

**addfield**  
Incinerate • Cremate

International Leaders of  
Incineration Solutions

# High Capacity Incineration Solutions





# High capacity disposal solutions for all solid waste types.

We are one of the UK's most established manufacturers of large scale thermal treatment solutions. Proudly leading the way with unparalleled design, innovation, service and quality.

Welcome to the Addfield range of bespoke and high-capacity waste incinerators. I am pleased to invite you to discover more about how, with our 40 years of experience we can provide you with the most suitable and sustainable solutions no matter how complex your incineration needs are.

Initially entering the marketplace in 1982, launching with agricultural incinerators. Since then we have expanded in range, and reach to include Medical, Municipal, and Pet Cremation into our core offers. Our machines are still handmade in the UK but you can now find them installed in over 125 countries and managing waste at levels of up to two tonne an hour.

Our expertise has enabled us to become one of the leading authorities in thermal treatment, continuously innovating our approach to solve many of the industry's most complex and challenging needs.

As you will see we approach every installation individually and design our machines exactly around your specific needs. Adapting the final installation to ensure that it can

deliver maximum results for you whilst being economical to run ensuring a secure return on your investment.

You can find our machines installed in leading hospitals, mega farms and major pet crematoriums across the globe. Beyond our traditional ranges however we also supply solutions for the treatment of waste for the mining, gas and oil industries, specialised scientific operations, and precious metals producers, in fact I am confident that we can find the right solution for all waste types you only need to ask. Utilising our own expert design team and highly experience team of craftsmen we are yet to find a problem that cannot be overcome.

Additionally, we are able to provide the option to convert the heat generated as a result of the incineration process into clean energy in the form of electricity, hot water and steam. All of which can be used to power surrounding facilities, further supporting the environmental benefits of using an Addfield incinerator.

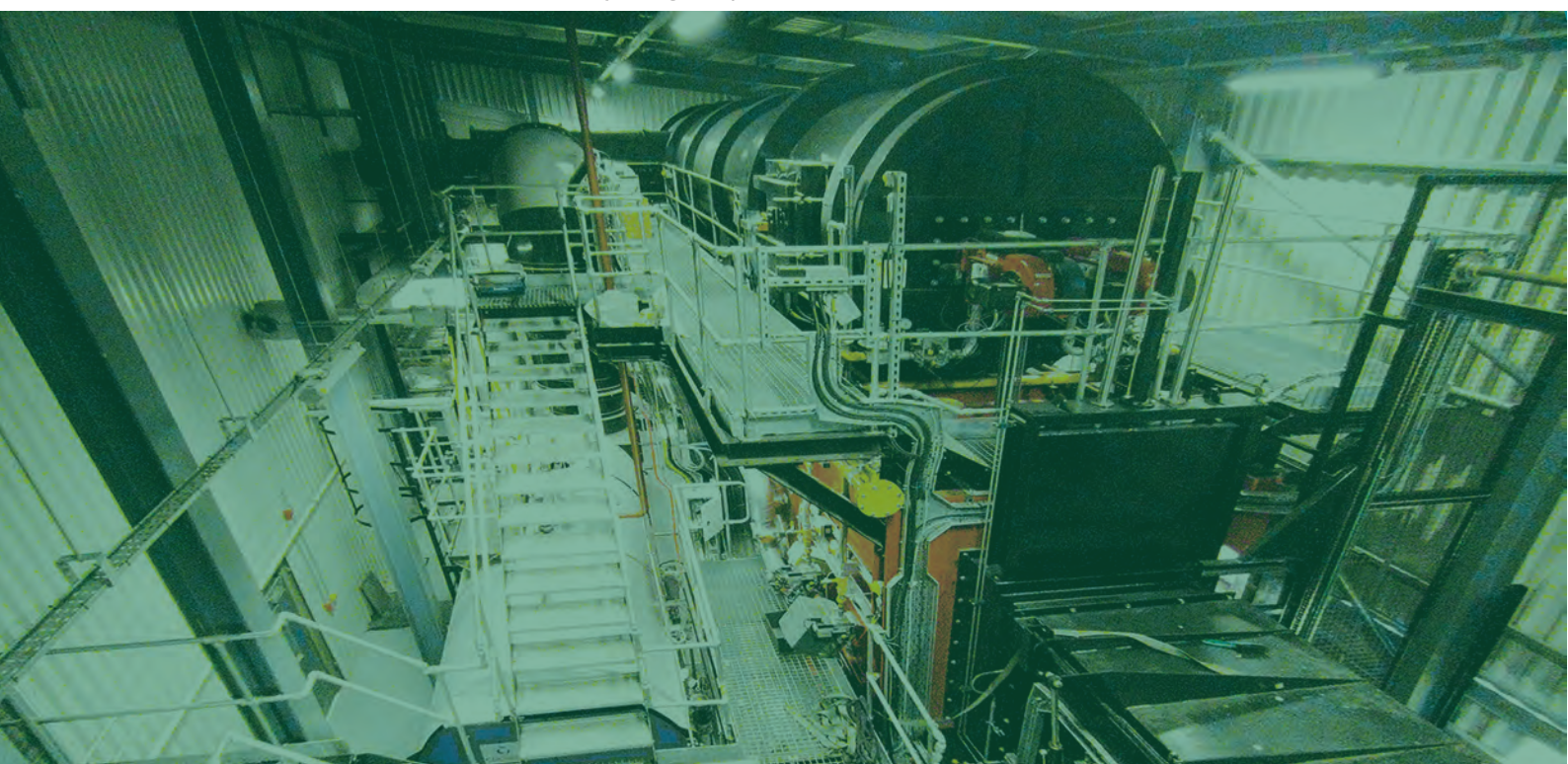
We stand by the quality of everything we produce here at

Addfield. Supplying machines that are built to last, combining the latest technological approach to design and operation alongside premium materials and our proven construction to ensure an operational life commonly in excess of 20 years.

I am proud to say that whatever you need and regardless of where you are that we have the machine that genuinely will help.

**Steve Lloyd**  
CEO

**Addfield Environmental Systems**



# Example Large Animal Waste Incineration Plant (>2000kg/hr)

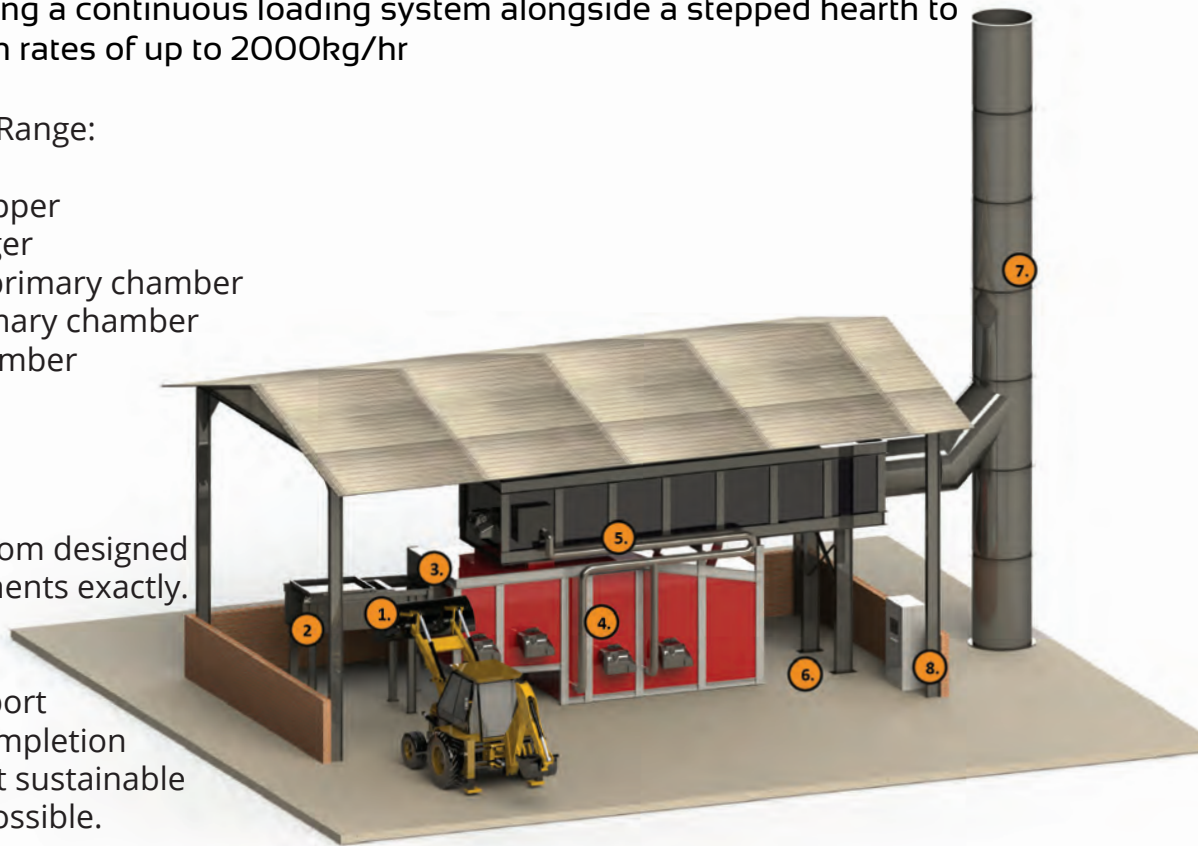
Our expertise enables us to tailor your installation to match your sites unique needs. Delivering sustainable solutions for all waste types. The following is an example of an animal waste incinerator utilising a continuous loading system alongside a stepped hearth to achieve consistent burn rates of up to 2000kg/hr

Continuous loading AP Range:

1. Waste reception hopper
2. Hydraulic ram charger
3. Vertical lift door to primary chamber
4. Stepped hearth primary chamber
5. Secondary after chamber
6. Ash removal door
7. Chimney stack
8. Control panel

Each facility will be custom designed to match your requirements exactly.

At Addfield we will support you from concept to completion delivering only the most sustainable and efficient solution possible.



## Municipal Waste Disposal Systems – Addfield ‘G’ Range

A range of municipal waste incinerators specifically designed for the unpredictability of municipal waste streams and the low waste density of 150-200kg/m<sup>3</sup> that municipal waste brings.

The Addfield ‘G’ series of incinerators have a range of throughput capacities. Equipped with the latest technology and utilising best available waste management practices, the machines are widely regarded as the leading incinerators in their class.

**Commonly incorporating :**

- Automatic hydraulic loading systems.
- Robust refractory insulation.
- Automatic de-ashing systems.

**All combining to create the most reliable and efficient solutions on the market today.**





# Filtration Systems

At Addfield we can provide a wide range of filtration systems suitable for various types of high capacity waste incineration systems.

## Ceramic Filters

Gas is pulled through vacuum formed ceramic filter tubes, these filters remove the heavy particulates and used sorbent powders in an extremely efficient manner. A dry system that requires minimal long term maintenance and is up to 97% effective in removing particulates.

## Gas Cleaning Wet Scrubber Systems

A water tower whereby the incinerator gas stream will traverse upward, while liquid is sprayed downward into the incoming gas stream. This counter current flow exposes the outlet gas to the scrubbing liquid. Particulates along with other components are intercepted and removed.



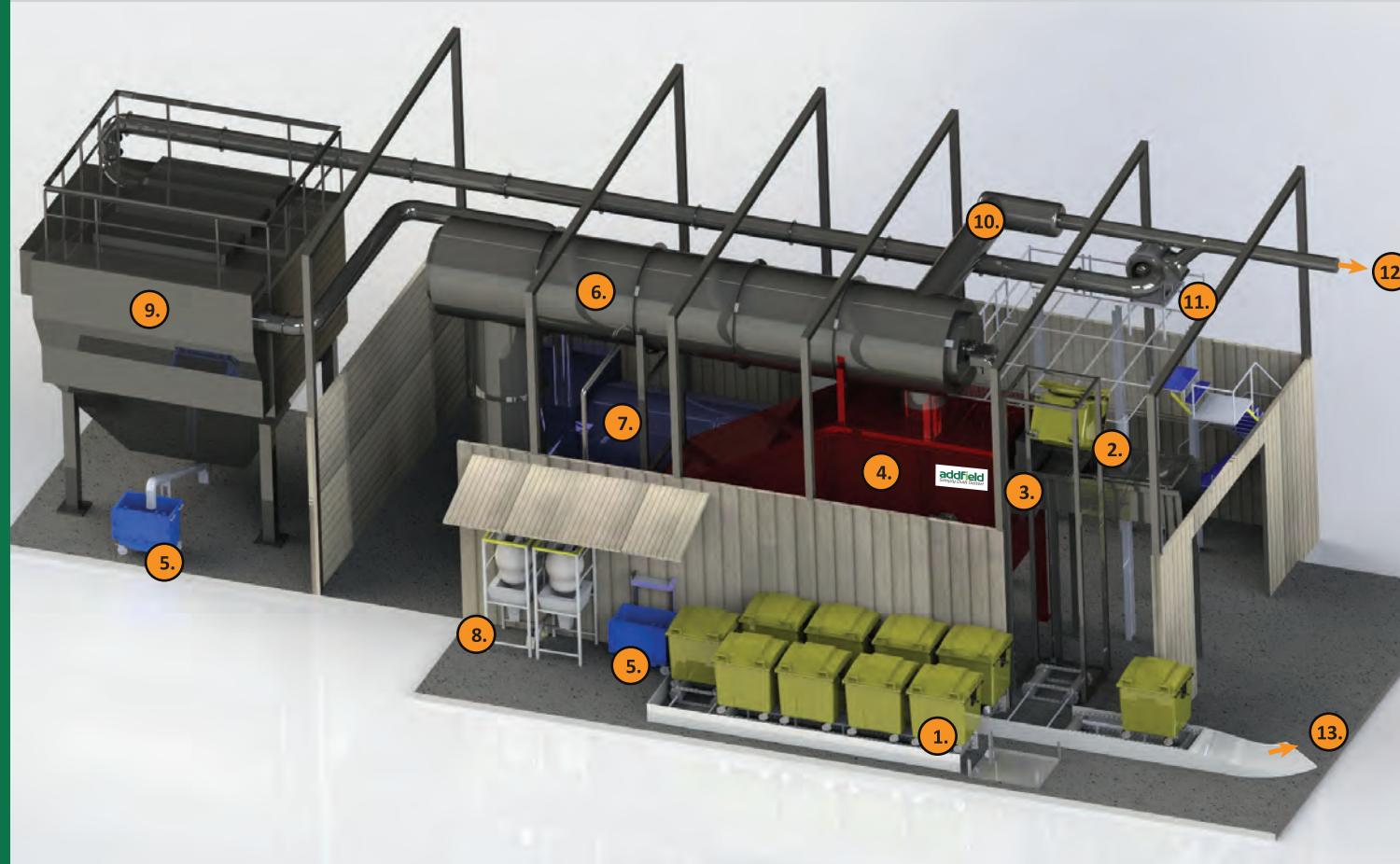
## Sorbent Injection

Sorbent powders come in two forms, lime (or sodium bicarbonate) and activated carbon. Such powders are used to neutralise gases on large installations. Sodium Bicarbonate is used to neutralise acid gasses whereas activated carbon is used to neutralise heavy metals, dioxins and furans.

## De-Nox Systems

The Addfield De-NOx systems involves the use of Urea, a common, widely available harmless fertiliser to neutralise nitrogen oxides (NOx) formation. Nox is typically kept under control using good combustion however for unusual waste streams a De-Nox system may need consideration.

# Typical High Capacity Incineration Plant (150 - 2000kg/hr)



1. Bin marshaling management system
2. Automatic bin tipper system
3. Hydraulic waste charging system
4. Stepped hearth primary chamber
5. Automatic de-ashing system
6. Secondary after chamber
7. Heat recovery options including:
  - Hot water generation
  - Steam generation
  - Electricity generation
8. Sorbent powder injection
9. Filter system / Pollution Filtration System
10. Emergency by-pass stack
11. Draught induced fan
12. To main chimney stack
13. To bin washer system

## Unique Solutions for Unique Problems

Not all waste can be managed in the same way. Different waste streams consist of vastly different compositions requiring unique approaches to clean and reliable incineration. Our expertise lies in designing machines that meet your requirements. Animal, Medical and Municipal waste all behaves differently, burns at different speeds and needs differing levels of filtration to deliver optimal and environmentally sustainable results efficiently and consistently. Through developing each machine with you

before applying our design and modeling expertise, we have consistently supplied equipment capable of delivering the expected results for many years of intense operation.

Our high capacity plants are especially tailored, designed and manufactured to meet your sites specific needs. We offer a wide range of options with our large incineration plants as they are designed to meet the demands of the specific types of waste your site deals with.

# Waste to Energy Recovery Systems

## Waste Heat Recovery

In the form of hot water or hot air. A heat exchanger or boiler is used to exchange heat with the flue gas. Hot water can be used to heat local facilities, whereas hot air can be used in drying processes.

## Steam Generation

In the form of unsaturated/saturated steam or superheated steam. Saturated steam is typically used in a variety of cleaning or humidity generation applications. Superheated steam is used almost exclusively to drive electric turbines.

## Electricity Generation

Addfield offer a standard turbine capable of generating electricity from waste, (From the generation of superheated steam).

# Dedicated Project Management

Working with customers worldwide in the development of incinerators and facilities has provided us with a unique insight into what makes the most reliable and successful installations. Our growing network of international distributors, and engineers gives you security alongside ongoing support, following installation and commissioning.

Whether you are choosing a high capacity incinerator or full waste to energy site. When working with Addfield you will be able to access 40 years of technical innovation. Proudly manufactured exclusively in the UK by highly skilled craftsmen using only premium materials and components. Backed up by a projects team accessing the latest in 3D design, modelling, visualisation and simulation.

## Contact us

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**Email: [sales@addfield.com](mailto:sales@addfield.com)**

**or visit [www.addfield.com](http://www.addfield.com)**





# Addfield Case Studies

## Twin Rapid 1000 Incineration System

High Capacity Agricultural Incineration in Abu Dhabi



This installation was completed in Abu Dhabi for Averda one of the world's largest waste management companies. The site has been developed to securely dispose of bulk animal by-products up to and including entire fully grown adult cows and camels.

Having such massive requirements meant there was only one sensible choice of machine for this project, and with the immense levels of waste in fact they required two. The Rapid-1000 is our largest traditional agricultural incinerator, at just over 8 metres in length and with a loading chamber volume in excess of 5m<sup>3</sup>.

Such intense loads also require the ability to burn at an impressive rate, the Rapid 1000 can achieve an output of up to 1000kg an hour.

The loading chamber naturally comes optimised for such large loads commonly delivered by forklift or digger. Reinforced and strengthened concrete lintels surround the chamber which is constructed from our traditional triple-layered brick-lined system. This ensures maximum integrity, essential for such abuse that these large mammals will put the chamber through on a daily basis.

Processing so much waste in a day posed an additional problem. Even with ash production averaging 3% of the original volume such high usage will create a lot to be disposed of. You will find 5 doors lining the bottom of the primary chamber, used for de-ashing the waste safely during the operation. Ordinarily, the ashes will be raked directly into metal bins

before being rolled to one central loading point, for this project however, a special screw fed system directs the ashes cleanly from the doors into the de-ashing skip where they can then be safely disposed of causing zero risks to the environment and without having to be manually emptied delivering a much safer working environment.

A genuinely impressive project housed in a clean, cutting edge building this has been a pleasure to have been a part of. Awarded to Addfield following an in-depth consultation process. This entire installation has been a testament in the value of having a team of distributors in this instance Lillidale equally dedicated to quality and customer satisfaction as we are.

## Supporting the petroleum industry in Chad.

Across the Petroleum industry environmental security is of paramount importance, protecting the regions that they operate in from undue pollution. Legislation is in place to ensure that companies follow appropriate ecological guidelines in the protection of the environment on their sites.

Due to the highly flammable and volatile nature of this waste, incinerators need to be specifically adapted. Optimising the processing and fuel usage throughout. The solution was two advanced containerised G20 incinerators specially adjusted to safely process the waste, optimised along multiple unique paths.

The G20 is a specially adapted general waste incinerator that has been adapted for oil based waste. Benefiting from two loading systems primarily a soil and sand feeder at the rear of the machine that automatically loads contaminated material at a controlled rate. The feeder deposits the waste into a tumbling hearth, designed to control the speed of burning maintaining optimum processing.

A pneumatic loader is provided configured to allow general waste to be loaded for destruction. This is

highly beneficial due to the remote location of the facilities, these machines will be operating from, reducing the environmental impact even further, cutting transportation costs and zero waste to landfill policy further enhancing the environmental benefits.

We have developed these solutions alongside the customers exacting requirements ensuring we exceeded all environmental expectation and guidelines.



# Why Choose Addfield?

The name Addfield Environmental Systems has been synonymous with revolutionary thermal technology and innovative ideas since its foundations back in the early 1980's. Since this time, Addfield has become the chosen name for state-of-the-art engineering. Today Addfield is a multiple award winner recognised for its manufacturing quality and international expertise. Respected around the world for continued quality and reliability. Currently supporting more than 125 countries globally Addfield incinerators are assisting to: -

- 1. Reduce hazardous waste**
- 2. Maintain biosecurity**
- 3. Convert waste to energy**
- 4. Reduce landfill obligations**
- 5. Meet emission compliance**



Multiple ISO Accredited, with world-class on-site engineering and technical support teams, it is little wonder Addfield are the preferred supplier to many of the world's international governments and aid agencies. Addfield provide comprehensive cost-effective turnkey solutions, to solve your waste stream problem, we are experts in sustainable thermal combustion. All of our installations are designed by our experienced in-house engineering teams using 3D Solidworks & fluid dynamics software. Our teams of engineers regularly work alongside some of the most respected healthcare organisations in the world to ensure maximum results are achieved. Our global after sales support has enabled us to generate long term sustainable partnerships resulting in continued growth. Benefiting from a large support team, including back office services, highly experienced field engineers, and growing global network of approved distributors you are never too far away from the Addfield support mechanism that so many customers have come to rely upon.

## International Supply & Installation.



R300 - 300kg/hr Rotary Incinerator  
**France**



Petrochemical Waste Plant  
**Guyana**



Rapid 1000  
**United Arab Emirates**

## Incineration Experts

Working with international aid agencies and government bodies to develop the most reliable solutions for all clinical waste needs. We understand the complications of installations in remote and isolated locations. Therefore we ensure that all machines can be easily serviced and maintained. Plus we supply a full range of spares to keep machines in operation.

Full training to local engineers is provided as well as lifetime access to our international network of partners. Our engineers are some of the most experienced in the industry and help our customers to keep their machines operational from anywhere in the world.

All of our machines are designed and manufactured from our headquarters in the heart of England.





# International Leaders of Incineration Solutions

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