

AESS - Northmore Gordon

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AESS

AESS stands for Annual Energy Savings Statement. It is a formal document that records quantified energy reductions and their associated benefits over a defined reporting period. AESS is important because it demonstrates the actual outcomes of energy efficiency projects, distinguishing verified results from initial forecasts. For certificate schemes and investment reporting, an AESS provides the evidence base needed to substantiate claims about energy performance and environmental benefits. Our measurement and verification services help establish the baseline conditions, measurement boundaries and analytical methods required to produce credible AESS documentation.

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What does AESS stand for and why is it important?

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How does an AESS differ from an energy audit report?

An energy audit identifies opportunities and estimates potential savings before implementation; an AESS documents actual verified savings after a project has operated. An audit produces a forecast based on engineering analysis and assumptions about operating conditions. An AESS establishes a measured outcome supported by baseline data, implementation records and post-project consumption analysis. The two serve different purposes: an audit informs investment decisions, while an AESS provides evidence for performance claims, regulatory compliance and certificate eligibility. Both are separate deliverables with distinct scopes and evidence standards.

What information must be included in a credible AESS?

A credible AESS should specify the measurement boundary (equipment or site included), the baseline or reference condition, the reporting period, relevant operating variables that may affect consumption,

the data sources and quality, documented assumptions and adjustments, the calculation method, and the resulting savings quantity with stated uncertainty. It should also identify any material changes in operating conditions between baseline and reporting periods and explain how those changes were treated analytically. The AESS must be reproducible by another competent reviewer and traceable to underlying records. Our measurement and verification guidance emphasizes separating engineering estimates from verified results and maintaining clear documentation of methods.

How does AESS relate to energy certificate eligibility?

An AESS is often a required evidence document for certificate scheme applications under NSW Energy Savings Scheme, Victorian Energy Upgrades and similar programmes. The certificate quantity issued typically depends on verified savings quantities documented in the AESS. Different schemes have different M&V; (measurement and verification) requirements and calculation methods; the AESS must align with the specific scheme's rules and pathway. Before developing an AESS, confirm the applicable scheme requirements and ensure the measurement boundary, baseline approach and reporting period match scheme specifications. Using a measurement method designed for one purpose may not satisfy another scheme's requirements.

What role does baseline establishment play in preparing an AESS?

The baseline is the reference energy consumption or performance that would have occurred without the implemented improvement. It is essential to AESS credibility because savings are the difference between baseline and actual post-project consumption. The baseline must represent normal operating conditions before the project and account for relevant variables like production volume, weather or occupancy. Adjustments may be needed if operating conditions differ between baseline and reporting periods. Poor baseline data or inadequate adjustment methodology is a common source of disputed savings claims. Our measurement and verification services include baseline establishment, ensuring the reference condition is documented, defensible and appropriate for the intended scheme or reporting purpose.

What happens if operating conditions change between baseline and AESS reporting periods?

Operating changes such as production volume, occupancy, weather or equipment modifications must be documented and their energy effects isolated from savings attributable to the efficiency improvement. This is called adjustment. If production increases after an upgrade, actual consumption may rise even though the equipment is more efficient; adjustment allows the baseline consumption at the new production level to be estimated so true savings can be identified. Conversely, if a facility closed during the reporting period, that change must be explained. The AESS should itemize material adjustments and explain the basis for each. Failure to adjust for significant operating changes undermines AESS credibility and can result in certificate rejections or disputed savings claims.

How should data quality be addressed in an AESS?

Data quality directly affects AESS credibility and certificate eligibility. The statement should identify the source of each data point (meters, retailer bills, production records), the recording interval, any gaps or corrections applied, and the uncertainty range of key measurements. If estimated data is used, the basis and accuracy of the estimate should be disclosed. Early planning ensures interval data, production records and baseline period information are available and properly managed. An AESS should distinguish original measurements from corrected or interpolated values. Our metering and monitoring guidance emphasizes defining data responsibilities, validation processes and evidence retention before project commencement, reducing the risk that critical data becomes unavailable during the AESS preparation phase.

Can an AESS be prepared for a project that has already been installed?

An AESS can be prepared for an installed project if adequate baseline and post-implementation data exist. However, retrofitting measurement is more challenging and expensive than planning it early. If baseline data is missing or inadequate, engineering estimation may be used with appropriate documentation of uncertainty and limitations. Historical operating records, production data and energy bills can sometimes establish a defensible baseline. However, some certificate schemes have strict newness or timing requirements that may restrict whether a retrofitted AESS qualifies for incentives. Before committing to measure or claim savings for an already-installed project, confirm the applicable scheme's eligibility rules and evidence acceptance criteria. We can assess whether a timing review supports retrospective measurement.

What are the commercial implications of AESS findings?

AESS findings directly affect project economics and certificate revenue. If verified savings are lower than forecast, payback periods extend and certificate quantities may be reduced, affecting the investment case. Conversely, documented savings support claims to financing partners, insurers and stakeholders about project performance. An AESS with poor quality data or unjustified assumptions may be challenged by auditors, regulators or certificate scheme administrators, delaying or preventing revenue recognition. An AESS prepared to a recognized measurement standard strengthens business confidence and reduces commercial risk. The investment case should compare base-case returns without unconfirmed certificate proceeds against scenarios including verified savings, preventing over-reliance on uncertain benefits.