

How to avoid costly energy project mistakes in manufacturing.

Canonical: <https://northmoregordon.com/articles/avoid-costly-energy-project-mistakes-in-manufacturing/>

Details:

Home > Articles > How to avoid costly energy project mistakes in manufacturing.

How to avoid costly energy project mistakes in manufacturing.

Published: June 26, 2026.

A feasibility study assesses whether a proposed project - such as electrification, an energy efficiency upgrade, or renewable integration - is technically viable, financially sound and operationally practical. Our approach goes beyond standard engineering modelling to also consider site-specific operational constraints, the regulatory and business environment, and detailed financial analysis including ROI and funding pathways, enabling confident, investment-grade decision-making.

Publication context: This article reflects its publication date. Market prices, program rules, reporting duties and deadlines may have changed. Confirm current official guidance before making a decision.

In today's manufacturing environment, making the wrong investment decision is costly due to competition for capital, market share, and the allocation of scarce human resources. Projects like electrification and efficiency upgrades can be complex and resource-intensive. Not only that, but there are usually multiple options with different costs and benefits, and the manufacturing environment is constantly changing.

Worse still, some organisations base these important decisions on incomplete data.

A well-executed feasibility study based on measured data removes that uncertainty, providing clear technical and financial insight before decisions are made. This ensures projects deliver real, measurable outcomes.

What is a feasibility study?

A feasibility study assesses whether a proposed project - such as electrification, energy efficiency upgrade or renewable integration - is technically viable, financially sound and operationally practical. Northmore Gordon's approach goes beyond standard engineering modelling to also consider site-specific operational constraints, the regulatory and business environment and detailed financial analysis including ROI and funding pathways. This enables confident, investment-grade decision-making.

Why feasibility studies matter

Energy and infrastructure projects often require significant capital, and the consequences of poor planning compound quickly. A well-scoped feasibility study identifies true project costs, including hidden risks, validates realistic savings and highlights funding and environmental certificate opportunities. The Australian Energy Efficiency Council notes that well-executed projects can reduce energy costs by 10-30%, but only when properly scoped and implemented.

Without detailed analysis, projects frequently underperform, or worse, the wrong project is selected. Good feasibility studies provide accurate analysis based on measured data, and consider a range of risks including energy savings being realised, energy price variability, external market conditions,

current business performance and future business direction. They also allow organisations to move from reactive upgrades to strategic decarbonisation, prioritising initiatives based on environmental and energy targets, emissions reduction potential, cost-effectiveness, operational impact and future business direction.

Organisations that bypass feasibility analysis often face overestimated savings, budget overruns from incomplete scope, wrong equipment selection, lost funding or certificate opportunities and compliance gaps. In many cases, businesses end up reinvesting to fix poorly planned systems, effectively paying twice.

Why feasibility studies matter for industry

Industrial environments are complex, with tight margins, resource constraints, and uptime pressures. Poorly planned projects can disrupt production, increase maintenance costs and result in underperforming assets. For CFOs and facility managers, a feasibility study answers the critical questions before capital is committed: Will this solution work on our site? What are the operational risks? What is the real return?

Manufacturing situations that benefit most

Feasibility studies deliver value in all manufacturing facilities at any time. However their impact, and the energy efficiency (or productivity) benefit is super-charged when

Old equipment needs upgrading

The production mix has changed, leaving some equipment operating less efficiently

Production output has changed (either higher or lower), resulting in poorly matched utility systems

There are structural shifts in the price differential between electricity and gas

The business has energy or carbon targets that are not being met

The business is looking for a step change in performance

At the design stage, before a new plant is even being built.

What makes Northmore Gordon different

Northmore Gordon delivers senior expertise without the bureaucracy of large firms or the limitations of volume providers.

Our engineering team conducts detailed system modelling and technology-specific analysis that goes beyond standard approaches. With 15+ years of Australian experience, we integrate business needs and an understanding of the regulatory environment into every engagement. Our financial modelling covers ROI and scenario analysis, certificate optimisation and funding pathways. Clients work directly with senior engineers, no account management layers, faster decisions and clearer advice.

Case study

In a recent manufacturing electrification project, Northmore Gordon identified a viable technical pathway, uncovered significant certificate revenue opportunities and redesigned the system to reduce capital cost. The project delivered both emissions reduction and strong financial returns, outcomes that would not have been achieved without detailed upfront analysis.

Explore more case studies on our website.

Conclusion

Feasibility studies are not optional, but well-rounded feasibility studies can be rare. They are essential for reducing risk, improving outcomes and navigating regulatory requirements. They enable organisations to invest with confidence, avoid costly mistakes and maximise financial and environmental outcomes. At Northmore Gordon, feasibility studies help organisations achieve better results with less risk, less waste and less uncertainty.

Using this guidance

Check the site's operating conditions, data quality, project stage and current program settings before turning the dated discussion into a scope or investment decision.

Related guidance

Energy audits

Measurement and verification

Contact us

Read the original article for the source publication and its full context.

What is a feasibility study according to Northmore Gordon?

A feasibility study assesses whether a proposed project - such as electrification, an energy efficiency upgrade, or renewable integration - is technically viable, financially sound and operationally practical. Our approach goes beyond standard engineering modelling to also consider site-specific operational constraints, the regulatory and business environment, and detailed financial analysis including ROI and funding pathways, enabling confident, investment-grade decision-making.

Why do feasibility studies matter for manufacturing energy projects?

Energy and infrastructure projects often require significant capital, and poor planning consequences compound quickly. A well-scoped feasibility study identifies true project costs, including hidden risks, validates realistic savings, and highlights funding and environmental certificate opportunities. The Australian Energy Efficiency Council notes that well-executed projects can reduce energy costs by 10-30%, but only when properly scoped and implemented.

What happens when organisations skip feasibility analysis?

According to the article, organisations that bypass feasibility analysis often face overestimated savings, budget overruns from incomplete scope, wrong equipment selection, lost funding or certificate opportunities, and compliance gaps. In many cases, businesses end up reinvesting to fix poorly planned systems, effectively paying twice.

What mistake should be avoided when estimating combined savings from multiple energy measures?

A critical error is adding individually estimated savings when two measures affect the same load. For example, in compressed-air systems, a replacement compressor should be assessed against demand expected after leaks are repaired, not against the original full load. Adding two independent estimates can significantly overstate the combined result. Distinguish measures that stand alone from those that alter the economics of later projects.

What should come first when planning a manufacturing energy project?

Treat energy as an input to production, not as a procurement problem. Establish what decision the data needs to support. Start by describing major production lines, utility systems, and shifts, then match these to meters and production records. Identify which tasks require which services at what pressure, temperature and timing before selecting equipment. This sequence prevents technology-first thinking

and ensures improvements have a credible business case.

What key questions does a feasibility study answer for CFOs and facility managers?

For CFOs and facility managers, a feasibility study answers critical questions before capital is committed: Will this solution work on our site? What are the operational risks? What is the real return? It separates energy reduction, financial benefits, certificate proceeds and grant support into distinct benefit lines. It also identifies which items are quoted, estimated or still unpriced, and presents the investment case with and without conditional support.

In which manufacturing situations do feasibility studies deliver the most value?

Feasibility studies have highest impact when: old equipment needs upgrading; production mix has changed, leaving equipment operating inefficiently; production output has changed, resulting in poorly matched utility systems; there are structural shifts in electricity-to-gas price differentials; the business has unmet energy or carbon targets; the business seeks step-change performance improvement; or at the design stage before a new plant is built.

How should a manufacturer prepare an energy-project funding strategy?

Early funding investigation is valuable even if no grant is currently suitable, because it clarifies what information to retain and prevents unsupported promises in the investment case. Assess grants, certificates and finance separately on their own terms, recording the exact programme, round, source, application status and next action. Present the project with and without conditional contributions, and identify the point at which management would need to revisit the decision if support is delayed, reduced or unavailable.

What information should a manufacturing energy project brief contain?

A project brief should identify the business problem and decision required; the country, state and site; business and site control roles; sector and operating details; existing and proposed equipment; other planned changes; and the project status (idea through commissioning). Include available energy history, a dated chronology of studies and commitments, and list responsible roles for evidence collection. An incomplete brief can still support an initial conversation if gaps are visible.

What makes Northmore Gordon's feasibility study approach different from other providers?

We deliver senior expertise without the bureaucracy of large firms or limitations of volume providers. Its engineering team conducts detailed system modelling and technology-specific analysis integrating business needs and regulatory understanding. Financial modelling covers ROI and scenario analysis, certificate optimisation, and funding pathways. Clients work directly with senior engineers with no account management layers, resulting in faster decisions and clearer advice.