

Melbourne Cricket Ground Lighting Upgrade

Canonical: <https://northmoregordon.com/case-studies/melbourne-cricket-ground-the-new-shining-light/>

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The Melbourne Cricket Ground replaced 11,000 light fittings with efficient, long-life alternatives. The project paired installation work with data collection, Victorian Energy Upgrades compliance and certificate creation so that financial and environmental value could be documented.

Evidence note: The source case study was published on 28 March 2019 and reports historical project figures. Technology performance, grid emissions factors, VEU activities and certificate prices have changed since then, so these results are not a current retrofit forecast.

Project context

A stadium retrofit must account for diverse spaces, event schedules, lighting-quality requirements, maintenance access and large numbers of fittings. The business case also needed a fast payback and a compliant path to available incentives.

Northmore Gordon's role

Collected and organised project data for the lighting upgrade.

Supported compliance with the Victorian Energy Upgrades requirements applying to the project.

Supported certificate creation and trading for the delivery partners.

Linked measured energy performance with the commercial case for the retrofit.

The source describes Wattly Group as Siemens' energy-optimisation partner, working with Osram and Siemens. This page records the published project structure without implying that the same activity or certificate outcome applies to current venue upgrades.

Reported project results

Fittings replaced: 11,000

Reported annual energy saving: 2,545,100 kWh

Reported annual cost saving: more than \$388,000

Reported certificate value: more than \$100,000 from 8,500 certificates

Reported ten-year abatement: more than 8,500 tCO₂-e

Reduced electricity and maintenance demand.

Installed higher-grade, longer-life fittings.

Added certificate value to the energy-performance contract described in the case study.

What this project shows

Large lighting projects need more than a fitting count. Asset registers, operating hours, control settings, light levels, maintenance history and disposal records support both engineering decisions and auditable savings evidence.

For a current project, start with an assessment and confirm the applicable incentive pathway before procurement. Product eligibility and evidence rules can determine whether the planned equipment and installation records support a claim.

Related guidance

Commercial lighting

Measurement and verification

Government schemes

Environmental certificates

Energy optimisation

More case studies

Discuss a comparable energy, carbon or certificate project with Northmore Gordon .

What measurement and verification approach did Northmore Gordon apply to the MCG lighting upgrade?

We conducted structured data collection to establish baseline lighting energy consumption and post-retrofit performance. The measurement approach documented the 11,000 light fittings upgraded, their operating hours and energy draw before and after installation. This boundary-specific M&V; framework provided credible evidence for both investment-case validation and Victorian Energy Upgrades scheme compliance. Accurate baseline establishment was critical: lighting performance varies by venue type, occupancy patterns and seasonal usage, requiring site-specific measurement rather than generic assumptions to support the documented 2,545,100 kWh annual savings claim.

How did the MCG project structure support both operational savings and environmental certificate value?

The energy performance contract with Osram and Siemens aligned financial incentives with savings delivery, while our certificate management separated environmental attribute value from operational cost reduction. The project generated 8,500+ Victorian Energy Efficiency Certificates valued above \$100,000, independent of the \$388,000 annual operational savings. This dual-value approach demonstrates how large-scale upgrades can fund themselves through multiple pathways: operating expense reduction supports ongoing facility economics, while certificate proceeds reward initial capital deployment. The structure required clear separation of energy savings, financial benefits and environmental instruments to avoid double-counting.

What role does baseline energy data quality play in achieving MCG-scale facility upgrades?

Baseline data quality directly determines whether savings claims are credible and scheme-eligible. At the MCG, interval metering across the 11,000 lighting circuits established pre-upgrade consumption patterns accounting for event schedules, seasonal variation and partial occupancy. Poor baseline definition would undermine both the investment case justification and certificate eligibility: scheme audits require documented evidence that actual post-retrofit performance matched method assumptions. Our data-collection planning identified necessary measurement points, data intervals and quality checks before retrofit commenced, preserving the evidence pathway throughout implementation and enabling accurate \$388,000 annual savings verification.

Why was Victorian Energy Upgrades scheme compliance essential for the MCG project commercial outcome?

The VEU scheme provided structured market value for documented energy savings through certificate creation and trading, converting 2,545,100 kWh annual reduction into \$100,000+ revenue. Scheme compliance required activity eligibility (prescribed lighting retrofit), measurement and verification to agreed standards, and certificate provider accreditation. Without VEU pathway confirmation, the project would have retained only operational savings; certificate revenue enhanced project economics by approximately 25% of annual benefits. Early scheme assessment during project scoping ensured measurement design met method requirements, avoiding retrofit completion without certificate-eligible evidence—a timing and evidence coordination critical to commercial delivery.

How does the MCG case illustrate Northmore Gordon's approach to energy optimisation in large facilities?

Our six-stage delivery model—assess, build the case, capture value, deliver, procure and perform—is reflected in the MCG engagement. Assessment identified 11,000 lighting fittings as a major energy-reduction opportunity. Building the case involved feasibility and financial modelling. Capturing value required VEU scheme pathway identification and certificate planning. Delivery included measurement design and retrofit oversight. Procurement covered certificate trading. Performance tracking sustains long-term outcomes. This staged approach connects technical assessment with commercial decisions and operational management, ensuring energy upgrades address real facility requirements while generating measurable evidence and accessing available funding mechanisms.

What financial and environmental outcomes justify large-scale lighting upgrades in major venues?

The MCG lighting upgrade delivered over \$388,000 annual operational savings alongside 8,500+ tonnes CO₂e annual abatement, with 10-year cumulative environmental benefit exceeding 85,000 tonnes. These scale and duration create compelling investment cases: simple payback calculations assume 2–4 year recovery periods typical for LED retrofits, while long-term operational savings and certificate revenue enhance net present value. Major venues operate continuously with high lighting demands—100,000-seat stadiums consume 15–25 MW during events—making lighting efficiency material to overall facility economics. Our role includes quantifying these outcomes credibly so facility owners and energy-performance contractors can justify capital deployment and attract financing.

How does measurement and verification support evidence-based decision-making in facility energy projects?

M&V; converts energy-efficiency forecasts into verified operational outcomes by comparing actual post-retrofit consumption against documented baselines under comparable operating conditions. At the MCG, measurement established that the lighting retrofit achieved claimed savings rather than relying on modelled expectations. This evidence foundation supports three separate decisions: operational management can optimize facility performance; finance teams can assess return on capital; and certificate schemes can issue credits with confidence. We emphasise early M&V; planning—defining boundaries, baselines and adjustment factors before retrofit—to ensure data collected serves both internal accountability and external compliance requirements simultaneously.

What commercial and technical factors determine lighting retrofit suitability for different facility types?

Lighting retrofit economics depend on baseline energy consumption, operating hours, tariff structure and control-system integration potential. The MCG's 11,000 fittings operating 300+ event days annually plus training and administration created substantial baseline load—making retrofit eligible for both operational savings and certificate schemes. Commercial buildings with extended office hours, warehouses with continuous 24-hour operation and entertainment venues with peak-event demands share similar retrofit candidates. Our assessment approach—energy audits establishing operating

context, utility benchmarking comparing performance against comparable facilities, and feasibility studies evaluating control options—identifies facility-specific retrofit suitability before investment commitment, avoiding upgrades suited to venue type but misaligned with actual operating patterns.