

CASE STUDY — NATIONAL POWDER MANUFACTURER (U.K.)

9.7% energy reduction. £62,000+ saved annually. Verified across a UK powder manufacturing facility.

INTRODUCTION

Heavy manufacturing sites have complex electrical loads, leading to significant energy waste and high electricity bills. A client operating a powder processing facility spends over £700,000 annually on electricity, consuming over 2.1 million kWh. Even small improvements in power quality could yield substantial savings. The enPact FilterPro, a retrofit passive power conditioning technology, was chosen as a solution with a guaranteed minimum saving of 7%. However, the actual data indicated even better results.

SOLUTION

enPact FilterPro was installed as a passive retrofit - no changes to existing equipment, no production downtime, no ongoing maintenance requirements. Operating continuously in the background, it improves power quality across the entire electrical installation, reducing the energy wasted through heat, vibration, and reactive current.

CHALLENGE

The site was drawing power with high levels of reactive and harmonic distortion across its electrical installation - driving up consumption and costs with no production benefit. The facility needed a solution that could address power quality at source, across the whole site, without disrupting operations or requiring capital plant changes.

RESULTS:

Measured Performance (Actual)

- **9.7% total energy reduction**
- **192,360 kWh annual savings**
- **£62,325 annual financial savings**
- **Payback: 7.6 months**
- **£1,198 weekly savings**

Consumption (Before vs After)

- **Before: 2,166,165 kWh/yr**
- **After: 1,973,805 kWh/yr**
- **Saving: 192,360 kWh/yr**

Metric	Quoted	Actual
Savings (%)	7%	9.70%
Annual kWh Savings	151,632 kWh	192,360 kWh
Annual Financial Savings	£49,123	£62,325
Payback (Months)	10.98 months	7.6 months

VERIFICATION METHODOLOGY

Savings were calculated across multiple comparable periods to remove seasonal and operational bias:

Christmas Period (24–31 Dec): Daily average consumption fell from 249.6 kWh to 218.5 kWh - a saving of 12.5% per day (£10.07/day).

Bank Holidays & Weekends (25 weeks): Daily average consumption fell from 307.7 kWh to 279.3 kWh - a saving of 9.2% per day. Total savings across this period: £1,609.

Overall site-wide result: 9.7% reduction against the guaranteed minimum of 7%.

KEY OUTCOMES

- Actual savings of 9.7% - 38% above the guaranteed minimum
- Payback delivered in 7.6 months - 3+ months ahead of the quoted estimate
- Zero operational disruption - retrofit installation with no process changes required
- Savings verified using independent half-hourly metering data
- Annual carbon reduction in line with kWh savings achieved

INTERESTED IN ACHIEVING SIMILAR SAVINGS ACROSS YOUR ESTATE?

Get in touch to discuss validated energy-reduction opportunities and multi-site rollout potential.

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