

# CASE STUDY — U.S. Manufacturing & Technology Facility (Las Vegas)

## Patented FilterPro Power-Alignment Technology Delivers 13.06% Verified Energy Savings

### INTRODUCTION

A U.S. manufacturing and technology facility operating high-load electrical equipment was seeking a solution to reduce electricity consumption without altering production schedules or disrupting operations. With rising utility costs and power-quality challenges common in industrial environments, the site required a proven, measurable method to enhance electrical efficiency quickly.

FilterPro, a patented power-alignment technology, was deployed to optimise how electrical energy is delivered and used across the facility.

### SOLUTION

FilterPro was installed to improve electrical performance by:

- Reducing electrical noise and harmonics
- Aligning voltage and current to reduce wasted energy
- Improving efficiency of motors, refrigeration units, and other connected equipment
- Delivering measurable savings without affecting how staff operate the site

Savings were validated using baseline vs FilterPro ON periods to ensure accurate, transparent results.

### CHALLENGE

- High and fluctuating electrical demand from specialist equipment
- Electrical noise and inefficiency increasing unnecessary kWh consumption
- Need for verified savings without modifying operational processes
- Requirement for fast payback to support wider adoption across further sites
- The client needed a no-disruption, fully validated approach that improved electrical efficiency across all connected loads.

## RESULTS

### Measured Performance

- **13.06% total energy reduction**
- **Average daily baseline consumption: 116.59 kWh**
- **Average FilterPro ON consumption: 101.37 kWh**
- **Daily kWh saved: 15.22 kWh**
- **Annualised savings: ≈ 5,560 kWh**

### Annual Financial Savings

- **\$833.50 per year based on the site's electricity tariff**
- **Payback comfortably within expected ROI windows**

Metric	Baseline	FilterPro ON	Achieved Savings
Average Daily Consumption	116.59 kWh	101.37 kWh	<b>13.06%</b>
kWh Saved per Day	—	—	<b>15.22 kWh</b>
Annual kWh Savings	—	—	<b>≈5,560 kWh</b>
Annual Financial Savings	—	—	<b>\$833.50</b>
Carbon Savings (Annual)	—	—	<b>4,280 lbs</b>

### CONCLUSION

FilterPro delivered clear, measurable savings for this U.S. manufacturing technology facility, exceeding expectations and reducing electrical waste without operational changes. With a strong payback and proven performance, the solution presents a scalable opportunity across the organisation's wider footprint.

### ADDITIONAL INSIGHTS

- FilterPro delivered savings consistently across both low-load and high-load hours, showing strong stability in a variable-demand environment.
- The site's energy profile shows large spikes during peak processing hours; FilterPro significantly reduced consumption during these critical periods.
- Savings were achieved with zero operational disruption and no changes to staff behaviour.
- Results highlight the suitability of FilterPro for facilities with fluctuating electrical loads, such as production lines or warehouse operations

## INTERESTED IN ACHIEVING SIMILAR SAVINGS ACROSS YOUR ESTATE?

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

✉ enquiries@emissis.com | 🌐 emissis.com | ☎ 01642 049024

