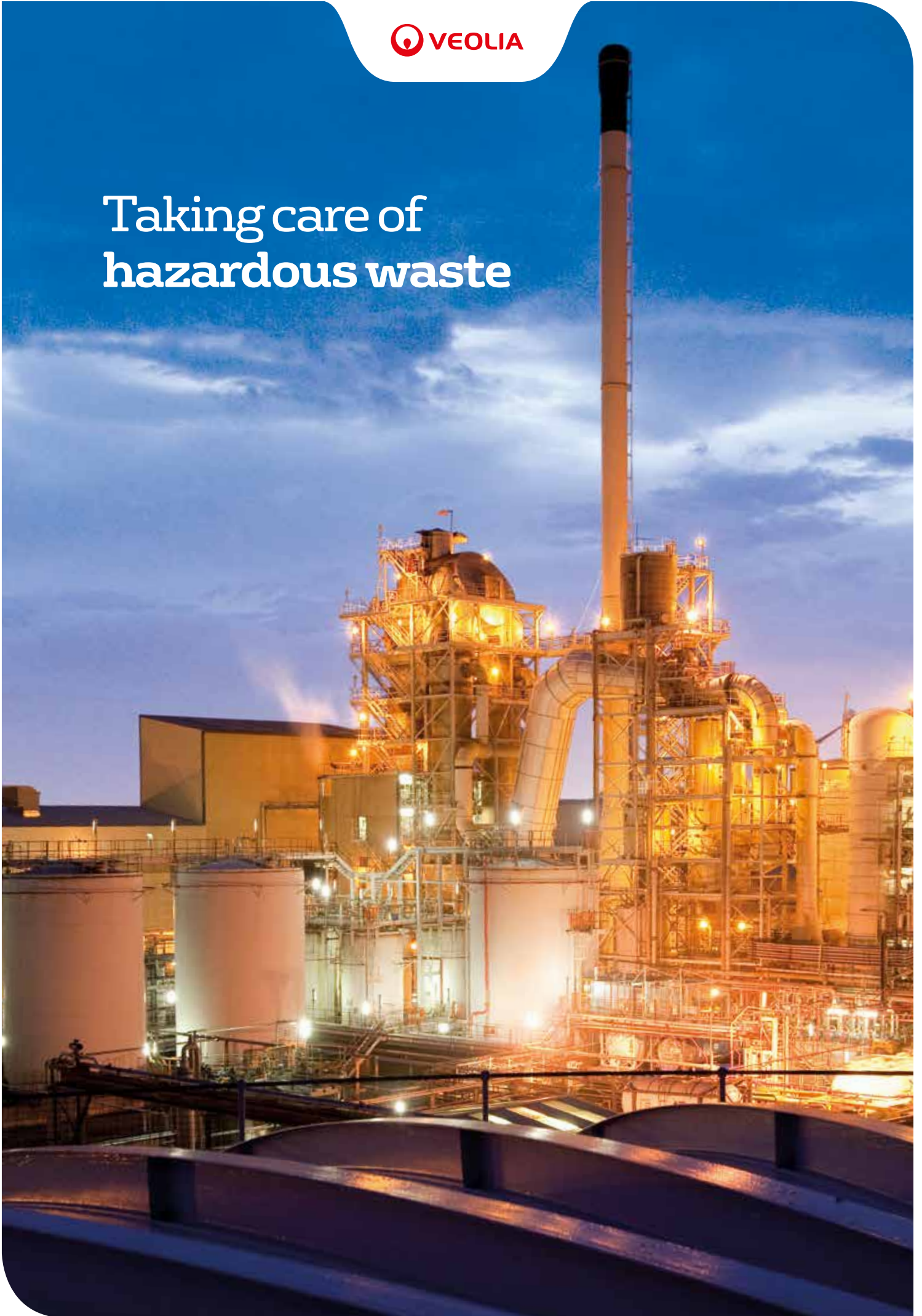


Taking care of hazardous waste



Introducing High Temperature Incineration

Veolia recognises the challenge hazardous waste producers face when selecting appropriate management solutions for their wastes.

High Temperature Incineration (HTI) offers a reliable and cost-effective solution. Not only does it provide the highest levels of safe and secure destruction, it also offers outstanding environmental performance.











As an industry leader in environmental services, Veolia has a global track record and specialist expertise in delivering the most extensive range of recycling, recovery and disposal solutions. We embrace innovative ways to optimise performance, guarantee compliance and ensure peace of mind and have made a considerable investment in HTI.

Our rotary kiln incinerator at Ellesmere Port in Cheshire is one of the most technically advanced HTI facilities in Europe and is designed to treat hazardous, non-hazardous and low level radioactive waste materials from a wide range of industry sectors.

Your waste is in safe hands

We can accept **100,000** tonnes of waste solids, sludges, powders, liquids, gases and halogenated wastes. This can be in the form of:

- | | | |
|---|---|--|
|  Bulk and drummed liquids via our 15,000 te tank farm |  Pharmaceutical products |  Highly toxic, reactive or malodorous liquids or gases and bulk powders |
|  Oily sludges |  Contaminated packaging and materials |  Low level radioactive materials* (via drums, IBCs and bulk tankers) |
|  Contaminated soils and powders |  Highly sensitive and out of spec products | |

We have a **2,000m³** covered storage area for packaged solid wastes that are ready for incineration. This is equipped with automated, computer-monitored conveyors that transport waste to the kiln. All our drum storage and drum handling facilities are protected by foam deluge systems.

Our storage facilities include purpose-built areas for individual waste types. These include nitrogen blanketed liquid storage tanks protected by a water deluge system with a total capacity of **14,570m³**.



Peace of mind guaranteed

Whatever the nature of your hazardous waste, it's imperative that the waste management process satisfies your legal obligations and corporate responsibilities. Our HTI is authorised by the Environment Agency (EA) under the Integrated Pollution, Prevention and Control (IPPC) provisions of the 1990 Environmental Protection Act.

We comply fully with the Waste Incineration and Industrial Emissions Directives and are certified to the international standards for Quality and Environment, ISO9001, ISO14001 and OHSAS18001.

Our EPR10 permit allows us to handle the full range of low level radioactive materials.

Compliance is central to everything we do. Our highly trained team has an excellent health and safety record and consistently over-performs when it comes to meeting strict emissions limits. The design of the HTI includes the very latest solutions in incineration and gas cleaning technology. Coupled with some of the world's most sophisticated monitoring, control and operating systems, it ensures you enjoy guaranteed peace of mind.

We operate to a comprehensive waste acceptance criteria and strict site procedures. When waste arrives at our facility it's checked, sampled and assessed against our delivery schedules. A computerised bar code system then ensures that each consignment of waste is traceable throughout the entire disposal process.

*Full range of alpha, beta and gamma radionuclides

State-of-the-art facilities

HTI is a proven solution for a wide range of hazardous wastes. The process destroys wastes at temperatures of up to

1,200°C

to guarantee

99.99%

thermal destruction efficiency.



Maximum efficiency, minimum impact

HTI is the best overall environmental option for the clean and complete disposal of hazardous waste streams that can't be sustainably recovered or recycled elsewhere.



Complete package

Veolia provides a complete package for the management of hazardous waste and offers customers the very best technical knowledge, support and specialist expertise.

The technology to make waste safe

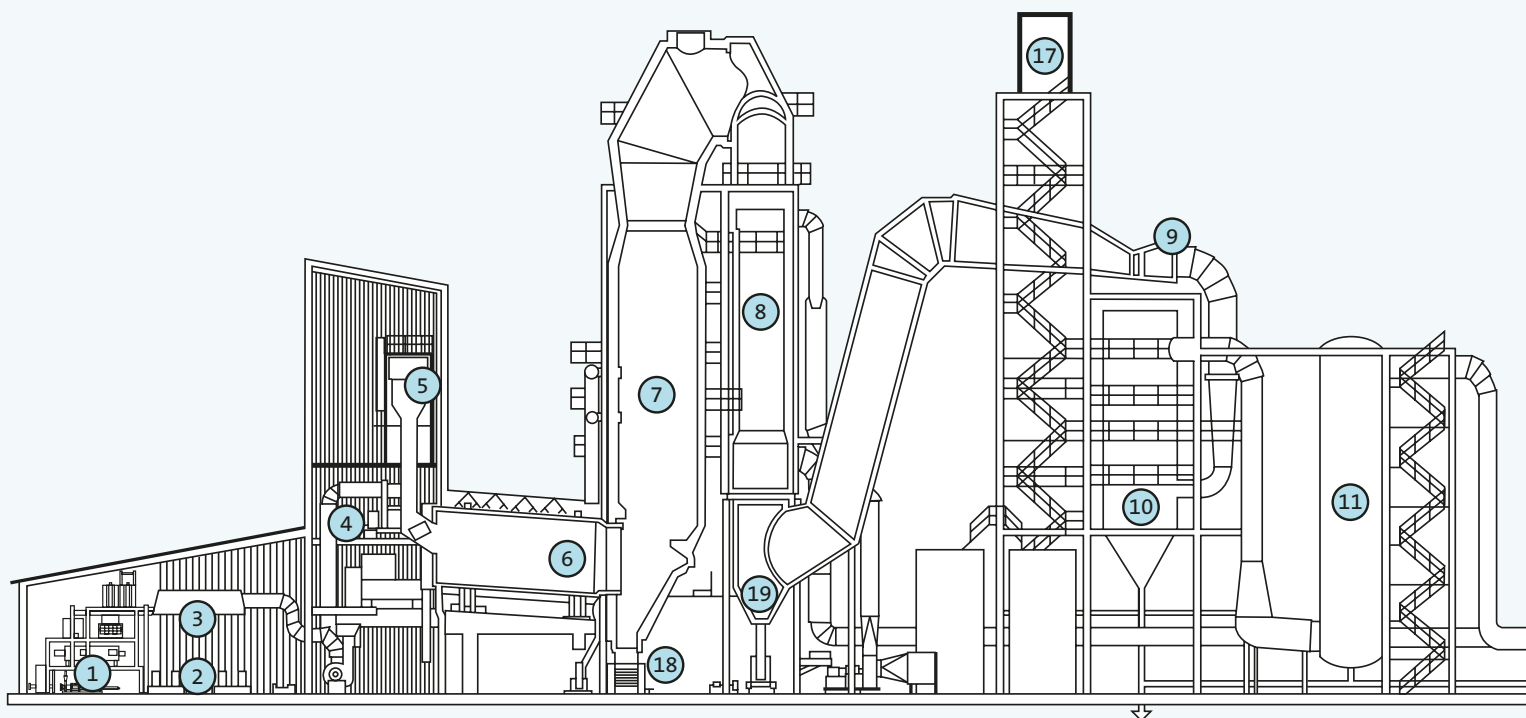
Our unique technological capabilities optimise the waste management service to ensure that the entire process is secure and environmentally safe.

The Shredder

The shredder is an automated nitrogen blanketed system that's designed to improve combustion and shred a range of difficult waste streams in a variety of packages such as drums, IBCs and bulk bags. This is turned into a paste and sent to the kiln via the mixer and pumping system. This fully enclosed system results in the safe management of difficult wastes.

The Rotary Kiln

The HTI facility has an advanced, water-cooled rotary kiln to ensure the complete combustion of all waste materials. Fully automated with computer-controlled waste feed mechanisms, it also features safety interlocks to disable the operation if necessary.





The kiln rotates between one and six revolutions per hour. This allows for a waste residence time of 30 – 90 minutes ensuring maximum burnout and volatilisation of organic materials. The slag that is produced flows continuously into a water quench in the base of the secondary combustion chamber. It immediately cools to form an inert, glass-like solid.

Secondary Combustion Chamber (SCC)

Exhaust gases from the kiln pass into the 25m high SCC. Here, liquid wastes and air are added tangentially, creating a vortex. Separate lances then inject the aqueous, gaseous and non-compatible wastes.

The residence time in the SCC is more than 2 seconds after the last injection of air. Combined with turbulence, excess oxygen and a temperature of up to 1,200°C, this ensures the safe and highly efficient destruction and removal of all wastes.

Gas cleaning and scrubbing

Combustion gases leave the SCC and pass through a pair of parallel gas-gas heat exchangers. These lower the temperature to around 800°C. The hot air produced at 300°C is then re-used later in the process to reheat flue gas. A water quench system then instantaneously reduces the temperature to less than 80°C. This rapid cooling, to below the critical band of 250-400°C where dioxins can reform, is a major design feature. It also contributes to the plant's outstanding environmental performance.

The saturated gases are then passed through two scrubbing towers. These remove hydrochloric acid, oxides of sulphur, bromine and some of the inert particulate matter. The gases then enter a fabric filter. Lime is added to aid filtration and the final particulate and any residual acidity are removed.

Effluent treatment

Liquid effluent from the scrubbing towers flows to our automated, computer-controlled acid neutralisation plant. The effluent is fully neutralised, mixed with a flocculant and discharged to settlement tanks. The supernatant water is clarified and discharged to the estuary within EA consent standards. Finally, sludge from the settlement tanks is thickened in a consolidation tank before dewatering. The cake is then safely disposed of in a permitted facility.

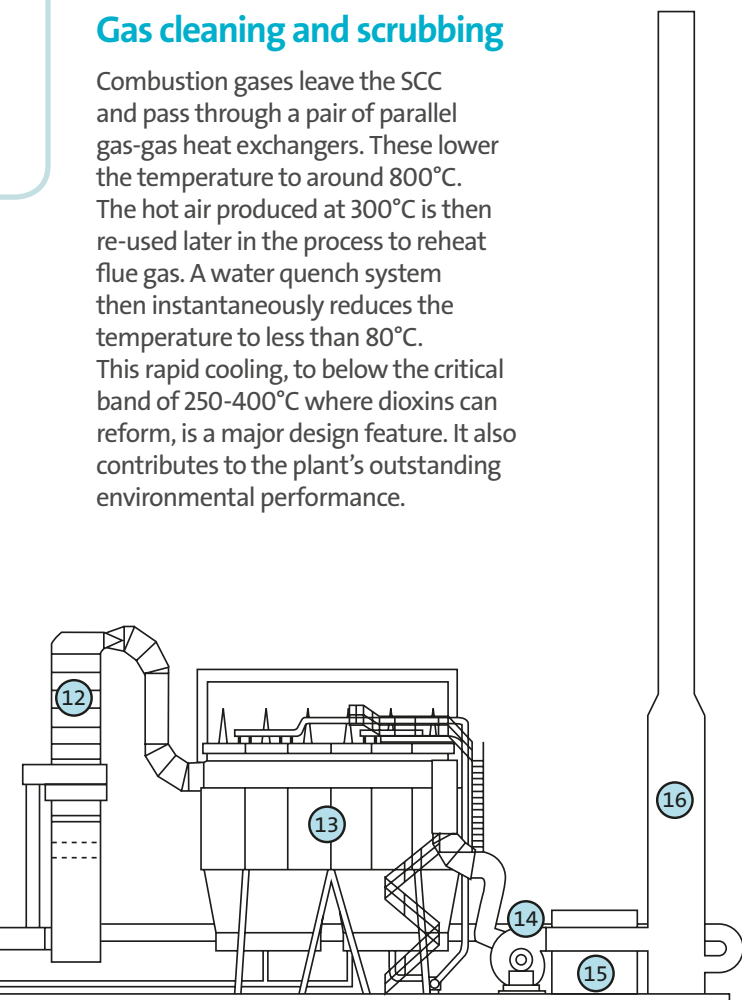


To find out more about our hazardous waste services and our HTI facility at Ellesmere Port please visit our website at:

www.veolia.co.uk
or call: **0800 783 8892**

High Temperature Incinerator, Ellesmere Port

- | | |
|--|-----------------------------------|
| 1 Shredder | 11 Second Scrubbing Tower |
| 2 Packaged Waste Conveyors | 12 Hot Air Mixer/ Mist Eliminator |
| 3 Fume Extraction | 13 Fabric Filter |
| 4 Packaged Waste Hoist | 14 Induced Draught Fan |
| 5 Bulk Solids Hopper | 15 Continuous Emission Monitoring |
| 6 Rotary Kiln | 16 Stack |
| 7 Secondary Combustion Chamber | 17 Water Tank |
| 8 Gas-Gas Heat Exchangers (Recuperators) | 18 Slag Discharger |
| 9 Saturate Venturi | 19 Ash Hopper |
| 10 First Scrubbing Tower | |



Resourcing the world

If you'd like to talk to us about our range of
High Temperature Incineration services, please call:

0800 783 8892

or email: hazenquiries@veolia.co.uk

www.veolia.com



INVESTORS
IN PEOPLE

