

Kimberly-Clark cleans up with energy savings

Canonical: <https://northmoregordon.com/case-studies/kimberly-clark-cleans-up-with-energy-savings/>

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Case-study summary

This historical case study records the project, delivery approach and reported results behind Kimberly-Clark cleans up with energy savings . It has been reorganised for clearer reading and linked to current Northmore Gordon guidance so the project evidence can be used without treating an earlier result as a present-day quote.

Evidence note: The source page is dated March 28, 2019. Figures, scheme names, equipment assumptions and client circumstances belong to that project period. Opportunities, targets and forecasts remain distinct from implemented or verified outcomes, and current eligibility should be checked before using the case as a new-project benchmark.

Project record

The air handling transportation system was inflexible and inefficient until we upgraded it with variable speed drives and controls. With the help of NGE we were able to verify the savings, and claim energy saving certificates that helped to offset the cost of the new system. Kimberly-Clark , Ingleburn Site Manager

The Client

Kimberly-Clark, manufacturers health, hygiene, and wellbeing products globally for over 175 countries. Brands include Huggies, U by Kotex, VIVA, Kleenex, Kleenex Cottonelle, Depend, Poise, DryNites, and Pull-Ups and many others.

Key Facts

Equipment Upgraded 29 large industrial fans and controls

Annual Energy Savings 680+ MWh

Certificate Value >\$ 105,000

Program NSW Energy Saving Scheme (ESC Each ESC represents one notional megawatt hour (MWh) of energy.)

Method Project Impact Assessment with M&V; (PIAM&VProject; Impact Assessment with Measurement and Verification)

Northmore Gordon Partner Northmore Gordon (Consulting)

The Work

Based on years of industrial energy experience, Northmore Gordon Environmental was engaged to provide KimberlyClark with an end-to-end energy optimisation solution. The scope of the project was to ensure their energy saving project complied with NSW energy savings scheme requirements and Kimberly-Clark could maximise the financial incentives.

Challenges

Rapidly rising electricity costs

Financial return on investment in energy efficiency upgrades

Complexity of accessing the financial incentives of the NSW

Energy Saving Scheme (ESS) The ESS was established in 2009. Financial incentives are in the form of tradeable certificates, called energy savings certificates (ESCs). Generally, householders and businesses who fund energy savings activities transfer the right to create ESCs to Accredited Certificate Providers (ACPs) in return for a discount on the cost of the energy savings activity. The MWh savings from the project determines the number of ESCs that can be created. The ESS works by allowing ACPs to create and register ESCs for energy savings that are supported with appropriate evidence. ESCs are then purchased each year by mainly electricity retailers operating in NSW to meet their share of a legislated annual energy savings target.)

Outcomes

Replaced manual control of air flow dampers with variable speed drives (VSDs)

Reduction in ongoing energy costs across the site

Saving of more than 7,000 tonnes CO₂e over 10 years

Met the payback criteria for site upgrade projects

Better control of the production process

A global consumer goods company behind iconic brands including Kleenex, Huggies, and Depend, with a strong presence in the Australian market.

Using the results for a new project

Start with the site's current operating profile, asset condition and business objective. Define the baseline, project boundary, variables that affect energy use and the evidence available before selecting a technology or incentive pathway. This makes the comparison auditable and keeps physical savings separate from grants, certificate revenue and other financial benefits.

For a comparable project, confirm current program rules and product requirements, document installation and commissioning, and plan post-project measurement early. Historical results can show what was possible in one setting, but they do not establish current eligibility, pricing, payback or emissions outcomes.

Related guidance

Energy audits

Measurement and verification

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Commercial lighting

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Why did Kimberly-Clark's air handling transportation system need upgrading?

The system relied on manual control of air flow dampers, making it inflexible and inefficient. This inflexibility increased energy consumption and rising electricity costs, creating a business case for modernization. By replacing manual damper control with variable speed drives (VSDs) on 29 large industrial fans, the system could respond dynamically to actual production needs rather than running at fixed capacity. This approach is typical in manufacturing where shared utility systems like air handling represent significant energy consumption opportunities. The upgrade improved both operational control of the production process and energy efficiency.

How did Kimberly-Clark access financial incentives to support the project investment?

Kimberly-Clark used the NSW Energy Savings Scheme (ESS), which creates a market for energy savings certificates from eligible activities. The project was verified using PIAM&V; (Project Impact Assessment with Measurement and Verification), a specific ESS pathway that compares modelled pre-project consumption with measured post-commissioning consumption. The scheme required an approved independent M&V; professional to establish the baseline measurement procedures and deem the project appropriate before implementation. The verified savings of more than 680 MWh generated over \$105,000 in certificate value, substantially offsetting the system upgrade costs and meeting the site's payback criteria for capital projects.

What role did measurement and verification play in verifying the Kimberly-Clark energy savings?

Measurement and verification (M&V;) under the PIAM&V; method established what energy consumption would have been without the upgrade under comparable operating conditions, then compared that counterfactual against actual post-project consumption. An approved M&V; professional was required to deem the baseline measurement procedures appropriate and provide written reasoning before the implementation date. This rigorous approach separated the energy savings from other factors that could affect the bill, such as production changes, operating hours or weather variations. The verified result of more than 680 MWh annually provided credible evidence for certificate entitlement and demonstrated operational performance to management.

What were the environmental and financial outcomes of the Kimberly-Clark VSD upgrade?

The project delivered dual outcomes: environmental benefits of more than 7,000 tonnes CO₂e reduction over 10 years, and financial benefits combining operational cost savings with certificate proceeds. The annual energy savings of more than 680 MWh translated to reduced ongoing electricity costs across the site. The \$105,000 certificate value significantly offset the capital investment in variable speed drives and control systems, helping the project meet Kimberly-Clark's required payback criteria for site upgrades. Beyond the quantified metrics, the upgrade improved production process control by allowing the air handling system to respond dynamically to actual facility needs rather than maintaining fixed operation.

Why is the Kimberly-Clark project relevant to manufacturers considering energy upgrades?

The case demonstrates a structured approach to industrial energy optimization that balances technical, financial and environmental objectives. Manufacturers face high electricity costs and inefficient shared utility systems like compressed air, heating and ventilation. The Kimberly-Clark project shows how targeting a specific system (air handling), upgrading it with modern controls (VSDs), and verifying the outcome through a recognized scheme (NSW ESS with PIAM&V;) can create a compelling business case. The project also illustrates how government incentive schemes can be accessed systematically rather than seen as optional extras, transforming the investment economics and meeting capital approval thresholds.

How does Northmore Gordon assist manufacturers with projects like Kimberly-Clark's?

Our stated service scope includes energy audits to identify efficiency opportunities in industrial facilities, feasibility studies to assess technical and financial viability, and measurement and verification services to establish baselines and verify savings. For projects using NSW ESS, we help structure evidence and assess PIAM&V; compliance. We also support business case development, comparing alternatives against consistent operating assumptions and energy prices, and manages funding pathway assessment to optimize scheme eligibility. The Kimberly-Clark case exemplifies how technical assessment, commercial evaluation and scheme expertise combine to transform efficiency concepts into realized savings and verified outcomes.

What decision framework should manufacturers use when evaluating fan and air handling upgrades?

Manufacturers should begin by mapping existing air handling systems, identifying current loads, control methods and interaction with production processes. The business decision should clearly state the operating problem—in Kimberly-Clark's case, inflexible fixed-capacity operation—and define required operational outcomes. A proportionate audit should assess the system boundary, baseline consumption under representative conditions, available upgrade options and comparative financial evaluation using consistent assumptions. Measurement planning is critical before installation to establish credible baseline evidence. Finally, assess relevant government schemes by jurisdiction and timing; scheme eligibility and evidence requirements should inform project design rather than being addressed retrospectively.

What documentation is essential for manufacturers claiming NSW ESS certificates for equipment upgrades?

Documentation must establish the specific activity, implementation date, baseline measurement procedures approved by an M&V; professional, and the calculation method chosen before building the evidence file. For PIAM&V;, the baseline procedures require written explanatory reasoning provided before the implementation date. Equipment records should detail what was installed, when it was commissioned, and what else changed during the period. The measurement approach must specify instruments, intervals, data quality checks and responsibilities for data access. Customer nomination and evidence together establish certificate entitlement; an installer invoice alone is insufficient. Keep engineering savings, scheme-recognized savings, created certificates and customer proceeds as separate quantities.