

Molycop Industrial Energy and Decarbonisation Program

Canonical: <https://northmoregordon.com/case-studies/molycop-strives-for-greater-sustainability-with-ng/>

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Northmore Gordon's Newcastle team has worked with Molycop since 2006 on energy management, project development, grants, certificates, reporting and longer-term decarbonisation. The case study shows how a portfolio can compound value across many operational and capital measures.

Evidence note: The source case study was published on 13 May 2025 and aggregates outcomes over a long engagement. The figures are reported historical results; they are not an annual forecast for future projects, and cumulative values should not be added again to annual figures.

Project context

Molycop's Waratah steel-making operations are energy-intensive and subject to production, asset and regulatory constraints. The program therefore combined low-cost operational changes with major equipment projects, funding, certificate revenue and renewable electricity procurement.

Northmore Gordon's role

Built and prioritised a portfolio through energy strategy and energy audits .

Supported engineering and delivery for motors, fans, pumps, furnace controls, fume extraction, cooling, heat recovery and process-yield improvements.

Accessed NSW Energy Savings Scheme revenue and capital grants.

Supported renewable electricity purchasing through a corporate power purchase agreement and continued low-carbon steel planning.

The portfolio approach allowed projects with different costs, lead times and operational risks to be compared within one program instead of treating each measure as an isolated initiative.

Reported project results

Engagement: since 2006, as reported

Government and certificate revenue: more than \$1 million

Reported annual energy-cost saving: more than \$1.5 million

Reported annual carbon abatement: 15,000 tonnes

Reported cumulative value: more than \$12 million in energy costs and certificate revenue

Implemented a broad mix of controls, drives, heat-recovery and process improvements.

Combined efficiency with renewable electricity procurement and longer-term decarbonisation planning.

Created recurring value through a maintained project pipeline.

What this project shows

Industrial decarbonisation rarely comes from one project. A durable program maintains a register of opportunities, refreshes operating data, separates estimated from verified savings and revisits measures as production and technology change.

Funding and certificate revenue can accelerate selected projects, while the physical energy and emissions case remains the foundation. Renewable electricity instruments and direct process reductions should be tracked separately.

Related guidance

Energy optimisation

Carbon advisory

Energy audits

Measurement and verification

Government schemes

More case studies

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

What is Molycop's business and why does sustainability matter to its operations?

Molycop is the world's largest manufacturer and supplier of grinding media to mining operations, alongside mining chemicals and rail consumables. Sustainability matters because our Waratah site is pursuing long-term decarbonisation through an end-to-end energy strategy, reflecting both environmental responsibility and the operational efficiency demands of resource-intensive manufacturing. Superior resource efficiency and environmental performance are central to Molycop's competitive positioning in the mining and resources sector.

What specific energy efficiency projects did Molycop implement to reduce consumption?

Molycop implemented a diverse portfolio including Variable Speed Drives on large fans and pumps with high voltage motors, fume extraction and cooling system controls modifications, furnace control improvements, pilot flame gas consumption reduction, bag house upgrades, furnace heat recovery systems, ladle preheating heat recovery installations, and cooling tower upgrades. This multi-technology approach reflects a systematic investigation of capital projects and low-cost process improvements across the manufacturing facility.

How did Northmore Gordon help Molycop access government funding and revenue?

Our Newcastle team helped Molycop secure over \$1 million in revenue through the NSW Energy Savings Scheme and capital grants. The team also supported Molycop in purchasing renewable energy through a corporate Power Purchase Agreement. This funding assistance demonstrates how measurement and verification services, combined with knowledge of applicable schemes, can translate identified efficiency opportunities into financial support that improves project economics.

What measurable outcomes resulted from the energy efficiency and carbon management work?

Molycop's energy savings grew to over \$1.5 million per annum, corresponding to 15,000 tonnes of carbon emissions abatement annually. Over the course of the multi-year engagement, the company realised over \$12 million in combined energy costs and certificate revenue. These outcomes demonstrate that sustained investment in energy optimisation, combined with systematic carbon management and environmental certificate capture, can deliver substantial financial and environmental benefits in manufacturing operations.

Why was Northmore Gordon's steel sector experience valuable for this engagement?

We were selected for our over 20 years of experience and extensive knowledge in the steel sector. This specialised experience enabled the team to identify efficiency opportunities specific to grinding media manufacturing processes, understand equipment performance concerns in capital-intensive operations, and develop a comprehensive project portfolio tailored to Molycop's operational and financial requirements. Sector knowledge reduces investigation time and improves the quality of opportunity assessment.

What approach did Northmore Gordon use to systematically identify energy and carbon opportunities?

We adopted a multi-disciplinary systematic approach investigating capital projects, low-cost process improvements, government funding pathways, and revenue from energy and carbon certificates. Consultants worked closely with Molycop's energy and operations teams to combine technical assessment, commercial decisions, and identification of both visible opportunities and hidden inefficiencies. This integrated approach ensured that opportunities were prioritised by both technical feasibility and financial return.

How does Molycop's case illustrate the relationship between energy efficiency and carbon abatement in manufacturing?

Molycop's outcomes demonstrate that physical energy savings directly drive carbon emissions reduction; the 15,000 tonnes annual abatement corresponds directly to the \$1.5 million in energy cost savings. This alignment shows why manufacturing facilities pursuing decarbonisation should treat energy optimisation and carbon management as interconnected strategies rather than separate initiatives. Environmental performance improvement and operational cost reduction reinforce each other in resource-intensive industries.

What role did long-term strategy play in Molycop's success, and how does Northmore Gordon support this approach?

Molycop's long-term decarbonisation goal provided direction for an end-to-end energy strategy, enabling the systematic identification of multi-year project pipelines rather than isolated quick-wins. We support this through six-stage delivery approach connecting technical assessment, business case development, funding capture, implementation, procurement decisions, and ongoing performance management. Long-term strategy transforms one-off projects into sustained competitive advantage through systematic improvement.