such projects are now politically acceptable as far as administration projects, hospitals and schools are concerned but there is still great

resistance to the idea within the water and wastewater sector. At least that is the situation here in Germany. All forms of PPPs are growing in importance in other countries, especially in the new EU members states.

**REMONDIS aktuell:** And what is the reason for this?

**Prof. Carsten Haneke:** There is a lack of resources abroad especially in Central and Eastern Europe. And so, they are concluding long-term agreements with reliable partners who have the necessary know-how and achieving their goals together.

**REMONDIS aktuell:** What advantages do PPPs offer municipalities?

**Prof. Carsten Haneke:** To begin with, there are, of course, both organizational and financial advantages for municipalities. In addition, privately run companies can generally



react more quickly and more flexibly than public authorities and have far more experience of the market segments they are active in.

**REMONDIS aktuell:** Why is the water management sector particularly suited to PPP projects?

**Prof. Carsten Haneke:** On the one hand, a great deal of money needs to be invested in the German water management sector and it needs to be continuously optimized. On the other hand, the German water management sector is split up into a huge number of small pieces: there are around 13,000 water and wastewater businesses, most of them in public hands. This area has a very great potential. If we could achieve a PPP share of 20 to 25 percent over the next 5 to 10 years, that would be a great step forward and would be good for the economy as a whole.

**REMONDIS aktuell:** What success stories come to mind?

**Prof. Carsten Haneke:** There are fortunately very many such stories. At REMONDIS, for example, there is the **BEG in Bremerhaven** as well as the **WAL-Betrieb** in the Lausitz. The project in Bremerhaven is particularly future-oriented with its combination of waste recycling and disposal on the one hand and wastewater treatment on the other hand. Both media are closely connected, not least because of the large volume of waste, i.e. sludge, which is a by-product of wastewater treatment.



**“ A PPP should be like a good marriage: a partnership from which both parties profit. You might have to lose a few feathers to begin with – but what you get in the end is far more valuable.”** Prof. Carsten Haneke

**REMONDIS aktuell:** How do you rate the chances of German PPP models on the international market?

**Prof. Carsten Haneke:** In principle, the chances are very good. Only one kind of PPP is used in England and in France there are not many more. In contrast, we have around 100 different contractual forms in Germany in which the local conditions are taken into account. It is this individuality which makes the German PPP models so interesting for international customers. Germany has, therefore, good chances within the area of PPPs on the international markets. At this point, I must praise the municipal partners in Germany as their activities promote the current PPP projects.

REMONDIS Aqua runs PPPs together with, among others, the cities of Bremerhaven, Wesendorf, Oberhausen, Senftenberg, Genthin, Frechen and Gemünden am Main.

**REMONDIS aktuell:** How will the national PPP market develop?

**Prof. Carsten Haneke:** Unfortunately, it is possible to observe a stagnation on the market at the moment. There will, however, be a clear growth in this area in a few years' time because there will be an urgent need to modernize facilities quickly and clear the investment backlog in different sectors, including the water market, and public authorities will have less and less money at their disposal to achieve this.

*This interview was held by Katja Dartsch*





#### Reterra

Each year, REMONDIS markets around 650,000 tonnes of sewage sludge within the agricultural sector as a sludge fertilizer and so puts approx. 13,000 tonnes of phosphate back into arable land.



“ Phosphate is a central element of our life. Were there no phosphate, then there would be no genetic make-up or bones, no leaves or flowers. And yet we still waste our reserves.” Die Zeit

Mineral resources

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# Phosphorus – a vital raw material

## REMONDIS IS CALLING FOR A MORE EFFICIENT USE OF MUNICIPAL SEWAGE SLUDGE

Each year, Germany imports almost 300,000 tonnes of mineral phosphate fertilizer. And yet it is possible to recover more of the valuable raw material phosphorus and feed it back into the economic cycle and back onto arable land – for example by using REMONDIS' quality-certified sewage sludge fertilizer, Reterra®.

As well as many other nutrients, municipal sewage sludge also contains the mineral phosphorus which all living things and plants need to grow. Despite this fact, only approximately 30 percent of municipal sewage sludge is currently being used in Germany for agricultural purposes.

As well as using their own fertilizers and nationally marketed fertilizers made from secondary raw materials, the agricultural sector also uses mineral fertilizers to cover its phosphate requirements. The basic material required to produce phosphate fertilizer is, above all, rock phosphate, which is extracted from huge opencast mines, as well as ore containing phosphate which is imported from all over the world – mostly from Russia, America as well as North and West Africa. Using huge amounts of energy, the ore is extracted in these regions and processed and then the rock phosphate ore and/or the mineral fertilizer is transported all around the world. For every one tonne of pure phosphate, 34 tonnes of soil (ore and earth) need to be removed and processed. A complicated digestion process involving the use of acids is used on the small amount of usable hard rock phosphate to produce quality phosphate fertilizers. Soft rock phosphate undergoes a fine grinding process to produce phosphate fertilizers but the uses of such fertilizers are partly restricted.

Experts are already warning that our natural resources of phosphate will have been used up before our crude oil supplies dry up. According to their calculations, phosphate will no longer be able to be mined using today's technology within 60 to 90 years.

The problem is being aggravated by the fact that there has been an increase in the levels of cadmium and uranium in rock phosphate which means that its use is extremely limited. Despite this, the raw material is being treated in an almost wasteful manner in Germany. Critics are against sewage sludge being used within agriculture which explains why more and more of the material is being incinerated – and so large amounts of valuable phosphorus are disappearing forever. The 2.2 million tonnes of municipal sewage sludge (dry solid matter) which is generated each year across Germany contains phosphate which could cover around 20 percent of all agricultural requirements. Non-hazardous sewage sludge, produced by the municipalities, represents a source of phosphorus which should not be rejected out of hand especially now when measures are being sought to protect the environment and prevent climate change. Quality-certified sewage sludge is an indispensable component of an efficient and sustainable circular-flow economy both as an organic nitrogen and as a phosphate fertilizer. (leifert)

**Reterra®**  
Boden gut machen!





The series of pictures demonstrates the different ways a town district can be viewed using a geographic information system.

Geographic information systems

## The clever database

MORE AND MORE MUNICIPALITIES ARE TURNING TO GEOGRAPHIC INFORMATION SYSTEMS

Kathleen Kobel “rescues” knowledge. She painstakingly gathers together all the information she can get: from sketches, from maps, from the land registry office and then she puts it all into a GIS – a geographic information system.

A geographic information system helps to secure, administer and evaluate data.

Sometimes, Kathleen Kobel needs a magnifying glass to decipher the tiny words and lines. Sometimes she only has drawings done by hand – and sometimes there are not even these. The land surveyor at **REMONDIS Aqua Services** draws up geographic information systems (GIS) for municipalities. GIS can bundle together an innumerable amount of data about specific regions and so be used as a tool when making decisions, planning or for future development projects. “The customer decides just what information he wishes to have in his GIS,” explained Ms Kobel. Very often data on supply and waste management networks are put into the system: water and wastewater networks, electricity and gas pipe networks.

Each customer decides just how detailed the input should be. Kathleen Kobel opens up a file on her computer. The screen shows a bird’s eye view of a number of streets in a town. A whole series of information can be called up about each street and each house: for example, the course of the sewer pipes, the diameter of the pipes, the age of the pipes, the condition of the pipe material, the depth and length of the canals and much, much more. Even photographs and drawings can be fed into the system. Thanks to the GIS, geographical, technical and economic data as well as information about people can be administered and updated

with ease – and it forms a basis for calculating reliable and transparent service charges.

“GIS means a much reduced workload for municipalities as all the data is in one place,” Ms Kobel has noticed. It is often the case that important data has not been written down or is not in a secure place and is often only known by individual members of staff. “This information would inevitably have been lost when the next generation of office workers start work and the older employees leave and so we collect the information by talking to the different people.”

More and more municipalities are introducing geographic information systems. One reason for this is because many are changing to the double-entry accounting system (Doppik), the new municipal finance management system (NKF). “Much of the data needed for the NKF system can be illustrated and automatically called up via the geographic information system,” said Roland Ruscheweyh, managing director at REMONDIS Aqua. REMONDIS Aqua has implemented a GIS for the water utilities company in the city of Beckum, for the Stadtwerke Leer as well as for the city of Lüdighausen and the districts of Ladbergen and Havixbeck. *(dartsch)*

# Success through growth

## WAL-BETRIEB TO TREAT WASTEWATER IN OBERLAUSITZ

It was the offer which made the best economic sense and at the same time had the best technical concept: the Wasserverband Lausitz Betriebsführung GmbH (WAL-Betrieb) has been awarded a contract by the wastewater association in Oderwitz, the Abwasserzweckverband Landwasser, to operate the wastewater treatment plants and pipelines for the 12,000 inhabitants in the region.

“Growth beyond our region’s borders is the key to economic success and safeguarding jobs,” commented Marten Eger, managing director of WAL-Betrieb, after having been awarded the project. Since the beginning of the year, WAL-Betrieb has been responsible for operating the pipe network, pumping stations and the sewage treatment plant in Mittelherwigsdorf and so has bundled services together which had previously been carried out by separate service providers. By having just one company carry out the services, the association is making considerable cost savings. The contract was awarded to the company as part of a Europe-wide invitation to tender. One particular challenge for the wastewater treatment concept was treating production wastewater from the Schwarzbier brewery in Eibau and from the Riegelein chocolate factory as the water has a high organic content. To be able to manage and operate the wastewater treatment activities in the districts of Oderwitz and Eibau in the

best possible manner, the REMONDIS subsidiary, WAL-Betrieb, set up a new branch in Oderwitz. They were also able to take on the staff of the wastewater association.

The REMONDIS company, WAL-Betrieb, was founded in Senftenberg a good twelve months ago and since then has enjoyed a series of successes. The company is responsible for both the technical and business operations of the Lausitz water association with its almost 100,000 inhabitants, it has built up a training centre in Senftenberg and also provides services to, among others, the racing track owned by EuroSpeed Lausitz GmbH. In the “three-country corner” where Germany, Poland and the Czech Republic meet, WAL-Betrieb operates a total of seven sewage treatment plants, more than 100 pumping stations, a waterworks and a pipe network stretching over approximately 1,800 kilometres. *(dartsch)*



In the past, the Oberlausitz was an important centre for the textile industry explaining why there are so many half-timbered houses in the region. Tourism is now one of the area’s most important sources of income. The unemployment rate is above average at around 20 percent.



Industrial services

# A tractor journeying around the world

CLAAS AND REMONDIS EXTEND THEIR  
JOINT INTERNATIONAL ACTIVITIES





They can be seen on the fields in Argentina, the USA, India and throughout the whole of Europe: the combine harvesters, tractors and forage harvesters produced by the company, CLAAS. The Harsewinkel-based manufacturer of agricultural equipment helps farmers across the world to bring in their harvests. The work it carries out with REMONDIS also stretches beyond national borders.

CLAAS has been using services from REMONDIS since 1999. Each year, REMONDIS recycles and disposes of around 2,850 tonnes of waste generated from the production of the agricultural machines both in Germany and abroad: wood, metal cuttings, commercial waste similar to household waste, hazardous waste etc. REMONDIS also provides CLAAS with a regional winter gritting and snow clearance service. And REMONDIS provides a very special service for the CLAAS branches in Harsewinkel and Paderborn: REMONDIS employees have set up an office directly on the CLAAS premises to be able to serve and advise the company in the best possible way. Their joint international activities are to be extended in the future, especially in France.

Many people are getting to learn about the international set-up of this family-run business in a very unusual way at the moment. For CLAAS is probably the first ever company to send one of its tractors on a trip around the world. The 25-year-old farm machinery mechanic, Matthias Lause, is currently journeying around the world on a 150-horse-powered ARES 697 ATZ pulling a caravan behind him: through Italy, Morocco, Canada, Mexico, Australia, Malaysia, Russia and Lesotho to name just a few of the 17 sometimes very exotic countries. He is expecting to cover some 25,000 kilometres in about 300 days. The people in Lesotho, a small kingdom in Southern Africa, were particularly interested in watching this adventure. For the tractor tour is also promoting the project "Gardens for Life" run by the Care charity organization which is using donations to finance school gardens in Lesotho ([www.tractor-world-tour.com](http://www.tractor-world-tour.com)). REMONDIS is also sponsoring the trip.

#### CLAAS: Facts & Figures

- founded in 1913
- employs around 8,200 people
- annual turnover: 2,350 million euros



Producers are responsible for recycling and disposing of their sales packaging

Dual systems

## EKO-PUNKT throughout the whole country

MINISTRY JUDGES PACKAGING ORDINANCE TO BE A "SUCCESS STORY"

The Packaging Ordinance is an essential feature of the circular-flow economy in Germany. Since the market was opened up, REMONDIS has been gaining ground with its EKO-PUNKT dual system.

### EKO-PUNKT

Separating waste has become second nature to people living in Germany. They realize that by doing so they are making a valuable contribution towards protecting the environment. They take old glass and paper to the relevant containers and other kinds of sales packaging are thrown away into their yellow bin or yellow bag. And so consumers comply with the waste collection structure which was set out in the Packaging Ordinance in 1991. This Ordinance has played a considerable role towards ensuring that less sales packaging is used and that more of the packaging on the market is recycled.

The producers and dealers must carry the costs of collecting and processing the used packaging. For the system to work,

they must have the amounts of packaging, which they put onto the market, licensed at a dual system. Since the Monopolies Commission disallowed the original monopoly system, several providers have become active on the market. One of the providers gaining ground across the country is EKO-PUNKT, the dual system run by REMONDIS.

EKO-PUNKT has already submitted application documents to all the German federal states to receive the necessary approval and is expecting to have established a nationwide take-back system by the end of the year at the latest.

EKO-PUNKT has already been approved in Hamburg and Bavaria and so has access to 17 percent of all German citizens. EKO-PUNKT is the only dual system in Germany which



has its own sorting and processing plants. Herwart Wilms, a sales manager at REMONDIS commented, "The network we have gives us a clear competitive advantage, as we have all the necessary resources at our disposal making administrative costs much lower than those of other providers."

The German Federal Ministry of the Environment recently pronounced the Packaging Ordinance to be a "success story". It has resulted in the recycling rates of recyclable materials rising significantly: for glass from 50 to 85 percent, for old paper from 44 to just under 80 percent. And plastics only began to be recycled at all when the Ordinance came into being. Today around 54 percent of plastic packaging is used for material recycling or to generate energy. Since it was first introduced, the Ordinance has been continuously adapted to reflect the developments within the sector.

At the beginning of March, the Ministry of the Environment presented its draft for the 5th amendment to the Packaging Ordinance. The objective of the amendment is to safeguard the financial basis to ensure kerbside collection of sales packaging can be continued. In the recent past, copycat systems – i.e. companies which have been trying to avoid paying the costs to dispose of their packaging – have caused the dual system to totter.

**EKO-PUNKT** already takes back and processes transport and sales packaging in Poland, Hungary, Great Britain, the Czech Republic and Slovakia.

The resulting financing gap has been put at between 300 and 500 million euros.

The amendment clearly differentiates between packaging which ends up in households and comparatively small commercial businesses from that which ends up in large commercial or industrial businesses such as sports stadiums, army barracks and restaurants. Plans are for the draft to have been read by both the "Bundestag" and the "Bundesrat" before the summer recess begins. *(dartsch)*

#### Facts and Figures

Packaging is recyclable material. If it is collected separately, sorted and recycled, then natural resources can be conserved. Valuable secondary raw materials can be recovered by recycling packaging waste which can be fed back into the economic cycle. Sales packaging has been divided up into three different categories: (1) glass (2) paper, card and cardboard and (3) light packaging. Light packaging includes aluminium, tin, plastics and laminated material.



Industrial services

# Energy from industrial waste

THE FUEL RENOTHERM® IS USED AS A SUBSTITUTE FOR COAL, GAS AND OIL

Since the prices for fossil fuels started to spiral upwards, the demand for alternative forms of energy has increased especially among industrial businesses using energy-intensive processes. REMONDIS produces the quality-certified secondary fuel RENOTHERM® – a product made from industrial waste.

Distillation residue, resins, adhesives and glues, paints and enamels: **REMONDIS Industrie Service**, a company based in the City of Bramsche in the German state of Lower Saxony, specializes in recycling and disposing of industrial waste. Around 50 percent of the 60,000 tonnes of waste processed last year was turned into RENOTHERM®. This alternative fuel is used, above all, by cement works and power plants which are otherwise run on coal, gas or oil.

Both know-how and technology is needed to produce RENOTHERM®. Extreme caution must be exercised right from the moment the waste is delivered: each delivery undergoes a detailed check in the laboratory to assess and analyse its suitability. In principle, it is only possible to produce fuels from materials when the origin and producer of the waste is known. If the material is judged to be suitable then, depending on the need, it is cut up, dried, homogenized, impurities are removed and then it is processed into a free-flowing fuel material.

Getting the mixture right is one of the most important factors when producing a high quality fuel like RENOTHERM®, explained the branch manager Karl-Hugo Wüllhorst, "It's

similar to baking a cake: if an ingredient is missing or the wrong quantities are used, then the final product is useless." In the plant in Bramsche, the materials are mixed together with the help of a computer-aided high-bay warehouse as well as from a silo for dusty waste. Using these highly specialized facilities, the experts can determine exactly just what materials are mixed together and in what amounts.

"The fuels must have a constant heating value of between 16,000 and 20,000 KJ/kg and – depending on the injection systems of the post-combustion facilities – particle sizes of smaller than 10 or smaller the 40 millimetres. Furthermore, it is essential that we keep below the stipulated limits for materials such as chlorine, cadmium and mercury as well as for other heavy metals," explained Karl-Hugo Wüllhorst as he pointed out the most important parameters. There is another quality control at the end of the process: before the fuel leaves the plant as RENOTHERM®, intensive checks are carried out in the laboratory to ensure all values are correct. The fuel can then be transported to the recycling plants and the material, which was once industrial waste, can now be used as a form of energy. *(dartsch)*



# Waste electrical appliances as a source of raw materials

REMONDIS OPENS A WEEE DISMANTLING CENTRE IN THE POLISH CITY OF ŁÓDŹ

Around 7 million tonnes of waste electrical and electronic equipment (WEEE) is produced across Europe each year including innumerable old cooling and freezing appliances, broken toasters and defective televisions. The EU WEEE Directive is currently being implemented in Poland where plans are for the WEEE to be recycled in a more environmentally friendly manner. REMONDIS has built a dismantling centre in the Polish city of Łódź.

REMONDIS invested four million euros in modernizing the plant and the technology at the new WEEE dismantling centre. The facilities are being officially opened this summer. It is considered to be the most modern dismantling centre in Poland and has a number of different facilities including machinery which automatically removes and separates cathode ray tubes, equipment to suck out CFC oil mixtures from refrigerators as well as a dismantling line for small household appliances.

The EU WEEE Directive, which was adopted by Germany exactly one year ago, increases the responsibility of both those producing and importing electrical and electronic appliances and aims to have the waste appliances treated in a more environmentally friendly way. Hazardous substances can be safely removed from the equipment at the dismantling centres and the raw materials can be recovered. Since autumn 2006, companies producing or placing electrical and electronic appliances onto the market in Poland must be registered at the State Inspectorate for Environmental Protection and must ensure their equipment is dismantled by special providers of recycling systems. The recycling rates (see table) laid down by the European Union, however, need not be reached and certified until 2008/2009. REMONDIS has already signed agreements with ElektroEko and ERP Polska.



The WEEE dismantling centre in Łódź is being officially opened this summer.

Polish citizens are no longer permitted to throw away their waste electrical and electronic appliances with their general waste but must dispose of them separately. The equipment is generally taken away by a special kerbside collection service although they can also be handed in at recycling centres or collection points. The WEEE Directive has now been adopted by all EU member states. *(dartsch)*

## WEEE processing and recycling rates in the EU

Category	processing rate (for material and energy)	recycling rate (material)
1) Large household appliances	80 %	75 %
2) Household cooling/freezing appliances	80 %	75 %
3) IT & consumer technology and monitors	75 %	65 %
4) Gas discharge lamps	80 %	75 %
5) Small household appliances	70 %	50 %

# Germany has got 'the green touch'

## PROTECTING THE ENVIRONMENT AND ACHIEVING ECONOMIC GROWTH AT THE SAME TIME

Germany is far more careful with natural resources than most other industrial nations. This is the result of the latest "Environmental Efficiency Indicator" which was developed by the Institute of the German Economy in Cologne (IW). Water consumption, emissions and energy consumption were looked at in the different countries and compared with their gross domestic products. Germany was seventh on the list. Dr Hubertus Bardt explained the results.



Dr Hubertus Bardt

**REMONDIS aktuell:** Emissions have dropped considerably and the consumption of water and raw materials has also fallen by a considerable amount. At the same time, GDP has risen. Are the economy and ecology in Germany moving along hand in hand?

**Dr Hubertus Bardt:** The aim is to be more environmentally efficient or for business processes to be less "environmentally intensive". Germany is heading in the right direction: we are enjoying economic growth and at the same time doing more to protect the environment.

**REMONDIS aktuell:** The general opinion in the 70s was that economic growth automatically meant that the environment would be damaged. Why is this not the case?

**Dr Hubertus Bardt:** The price situation has changed. At the beginning of the 70s, energy costs were of little importance and people paid little attention to the environment. As the price of oil has increased, so the cost of energy has become a more important factor as well as the realization that fossil fuels are finite. This, together with the fact that

citizens have become more and more aware of environmental issues, has led to greater environmental efficiency and more efforts being made to protect the environment.

**REMONDIS aktuell:** Can you name some examples of how energy and raw materials are being used more efficiently?

**Dr Hubertus Bardt:** There is a whole list of good examples: nowadays, cars run on far less fuel than in the past and so fuel consumption has dropped. Power plants producing electricity are far more efficient than they were in the past because their thermal efficiency is much higher now. Water consumption has fallen: water is being recycled at factories instead of only fresh water be used. And, of course, the growth in recycling has relieved the strain on the environment.

**REMONDIS aktuell:** What role has the environmental service branch played in reducing the intensive use of raw materials?

**Dr Hubertus Bardt:** The environmental service branch ensures that resources are used more efficiently simply because its services mean fewer raw materials need to be taken from the environment. However, not only raw materials are conserved but energy, too. Take aluminium or steel recycling as an example: I need to use far less energy to melt down scrap steel than I do if I have to recover the primary metal from ore. All in all, the environmental service branch has played a considerable role in reducing greenhouse gas emissions, especially as less waste is being taken to landfill. This has had a clear influence on the climate.

**REMONDIS aktuell:** Prices for raw materials have been spiralling upwards for many years now – what does this mean for the market for secondary raw materials?



**Dr Hubertus Bardt:** The increase in prices has meant there has been a greater incentive to look for alternatives. In principle, there are three ways to avoid the price increases. Firstly, it is possible to use the raw materials more efficiently so that consumption falls. Secondly, alternative bio-raw materials can be used. And thirdly, it is possible to use secondary raw materials. This means the materials recovered from waste will grow in importance and be of ever increasing interest to businesses processing raw materials.

**REMONDIS aktuell:** How do you see the situation developing? Do you believe that Germany can become even more environmentally efficient? And how will this issue develop internationally?

**Dr Hubertus Bardt:** For decades, we have been observing a trend towards greater environmental efficiency. Energy efficiency has been steadily increasing over the last 30 years and this will continue. Environmental awareness will grow and the search will continue for more ways to conserve resources. The importance of the environmental service branch as a source of raw materials and energy will increase – especially on international markets where such factors have not yet played such a significant role.

*This interview was held by Katja Dartsch*

#### Material streams at REMONDIS (t/year)

Metals/scrap*	9,000,000
Construction waste/mixed construction waste	2,950,000
Municipal waste	2,800,000
Paper/card/cardboard	2,400,000
Earth	1,280,000
Food/green waste	1,220,000
Sewage sludge	1,170,000
Commercial waste	980,000
Industrial waste	970,000
Glass	802,000
Timber	540,000
Light packaging	403,000
Metal slag	130,000
WEEE	120,000
Photographic chemicals	46,000

\*inc. TSR



Company partnership

# High in the sky

REMONDIS IS SERVICE PROVIDER FOR THE WORLD'S LARGEST AIRLINE CATERERS

High in the skies, they serve green asparagus, beef dishes, desserts and other delicacies – the Lufthansa subsidiary, LSG Sky Chefs, is the biggest airline caterer in the world.

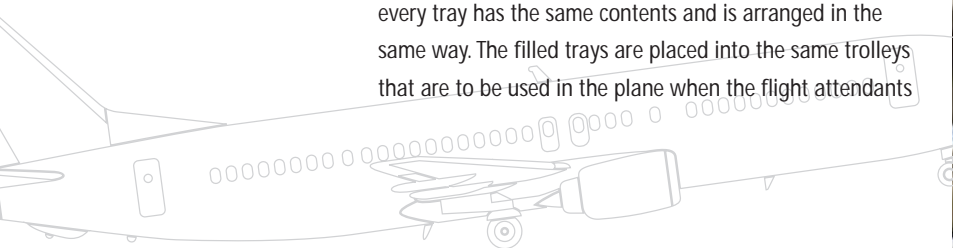
The company, which has more than 190 branches around the world, supplies around 270 international airlines with food and non-food articles – including American Airlines, Air China and Emirates. LSG Chefs work together with REMONDIS at many airports such as in Frankfurt, Hamburg and Munich. REMONDIS manages all aspects concerning the company's waste and recyclable materials. As the waste on board is transported across international borders, both the transport and the disposal of the material are subject to the strict hygiene directive, EC 1774/2002, and must be treated with special care and attention.

serve the meals. When the plane lands, the trolleys mostly contain rubbish. REMONDIS recycles and disposes of the material helping to ensure that the work carried out by LSG SKY Chefs runs smoothly. *(dartsch)*



REMONDIS recycles and disposes of 20,000 tonnes of waste from the kitchens and planes for LSG Sky Chefs each year.

In Munich alone, up to 40,000 meals are prepared each day in a number of large kitchens. Each week, the employees use up to 2.5 tonnes of salad foods and vegetables. The chefs fill the trays according to the wishes of the airlines – they always have a photograph on hand to ensure that every tray has the same contents and is arranged in the same way. The filled trays are placed into the same trolleys that are to be used in the plane when the flight attendants



# Privatization in Schwerin

## REMONDIS PURCHASES A SHARE IN THE SCHWERIN-BASED COMPANY, SAS

The City of Schwerin and REMONDIS have become partners: at the beginning of the year, REMONDIS took over 49 percent of the shares in the Schweriner Abfallentsorgungs- und Straßenreinigung (SAS). Together, they are looking to achieve growth.

The sale of the SAS shares was part of a Europe-wide invitation to tender. "We are very pleased that the City of Schwerin has placed their trust in us by awarding us with the contract to master the waste management challenges in the region of Westmecklenburg," commented Dr Burkhardt Greiff, project manager at REMONDIS. The City of Schwerin had previously been the sole owner of SAS. Dr Mathias Kühne, managing director at SAS, said, "By selling a percentage of its shares, the city is following its strategy of finding a strategic partner for its municipal company and selling a minority share of the business. We are looking to become more competitive with our new partner, REMONDIS."

SAS has been active within the areas of street cleaning and waste disposal for 50 years. Working on behalf of the Schwerin city council, the more than 60 employees achieved a turnover of around 8 million euros last year. The services offered by SAS include processing household and bulky waste, cleaning streets, open spaces and markets, collecting recyclable waste and clearing the streets of snow

in winter. Each year, SAS empties around 15,000 household bins and cleans approximately 18,000 kilometres of streets with its road sweepers.

**"Now we are working with REMONDIS, our company is in a much better competitive position."**

Dr Mathias Kühne, managing director at SAS

Being part of a Public Private Partnership, SAS now has the opportunity to take part in invitations to tender in the region. "We are looking to grow together especially when the reform of the districts comes into force in 2009," Dr Greiff said when explaining his plans for the next few years. A three-year job commitment agreement was signed for the SAS employees. "I am assuming that our workforce will grow over the next few years as we enter into new business fields," Dr Kühne forecast. "Our purchasing policies will also become more attractive. We will, for example, be able to purchase waste collection trucks from REMONDIS at better conditions and so can save costs." (*dartsch*)



The City of Schwerin and REMONDIS have become partners.

Metal

# Mega-shredder in Mannheim

200 TONNES OF WASHING MACHINES, CARS AND FENCES PER HOUR



There is a new shredder at TSR's Mannheim branch. The employees treat it with great respect and have given it the nickname, the 'mega-shredder': it is 130 metres long making it the largest of its kind in Germany.

A good 60 trucks were needed to supply all of the shredder parts to the premises at Mannheim harbour. The new shredder can cut up light iron scrap – e.g. washing machines, ovens and cars. And it has a top level of performance: 200 tonnes an hour. The shredded material can be transported directly onto a ship via a conveyor belt. The 6,000-horsepower shredder has been operating since January and is run based on a new kind of technology: water is injected into the shredding process to cut dust emissions. The site had to be reorganized to install the shredder and up to 100 people were working on the construction of the machine at any one time.

The Cartel Office approved the takeover of TSR by a consortium involving REMONDIS at the end of March. *(dartsch)*



Major contract

# The Leipzig city tunnel project

MUEG PROCESSES EXCAVATED EARTH FOR FILLING OPENCAST MINE PITS



The Leipzig City Tunnel project is the largest road construction project currently being carried out in Saxony: the tunnel will connect the main train station with the Bayerische station in Leipzig and will be about four kilometres in length. The construction work began in 2003 and the first metro is due to travel through it in 2011.

A large amount of earth has been excavated as part of the construction process. **MUEG Mitteldeutsche Umwelt- und Entsorgungs GmbH**, a REMONDIS company based in Braunsbedra (Saxony-Anhalt), was awarded a contract to process the earth excavated at the individual underground stations. Over 500,000 tonnes have already been used to fill opencast mine pits as part of the mining recultivation programme. Since December 2006, MUEG has also been



responsible for processing the earth excavated as part of the tunnel construction work (shield tunnelling). MUEG has set up its own treatment facilities at the Bayerische train station to carry out this work. *(arndt)*

# Visitors from Kaliningrad

## GOVERNOR VISITS REMONDIS' LIPPE PLANT IN LÜNEN

Waste from the Russian enclave, Kaliningrad, is, for the most part, sent untreated to landfill. This has led to huge environmental problems at this small town so that the Government now wishes to close the landfill down. It is not yet clear whether they will invest in a new and safer landfill or whether they should use alternative methods of processing waste. "Kaliningrad is currently on the look-out for a

European partner to find a suitable solution to their problem," explained Friedrich Buchholz, managing director at REMONDIS. In order to learn more about how waste can be processed, Governor Boos and the Minister of the Economy, Mr Butchelnikov, visited the Lippe Plant, REMONDIS' head office and Europe's largest centre for industrial environmental services, in January. *(dartsch)*



## Recycling centre in Schaffhausen

### REMONDIS SWITZERLAND WITH A NEW LOCATION

This summer, REMONDIS and its subsidiary, **Urs Sigrist**, will be putting a new business location into operation in Switzerland. The new recycling park in the canton, Schaffhausen, will be offering a wide range of services. As well as processing old glass, old paper and cardboard, plastics and WEEE, hazardous waste from hospitals and clinics as well as from printing businesses will be collected and processed in Schaffhausen. The materials from the medical and printing businesses will be collected from around the whole of the country and will amount to a total of 15,000 tonnes a year. Around 30 people will be employed at the recycling park in Schaffhausen. The investment sum: around 2.5 million euros. *(dartsch)*

## Expansion within the gypsum division

### REMONDIS FOUNDS THE COMPANY, SYNTHECO GMBH

REMONDIS is strengthening its activities within the gypsum sector. To achieve this, REMONDIS has founded the joint company, **Syntheco GmbH**, with the Fluorchemiegruppe from Bergheim. One of the by-products of the production process of hydrofluoric acid at the Fluorchemiegruppe is synthetic anhydrite. Once it has been enriched with Rad-dibin anhydrite from Lünen, this synthetic anhydrite is sold on the market as a raw material for liquid flooring plaster. This blended product is manufactured at Syntheco's mixing plants in Stulln (Oberpfalz) and Dohna (Saxony). As a result of this move, REMONDIS has increased its total volume within its gypsum division to 110,000 tonnes a year. REMONDIS has a 51-percent share in the new company. *(dartsch)*



**SYNTHECO**

Employee portrait

# An accountant on the other side of the world

DON HOOKER WORKS AT THE REMONDIS LIQUID GROUP IN SYDNEY

His office is more than 20,000 kilometres away from the REMONDIS head office in Germany: Don Hooker works on the other side of the world – as an accountant in Australia.

Don Hooker is not satisfied until he is absolutely sure that he has completed his work in a professional manner and to the best of his ability. “I want our customers and suppliers to be completely happy with our services,” he said. The 54-year-old is a perfectionist – and, as his colleagues say, one of the most generous and happiest people they have ever met. He is employed as an accountant at the **REMONDIS Liquid Group**, which deals with liquid waste, where he is responsible for accounts receivable and payable, for general accounting and banking business as well as for customer services.

After finishing high school, Hooker trained to become an accountant at Australia’s leading airline, Qantas, and then worked at Thai International for 20 years – first as an assistant accountant, later as a manager within marketing and administration. This was followed by several years in a travel agency and then at Sydney Airport as a security



Don Hooker

officer before joining REMONDIS five years ago. “I most enjoy working with our customers and helping with enquiries,” he explained. No two days are the same – except for dealing with bank matters at the beginning of the day. His tasks include keeping the customer database up-to-date, writing invoices and providing his departmental manager with support as needed.

When he leaves work, he likes to spend a lot of time with his family – he has six grown-up children and already has six grandchildren. He enjoys doing crosswords and loves sport – especially cricket and golf. His greatest hobby is, however, stamp collecting. For him, he says, stamps are the gateway to the big, wide world. Some time in the future, he has decided, he will travel overseas himself. *(beckerhoff)*

## Facts and Figures

The first branch which REMONDIS opened outside Germany was in the Australian city of St Marys near Penrith in 1982. Almost 200 people now work at the branches in St Marys, Port Macquarie, Salisbury and Coolaroo.



# Success in the “Three Country Corner”

## THE REMONDIS BRANCH IN MAULBURG

“If you enjoy your work, then success is just around the corner,” believes Wolfgang Scherm. He is plant manager at the REMONDIS branch in Maulburg and believes a good working atmosphere is essential. The Maulburg region certainly provides the perfect setting for a good working environment: Maulburg, which lies in the Wiesental valley, is right next to the Black Forest and very close to the popular skiing resort in Feldberg. “We work where other people spend their holidays,” Mr Scherm commented.

The 49 REMONDIS employees in Maulburg provide services for the approximately 380,000 citizens in the districts of Waldshut and Lörrach. REMONDIS fulfils its contractual duties for the municipalities collecting household and bulky waste as well as collecting and processing sales packaging and commercial waste. As it only takes a few minutes to get from the REMONDIS branch to the French and Swiss borders by car, they also have some foreign customers. The company works together, for example, with the COOP retail chain as well as with Migros in Switzerland.

Visitors are often pleasantly surprised when they visit the branch for the first time, Mr Scherm continued, “We are a business dealing with waste and yet the whole place is spotless with everything in its right place. We attach great importance to keeping it this way as well as to the corporate design.”

Maulburg, with its 4,000 inhabitants, is located in the district of Lörrach directly on the borders to France and Switzerland.

Last year was a very special year for the Maulburg branch. When one of its competitors was forced to call in the receivers last August, REMONDIS took over the service to collect household waste and yellow bags in the district of Waldshut at very short notice. Within 14 days, Mr Scherm recalled, 26 new employees had been taken on – more than doubling their team in Maulburg. With much support from their colleagues in Munich and Stuttgart as well as from the head office in Lünen, ten vehicles were found to carry out the collection services. The whole process was carried out without any problems at all thanks to the commitment of all the staff involved. *(dartsch)*





Picture: Roland Greife, Westfälische Nachrichten

Lars Normann from Telgte dreams of becoming a dustman.

TV appearance

## A dream comes true

GERMAN TV PRESENTER, KAI PFLAUME, HELPS MAKE A DREAM COME TRUE FOR REMONDIS FAN, LARS NORMANN

For Lars Normann, there is nothing more exciting than working as a dustman. The secondary school pupil has been an honorary REMONDIS dustman for a long time now. Thanks to the German TV presenter, Kai Pflaume, one of the boy's greatest dreams has now come true.

Lars Normann is probably REMONDIS' greatest fan. Every afternoon, whenever the dustbin lorry turns into the street where he lives in the town of Telgte near Münster, he is waiting in his full dustman gear to lend a hand. He makes sure the bins are in the right place on the kerbside for the sidearm to pick up, he checks the bins contain the right rubbish and he talks shop with the driver. And, since watching a programme on TV about the waste collection service in Hamburg, it has been his greatest wish to go there and work with the dustmen there for a day.

It is this wish which Kai Pflaume has made come true. He surprised Lars during a music lesson, took him straight to Hamburg and then, at 5 a.m. the next morning, they both

climbed into a rear-end loader spending the whole day travelling around the Hanse city. Lars can thank his mother for this unusual trip. She had heard of Kai Pflaume's new show "Träume werden wahr" ("Dreams come true") which helps to fulfil children's dreams and sent in a letter to the show. The team was so impressed by this unusual wish that they planned Lars Normann's trip to be broadcast during the very first show.

They first secretly filmed Lars one afternoon as he helped the dustman in his street – and then Kai Pflaume personally turned up and surprised the teenager. Lars was completely bowled over by his day in Hamburg – especially by the huge fleet of vehicles and the fact that the dustmen collect the bins from the back yards, cellars or front doors themselves. Lars also got on extremely well with Kai Pflaume. Not only because they are both football fans and support Bayern Munich – but also because Kai Pflaume had also dreamt of becoming a dustman when he was a young boy.

(dartsch)

The first show of the new series, "Träume werden wahr", is being broadcast on Sat. 1 on Easter Monday at 7.15 p.m.



> Impressions





## Full Collection and Transport Logistics

Thousands of companies and municipalities from all around the world rely on REMONDIS' logistics expertise. Year on year, we collect and transport millions of tonnes of very different fractions for our customers. We also provide a wide range of containers and bins so that waste can be separated on site at our customers'. And we have special

vehicles wherever they are needed to ensure the materials are collected and transported safely.

As part of our plant services, however, we also draw up complex in-house logistics solutions for your business to ensure the waste from your production processes is directly collected and

disposed of in a safe and environmentally friendly manner.

Are you interested in learning more? We are very happy to give you more detailed information about our services. Our experts are just a telephone call away!