

Measurement and Verification Services

Canonical: <https://northmoregordon.com/services/measurement-and-verification-for-energy-efficiency/>

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Demonstrate what changed after an energy project

Measurement and verification, or M&V, evaluates the effect of an energy improvement using an agreed boundary, data and analysis method. It asks what energy use would have been without the project under comparable operating conditions, then compares that baseline with post-project performance.

Northmore Gordon provides M&V services for industrial operations and the built environment. Its published service scope includes project eligibility review, measurement planning, baseline modelling, savings calculations, reporting and audit management. The work can support investment decisions and relevant environmental certificate or grant pathways.

Plan the method before the equipment changes

Define the purpose. Establish whether the analysis is for operational performance, an investment decision or a particular funding scheme.

Check the pathway. Review the proposed project, relevant method and any registration or professional-review requirements.

Set the boundary. Identify the equipment or site being assessed and the operating variables that affect its energy use.

Preserve the baseline. Arrange suitable measurements while the original operating conditions still exist.

Assess post-project performance. Apply the agreed analysis, including justified adjustments for changed conditions.

Report the result. Retain calculations, assumptions and evidence for review or audit.

The original service includes multivariable regression modelling. Whether that approach is appropriate depends on the project, available data and governing method. The measurement period should capture the operating cycles needed to explain performance.

Separate the project's effect from other changes

A smaller electricity bill does not, by itself, prove that an upgrade saved energy. Production may have fallen, opening hours may have changed, weather may have been different, or the tariff may have moved. Relevant variables can include throughput, operating hours, occupancy and weather.

Keep original readings alongside any corrected analysis dataset. Record meter identifiers, timestamps, units, commissioning dates and changes in equipment or controls. Agree who owns the data, who can access it and who will maintain the evidence file.

A clear data trail helps another reviewer reproduce the calculation and understand its limitations. The report should explain uncertainty and confidence where the selected analysis supports those

measures.

Apply the assessment to the actual project

The published service covers a wide range of project settings:

Buildings and aquatic centres: heating, cooling, hot water, pumps, controls and heat recovery.

Manufacturing and food production: refrigeration, compressed air, steam systems, process improvements and electrification.

Water, wastewater and animal processing: treatment processes, heat recovery and relevant biogas systems.

Data centres: cooling, air handling and power-system improvements.

Mining, heavy industry and transport: motors, fans, process equipment and relevant electrification projects.

These examples describe the service's assessment scope. Inclusion in a project category does not establish current eligibility under any particular certificate or grant scheme.

Keep energy results and certificate outcomes distinct

Projects in NSW may be assessed against the Energy Savings Scheme or Peak Demand Reduction Scheme; Victorian projects may use an applicable Victorian Energy Upgrades pathway. Singapore projects have their own grant requirements. Match the method, rule version, project dates and relevant professional scope before relying on support.

Three results should remain separate: an engineering estimate, an outcome verified under the M&V; plan, and a certificate quantity accepted or issued by the relevant scheme. A calculation prepared for one purpose does not automatically satisfy another.

Northmore Gordon's service also includes certificate-market support. Where certificate revenue forms part of the business case, document quantity assumptions, price timing, ownership and agreed charges separately from the measured energy result.

Related services and guidance

Identify opportunities through an energy audit

Check government scheme requirements

Understand environmental certificate pathways

See an audit and metering example

Discuss measurement before implementation

Contact Northmore Gordon with the proposed change, site location, project stage, available energy data and the outcome you need to demonstrate. Early discussion helps identify measurement and evidence requirements before installation removes the original conditions.

Why is a before-and-after bill comparison not enough?

Bills reflect more than equipment performance. Changes in production, operating hours, weather and tariffs can all affect the result. M&V; uses an agreed boundary and relevant operating data to separate the project's effect from those other changes.

When should measurement planning begin?

Begin before equipment is changed and while representative baseline conditions can still be measured. The period and data needed depend on the operating cycle and the purpose of the assessment. Some scheme pathways also have requirements that must be addressed before implementation.

Does a verified energy saving automatically create certificates?

No. A verified energy result and an issued certificate quantity are different outputs. Certificate creation depends on the applicable scheme, method, eligibility, timing and evidence requirements, as well as the relevant assessment and registration process.

What records make the result easier to review?

Retain original readings, meter identifiers, timestamps, units, operating variables and commissioning information. Keep a record of corrections, assumptions and equipment changes so another reviewer can follow the calculation.

Can M&V; cover a single system rather than a whole facility?

Yes. The boundary can be an item of equipment, a subsystem or a site, depending on the question and method. It should capture the project's relevant effects, including interactions with other systems where necessary.