

Energy Savings - Northmore Gordon

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Energy Savings

We define Energy Savings simply as "Electricity or gas savings or both." In project work, this means quantified reductions in energy consumption and associated costs that result from energy-efficiency improvements and project interventions. Energy savings represent the estimated reduction in energy consumption resulting from proposed improvement measures, tracked separately in opportunity registers to distinguish them from other financial benefits like maintenance savings or tariff reductions.

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What is the definition of Energy Savings?

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By what dimensions are energy savings typically measured?

Energy savings are measured across four key dimensions: quantity (the amount of energy reduced, typically in kWh, MWh or equivalent units), boundary (the equipment, system or site included in the assessment), operating period (the timeframe over which savings are expected), and estimation method (whether forecast, modelled, or verified through measurement and verification). Clearly stating these dimensions ensures that stakeholders understand the scope and confidence level of the claimed savings.

What is the difference between an engineering estimate and a verified energy result?

An engineering estimate is a modelled expectation of energy savings developed before or during project design based on assumptions about equipment performance and operating conditions. A verified energy result is an outcome established under an agreed measurement and verification approach after implementation, comparing actual post-project performance against a defined baseline. These three outputs - engineering estimate, verified energy result, and any certificate result - should be kept distinct in project documentation.

Do energy savings require verification to be considered credible for investment decisions?

Yes. Energy savings require measurement and verification to establish credible project evidence and quantify actual benefits. An identified opportunity or forecast saving remains an estimate until implementation and verification establish an actual outcome. This distinction is critical for investment cases: a preliminary estimate supports screening decisions, but verified results are necessary for confirming that investments in energy improvements deliver their intended outcomes and for supporting funding claims or certificate applications.

How should energy savings be distinguished from other financial benefits in an opportunity register?

Energy savings must be tracked separately from tariff or demand effects (cost changes from altered usage patterns or rate structures), maintenance benefits (reduced operating costs from equipment improvements), and certificate proceeds (revenue from environmental instruments). This separation ensures accurate financial comparison and prevents overlapping or double-counting of benefits. A comprehensive opportunity register documents each benefit line with its own evidence quality and next decision, supporting transparent investment decision-making.

How does measurement and verification connect energy savings to funding and scheme eligibility?

Measurement and verification establishes the credible savings needed to assess funding options and support certificate applications under schemes like the NSW Energy Savings Scheme, Victorian Energy Upgrades, or ACCU projects. Each scheme has specific calculation methods and evidence requirements; an engineering estimate alone does not establish a certificate entitlement or scheme eligibility. Our measurement and verification services include project-boundary selection, baseline modelling, savings calculation and reporting to meet these scheme requirements.

Why is project timing important for identifying and claiming energy savings?

Project timing affects the availability of baseline data, the choice of measurement method, and eligibility for funding or certificates. The useful question is not simply whether an upgrade could save energy, but whether the proposed project can meet a chosen programme's requirements at its actual stage. Raising measurement and funding questions while a project is being scoped - before significant commitments are made - preserves evidence options and ensures data collection starts at the right point to support credible savings verification.

What role does an energy audit play in identifying energy savings opportunities?

An energy audit investigates how a site uses energy and identifies improvement opportunities through examination of consumption patterns, equipment performance, and operating conditions. The audit produces an opportunity register that documents each proposed measure with its estimated energy effect, assumptions, implementation dependencies, and evidence quality. The audit scope should match the actual business decision - whether finding avoidable waste, ranking investments, or examining a particular system - ensuring that identified savings opportunities are proportionate to the organization's decision needs.

How do energy savings support investment cases and business decisions?

Energy savings form a key benefit line in investment cases, stated with their quantity, boundary, operating period and estimation method. They allow management to compare alternatives, understand financial viability, and identify factors that could change outcomes. By keeping energy savings separate from other benefits and clearly disclosing assumptions, investment cases become resilient to uncertainty. A useful case presents the project with and without conditional funding, ensuring the operating merits of energy savings are visible alongside funding options.

What evidence must be established before claiming energy savings in a certificate scheme?

Before claiming energy savings under schemes like NSW ESS or Victorian Energy Upgrades, an organization must establish the baseline (pre-project conditions), measurement boundary (equipment or systems included), applicable operating variables, and the calculation method required by the relevant scheme. Measurement and verification planning should occur early in project development - before equipment changes - to ensure proper data collection and baseline establishment. We can assist with determining appropriate measurement boundaries, establishing baselines and verifying achieved savings.