



Future-Ready Electrical & Sustainable Energy Systems in Commercial Spaces

Designing for Efficiency, Compliance & Long-Term Value



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Energy efficiency is no longer a bonus - it's a business necessity. As commercial buildings face increasing pressure to reduce emissions, meet compliance standards, and control operational costs, electrical and energy systems must evolve. From LED lighting and efficient distribution boards to renewable energy integration and EV charging, sustainable infrastructure is essential to futureproof commercial environments.

This whitepaper explores best practices in designing, upgrading, and maintaining energy-efficient electrical systems in commercial spaces. It draws on SOL Services' experience delivering compliant, future-ready electrical works across office refurbishments, logistics hubs, and public sector projects - aligning with BS 7671 standards and contributing to clients' ESG and cost-saving goals.



Why Energy Systems Need a Rethink

The UK government has committed to reaching net-zero emissions by 2050, and the built environment is a major contributor - responsible for roughly 30% of total UK emissions, according to the UK Green Building Council. Energy use within commercial buildings is a significant part of this footprint, driven by outdated lighting, heating, ventilation, and electrical systems.

As a result, companies are increasingly expected to:

- + **Reduce energy consumption**
- + **Improve building EPC ratings**
- + **Comply with electrical safety and sustainability regulations**
- + **Support electrification of transport (e.g. EV)**

SOL Services supports these aims through expert electrical installation, testing, and sustainable design integration.



The Role of Electrical Infrastructure in Sustainability

Efficient Lighting & Power Distribution

Lighting typically accounts for up to **35% of a commercial building's electricity use**. Replacing fluorescent or halogen lighting with LED alternatives reduces energy use by up to **75%**, while extending lifespan and lowering maintenance costs.

SOL Services delivers:

- Full LED lighting upgrades
- PIR/motion sensors and daylight harvesting
- Emergency lighting compliant with BS 5266
- Efficient distribution boards with surge protection
- Zonal control systems for operational flexibility

A mid-sized office that switches to LEDs can save over £5,000 per year in energy bills, per Carbon Trust estimates.

Electrical Compliance & BS 7671

Safe and compliant systems are non-negotiable. All works must align with:

- **BS 7671: Requirements for Electrical Installations (IET Wiring Regulations)**
- **Electricity at Work Regulations 1989**
- Periodic testing (EICRs) and certification standards

Renewable Integration & Power Resilience

Commercial spaces are increasingly integrating:

- **Solar PV systems**
- **Battery storage solutions**
- **Smart grid connections**

SOL supports preparatory and enabling works for renewable installation, working alongside clients and M&E consultants to design systems that reduce grid dependency and improve energy resilience.





Enabling Electrification: EV Charging Infrastructure

With internal combustion vehicle bans approaching and corporate fleets shifting to electric, commercial facilities must prepare for electrification.

SOL Services installs:

- + Workplace EV charging points (fast and rapid)
- + Load-balanced distribution solutions
- + Metered billing systems for usage tracking
- + Integration with building management systems (BMS)

The UK government's Building Regulations (Part S) require all new commercial builds and major renovations to include EV infrastructure.





Cost Saving & ROI Considerations

Beyond compliance and sustainability, electrical upgrades can offer immediate and long-term financial benefits.

These include:

- + Lower energy bills via LED and high-efficiency HVAC controls
- + Reduced maintenance costs through longer-life components
- + Eligibility for capital allowances and green finance
- + Enhanced property value and EPC ratings
- + Reduced insurance risk via fire and surge protection compliance

SOL Services works with clients to scope works based on return on investment and ongoing operational cost savings.



Smart Systems & Futureproofing

Modern commercial energy systems must be digital-ready.

SOL delivers infrastructure compatible with:

- **Building Management Systems (BMS)**
- **Energy monitoring platforms**
- **Occupancy analytics**
- **Remote diagnostics and controls**

This enables clients to monitor usage, detect faults early, and adapt systems to occupancy patterns and seasonal variations - key for ESG reporting and cost control.



Why Choose SOL Services?

SOL Services combines electrical compliance with sustainability innovation, offering:

- ✚ Certified in-house electricians and project managers
- ✚ Experience across live logistics sites, offices, and public estates
- ✚ Integration of electrical works into broader refurbishments
- ✚ Scalable installations from minor works to full rewires
- ✚ Transparent documentation and compliance support

Whether you're planning a phased upgrade or a full building retrofit, SOL ensures safe, future-ready delivery with minimal disruption.

Conclusion

As energy costs rise and sustainability expectations increase, futureproofing electrical systems is not just smart - it's essential. Commercial buildings that embrace energy efficiency, compliance, and renewable integration will outperform in cost, risk, and long-term value.

With SOL Services as your electrical partner, you gain technical expertise, regulatory assurance, and a commitment to building the infrastructure of tomorrow - today.