



LRES-UK™

case study

Industry: Energy-from-Waste (EfW)
Location: Blackburn Meadows (E-ON)
Service: Grit Blasting

Case Study: Grit Blasting for Industrial Equipment Maintenance at Blackburn Meadows

Overview:

E.ON's Blackburn Meadows energy-from-waste (EfW) and biomass site plays a crucial role in providing renewable energy to the Sheffield area. Over time, key infrastructure components—including boiler tubes, pipework, and plant surfaces—developed corrosion and residue build-up, reducing efficiency and increasing maintenance requirements.

To address these challenges, LRES-UK was engaged to carry out grit blasting services at Blackburn Meadows, ensuring optimal performance and prolonging the lifespan of critical assets. This project is part of a wider collaboration with E.ON, where LRES-UK has successfully provided similar services across multiple sites, including BWSC, Hooton, Encyclis Newhurst, Encyclis Rookery South, Testex, Eninium, and Parc Adfer.

The Challenge:

The Blackburn Meadows site presented several key challenges:

- Corrosion & Residue Build-Up – The site's high-temperature operating environment led to the accumulation of rust, scale, and stubborn deposits on key components, reducing heat transfer efficiency.
- Access Limitations – Many affected areas, including boiler internals and pipework, were located in confined spaces, requiring specialist entry and safety procedures.
- Operational Downtime Constraints – Work had to be completed within a tight maintenance window to prevent extended shutdowns and minimise disruption to energy production.

The Solution:

LRES-UK implemented a tailored grit blasting approach to efficiently clean and restore Blackburn Meadows' infrastructure:

- Specialist Grit Selection – We used a combination of aluminium oxide and steel grit to remove corrosion and deposits without damaging underlying surfaces.
- Precision Blasting Techniques – High-pressure blasting was applied to boiler tubes, pipework, and structural components, ensuring a deep clean and optimal surface preparation.
- Confined Space & Safety Protocols – Our team, fully trained in confined space operations, worked under strict safety measures, including air quality monitoring and full PPE compliance.
- Environmental & Waste Management Compliance – Dust suppression systems and controlled waste disposal ensured all blasting activities met regulatory requirements.



Customer Concerns & Our Approach:

E.ON, like many of our clients in the EfW and industrial sectors, had specific concerns regarding the grit blasting process and its potential impact on operations. Key concerns included

1. Risk of Surface Damage – Given the sensitive nature of boiler tubes and critical pipework, E.ON was concerned that aggressive blasting could cause material loss or compromise structural integrity.

- LRES-UK Solution: We conducted a thorough pre-inspection and selected a controlled blend of aluminium oxide and steel grit to ensure effective cleaning while preserving the underlying metal. Adjusted pressure levels and nozzle configurations were used to target corrosion without excessive abrasion.

2. Dust & Environmental Impact – As an operational energy site, Blackburn Meadows required stringent dust control to prevent contamination of nearby components and maintain air quality.

- LRES-UK Solution: We implemented dust suppression measures, including extraction systems and containment barriers, to minimise airborne particles. Our team also ensured that all removed contaminants were safely collected and disposed of in line with regulatory requirements.

3. Site Safety & Confined Space Work – Grit blasting in confined areas presented a concern regarding worker safety, particularly in terms of air quality, visibility, and PPE compliance.

- LRES-UK Solution: Our operatives, fully trained in confined space entry and rescue procedures, used supplied air systems, continuous gas monitoring, and full PPE, ensuring a safe and controlled working environment. Regular safety briefings and real-time monitoring further mitigated any risks.

4. Strict Downtime Constraints – E.ON required the work to be completed within a defined maintenance window to prevent costly delays in energy production.

- LRES-UK Solution: Through detailed project planning and efficient execution, our team completed the grit blasting process ahead of schedule, allowing E.ON to resume operations as planned. Our ability to work efficiently within tight shutdown periods has been a key factor in our continued partnership with E.ON and other industry leaders.

The Results:

The completion of the grit blasting process at Blackburn Meadows delivered significant operational benefits. By effectively removing corrosion and surface contaminants, the restored boiler tubes and pipework experienced a notable improvement in heat transfer efficiency, directly contributing to enhanced plant performance. The preventative maintenance approach extended the lifespan of critical assets, reducing the likelihood of unexpected failures and costly emergency repairs.

Due to LRES-UK's efficient project execution, all work was completed within the allocated maintenance window, minimising downtime and ensuring that the site could resume full operations as scheduled. Furthermore, E.ON praised the professionalism, technical expertise, and attention to detail demonstrated by the LRES-UK team, reinforcing our reputation as a trusted partner in industrial maintenance.

Comparative Case Study: Lessons from Other EfW Sites

In addition to Blackburn Meadows, LRES-UK has successfully conducted grit blasting across multiple EfW and industrial sites, including:

- Encyclis Newhurst & Rookery South – Boiler tube restoration to enhance heat transfer efficiency.
- BWSC & Parc Adfer – Pipework and structural steel refurbishment to combat corrosion.
- Testex & Eninium Facilities – Surface preparation for re-coating and protective treatments.

By applying lessons learned from these projects—such as optimising abrasive selection, refining confined space procedures, and improving waste management strategies—we continuously improve our service delivery, ensuring best practices across all sites.



Conclusion:

LRES-UK's grit blasting service at Blackburn Meadows reinforced the company's ability to execute high-quality industrial cleaning and restoration within stringent operational constraints. Our ongoing work at E.ON and other EfW sites underscores our expertise in asset maintenance, ensuring long-term efficiency, safety, and regulatory compliance. As we continue to support E.ON and the wider EfW sector, our commitment to quality, efficiency, and innovation remains at the forefront of our operations.

Testimonials:

“Excellent service from LRES-UK. The team was highly skilled, efficient, and worked seamlessly on-site. Everything was well-organised, and they handled the grit blasting job professionally. No concerns at all—would definitely use them again and highly recommend”

-Allan Bjørn Rasmussen-BWSC
Hooton: **Site Manager**

"Fantastic service that exceeded expectations. The grit blasting was executed excellently, with the team demonstrating exceptional proficiency. They worked seamlessly with other contractors on-site and adapted to challenges with ease. Highly recommend LRES-UK—could not think of a better team for the job."

- Rory Gyte, Newhurst Energy-from-Waste Site: **Maintance manger**

"LRES-UK provided a smooth and efficient service, with everything well-coordinated. The team worked professionally, handling a difficult grit blasting job with ease. Having used them before, we had no concerns, and their performance exceeded expectations. Initially recommended by a colleague, we have since engaged them on another site. Highly recommended and would definitely use again."

- Grant Houldsworth Black Burn meadows E-ON Maintanince : **Co-ordinator**