




## CASE STUDY


### National Hotel Chain

A major hotel chain operating 24/7 was seeking to reduce its growing electricity costs. With high electrical demand from HVAC, kitchen equipment, refrigeration, lifts and lighting, and the added complexity of onsite solar generation affecting baseline comparisons.

The Hotel required a solution that could lower consumption without operational disruption or major equipment upgrades.

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### Challenges

- Electricity consumption increasing across multiple high-load systems
- 24-hr operation, leaving no window for downtime or intrusive works
- Poor power quality and misalignment causing wasted kWh
- Onsite solar generation complicating baseline comparisons
- Need for transparent, independently validated savings

The hotel needed a solution that worked across all electrical loads without changing how the staff operate the site

### Solutions

- Aligning voltage and current to reduce wasted energy
- Filtering electrical noise
- Improving efficiency across all connected circuits
- Reducing unnecessary kWh draw from motors, compressors, fans, HVAC, lighting, and kitchen equipment

A robust measurement and verification (M&V) process compared consumption between 2024 (before) and 2025 (after), with solar-generation hours isolated to ensure accuracy

### Results

32,954

**kWh** saved. Equivalent to **4 hotel bedrooms** for **1 year**

\$8,896

Saved per year. That's more than **\$740 per month!**

11.2%

Total consumption reduced, across **ALL electrical loads** on site.

6.4  
MONTH

**Payback.** Fast enough to justify immediate multi-site rollout

### Additional Highlights

Despite the site generating part of its electricity through onsite solar PV, our technology still delivered **8.5% verified savings** during non-solar hours, proving that the reduction in consumption came from the improved electrical efficiency, and not from solar contribution.

### Conclusion

ElectroDensity® delivered substantial and verifiable energy savings for this national hotel chain, outperforming initial expectations and achieving a rapid 6.4 month payback. By improving power quality across all connected loads, the site achieved measurable reductions in electricity use without any operational disruption, or changes to staff behavior. The success at this location provides a strong, data backed foundation for wider rollout across additional hotels within the group.