

**REMEX<sup>®</sup>**

WORKING FOR THE FUTURE

Waste without borders.  
Transport, treatment and recovery



> REMEX Singapore

Your partner in Asia for hazardous and non-hazardous waste management

remex.sg

# REMEX closes material life cycles

Many different types of waste are generated in great volumes everyday by industrial businesses worldwide. REMEX offers an integral range of waste management and recycling solutions covering all aspects of hazardous and non-hazardous waste – each tailored to meet the requirements of individual business sectors.

## REMEX key business areas

- Mineral waste management
- Minerals recycling
- Secondary aggregate production
- Soil recycling
- Remediation
- Landfill operation
- Backfill material & fly ash treatment

## Special services

In addition to our key business areas, we provide a full set of special services in regard to the following areas:

- Hazardous waste management
- Thermal waste treatment
- Logistics solutions



Aerial foto of the REMEX plant in Singapore, the most modern incinerator bottom ash recycling facility in Asia



# Professional treatment and systematic recycling of hazardous waste

The REMEX Group also provides state-of-the-art services for dealing with hazardous waste. Thanks to a network of wide-ranging facilities and plants, we are able to ensure the safe disposal and recycling of most waste types.

## A wide range of materials

Within the REMEX Group, we are able to manage the disposal of all kinds of solid, liquid and pasty waste. There are practically no restrictions to the type of waste we accept. Even the most hazardous kinds of waste, such as aerosol cans, special chemicals, gases and metal-organic compounds or highly toxic and explosive materials are acceptable for us and are treated in the best possible way.

## We recycle and dispose of, among others:

- Contents of oil and petrol separators, grit chamber residue
- Emulsions and other oil/water mixtures
- Acids and alkalis
- Sedimentation sludge and sludge from tank-cleaning work
- Solvent mixtures
- Metal and plastic packaging
- Paint and varnish sludge
- Mercury and waste containing mercury
- Aerosol cans and gases
- Pickling baths and electrolytes

- Ion exchange resins
- Printed circuit boards and electronic components
- Cleaning and polishing cloths
- Waste paints and varnishes, glues
- Distillation residue
- Tar
- Medicines
- Chemicals, pesticides and metal-organic compounds
- PCB waste
- Contaminated earth and construction waste
- Sludge from wastewater treatment
- Stabilised and premixed waste





Special chemicals need to be handled with extra care and attention. Trained experts collect and treat these materials according to the highest safety standards to protect both people and the environment

## > PLANT NETWORK

# Safety thanks to technology

A large part of the technology being used has been developed through practical experience – by our engineers and technicians who have been working within the environmental service branch and the hazardous waste disposal sector for decades.

### Safe and reliable

When processing dangerous materials, top priority is always given to minimizing the risks involved – especially if the exact composition of the waste has to be predetermined or conditioning and homogenisation processes are required to treat the material efficiently. All stages are subject to the strictest safety precautions with all materials being monitored and weighed when they arrive, samples taken and analyses undertaken to identify the exact contents.

### Economically efficient and environmentally sound

There are a large number of different kinds of facilities within our network which professionally treat and recycle or dispose of hazardous waste:

- Sorting, shredding and conditioning facilities
- Chemical-physical treatment facilities for all types of liquid waste

- Facilities for treating aerosol cans and gas bottles
- Facilities for treating hazardous chemicals
- Mercury recycling facilities
- Hazardous waste incineration plants
- Municipal and commercial waste incineration plants
- Fluidised-bed power plants for incinerating liquid waste and industrial sludge
- Facilities for recycling residual mineral materials
- Timber incineration plants
- Production of fuels from hazardous and non-hazardous waste
- Underground backfilling and underground disposal sites
- Above-ground landfills (categories I, II, III)
- Distillation facilities for treating solvents

REMEX operates a large number of company-owned facilities in Europe and Asia where it professionally treats, recycles or disposes of different kinds of waste



> SERVICE

## Benefit from our decades of experience

Turning hazardous waste into raw material that no longer poses a threat to people and the environment involves very complex procedures. Thus, systematic recycling plays a major role in helping to reduce waste disposal costs.

### **Perfection is the cornerstone of trust**

At REMEX, top priority is always given to achieving the highest levels of customer satisfaction. As part of our intelligent material flow management system, we have established a deep-rooted company culture which is reflected in our reliable procedures, intelligent quality assurance systems, highest health and safety standards and comprehensive documentation processes.

### **Professional advice and support**

Our highly qualified employees are there to provide you with expert advice no matter what the task. With our comprehensive range of consultancy services, we support all waste management businesses and industrial customers.

#### **> REMEX provides maximum levels of quality, service and safety**

- Analysis of the material streams to find the best recycling and/or disposal options across the REMEX Group
- Support from highly qualified technicians and engineers
- Guaranteed legal compliance for all relevant approval procedures as well as documentation obligations
- Professional support provided to draw up the necessary notification documents or for all legal requirements

Using our profound specialist knowledge, we advise customers from various industries on the most suitable method of waste management





> CLEAN ENERGY

## Thermal treatment of non-recyclables

The recycling of waste is not always technically possible. In these cases, incineration is the safest and most environmentally friendly method of disposal. In addition, the use of energy from combustion saves primary energy. Depending on the waste, a number of thermal treatments are available: waste incineration plants, cement plants / cement kilns, coal-fired power plants or hazardous waste incineration plants.

### **Substitute fuels replace coal, gas or oil**

Industrial processes generate considerable volumes of hazardous waste. We take this waste and process it into a quality-assured substitute fuel. This energy carrier not only

saves the environment additional CO<sub>2</sub>, but also conserves valuable natural resources as it replaces primary energy sources in the power plant and cement industry.

### Energy from high calorific solid waste

Due to the professional production in a multi-stage process and the strict quality controls, solid fuel from industrial waste offers a consistently high calorific value between 16,000 and 20,000 kJ/kg at a flash point of more than 55°C. Depending on the customer's requirements, the grain size of the fuel can be adjusted to less than 10 or less than 40 millimetres, the pH value is between 4 and 10, and we strictly adhere to other plant-specific limit values for hazardous substances such as chlorine, cadmium, mercury and other heavy metals.

### Processing for optimum substitute fuels

If the waste is used e.g. as secondary fuel in cement plants to replace part of the regular fuel, it needs to be professionally processed in several steps:

- Acceptance: Extremely thorough control and analysis of all delivered materials
- Pre-treatment: If necessary, crushing and sorting. Waste and materials not suitable for the production of fuel are sorted out
- Conditioning: Homogenisation of solid and pasty waste through addition of additives
- Processing: Finest shredding and further homogenisation in a compulsory mixer with conditioning agents
- Packaging: Separation and screening of the processed materials; removal of recyclable materials and impurities
- Application: Transport of the finished substitute fuel to the cement producing plants or power plants, impurities go to incineration plants, metals are recycled



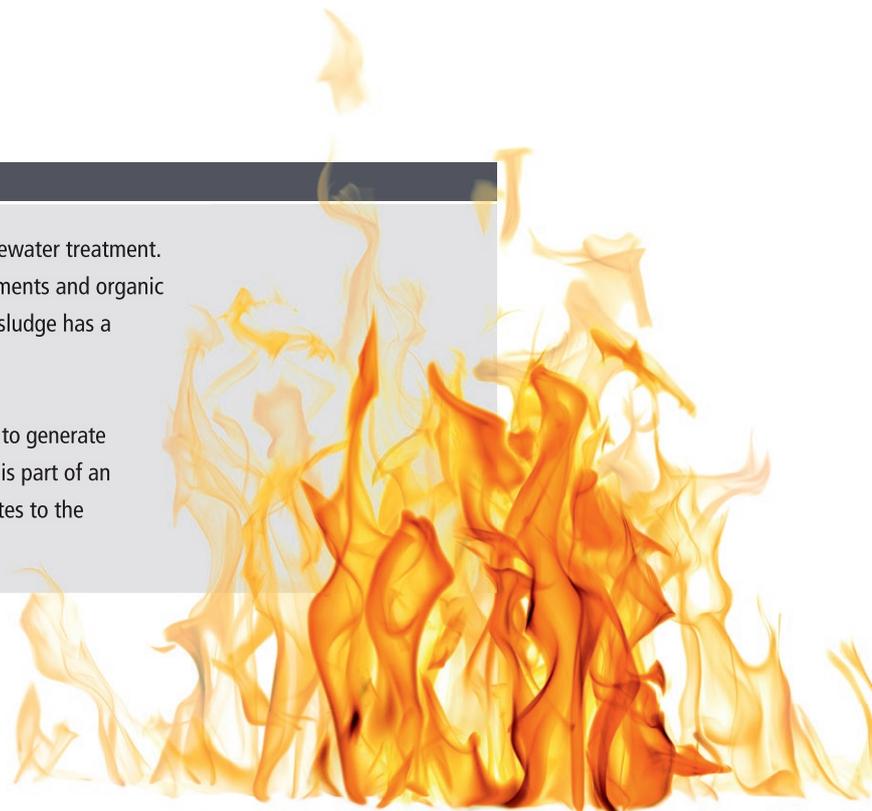
### Examples for high calorific waste that we treat:

- Contaminated or non-recyclable plastic waste
- Paint and varnish sludge as well as paints and varnishes in tins and printing inks
- Reaction and distillation residue
- Waxes and fats
- Industrial carbon black and spent activated carbon
- Sewage sludge
- Scrap wood

### > Special expertise sewage sludge

Sewage sludge is a versatile resource that is generated during wastewater treatment. An essential natural element such as phosphorus, but also nutritive elements and organic substances make this resource so interesting. Furthermore, sewage sludge has a high energy content.

In the energetic recovery of sewage sludge, its calorific value is used to generate energy, while pollutants are eliminated. This use as a secondary fuel is part of an intelligent and CO<sub>2</sub>-neutral energy production process that contributes to the reduction of fossil fuel consumption.





> LOGISTICS

## Systematic logistical solutions Safe and punctual

Management, disposal and transport of hazardous waste requires the highest levels of know-how. We offer individual logistics solutions, covering vehicle and container systems for all types and volumes of waste materials while fully complying with the according legal safety requirements. No matter whether it involves solid, pasty, liquid or gaseous waste: we have the right solution for each type of hazardous waste.

Great importance is given to ecology: emphasis is put on using modern and eco-friendly vehicle technology



Silo truck for dusty materials



Dump truck



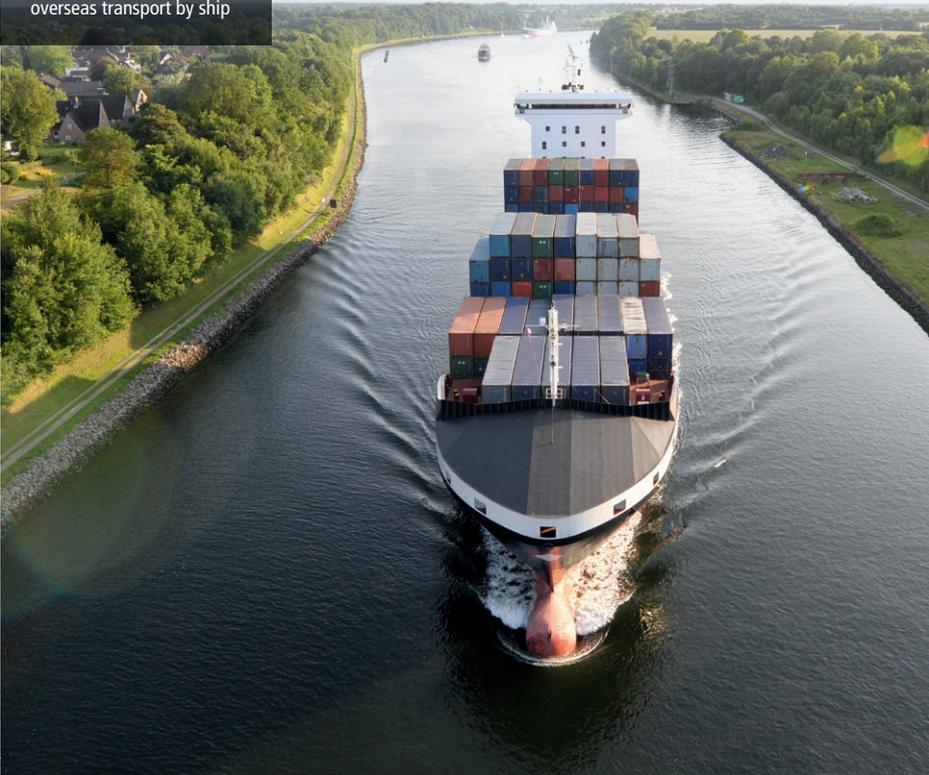
Semitrailer open and closed



Container vehicle for roll-off containers



Of course, we also organise overseas transport by ship



**Safe waste transport**

The basis for the safe handling of waste materials is using the best possible container system with the right vehicles equipped to carry such containers. Qualified and experienced personnel provide comprehensive advice and develop sophisticated logistics solutions that save time, space and money – from punctual collection, to safe transport with apt vehicles, to the final recycling and treatment plant.

**Reliable transport network**

An extensive fleet using our Group’s network offers modern specialised vehicles and ensures that the materials are transported safely to any of our facilities – be it nationally or internationally. In addition, we also make use of transport systems operated by qualified partners for transport e.g. by ship or train. Here, too, priority is always given to safety: the basis for our cooperation with partner companies is that they are also accredited and specialised in the waste management sector.



Container vehicle for skip containers



Delivery truck



Overhead loader for the transfer of residual and recyclable materials



Tank lorries for the collection of liquids



Flushing and suction vehicle



WORKING FOR THE FUTURE

Being a specialist for managing and recycling mineral waste as well as for remediation work, backfill materials and operating landfill sites, REMEX is part of the REMONDIS Group, one of the world's largest recycling, service and water companies. The company group has branches and associated businesses in more than 30 countries across Europe, Africa, Asia and Australia. With over 30,000 employees, the group serves around 30 million people as well as many thousands of companies. The highest levels of quality. Working for the future.

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