

Frew Foods: 10,183 VEECs from a biomass boiler upgrade chops energy costs

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Case-study summary

This historical case study records the project, delivery approach and reported results behind Frew Foods: 10,183 VEECs from a biomass boiler upgrade chops energy costs . 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 May 13, 2025. 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

“Frew Foods worked closely with Northmore Gordon on the biomass boiler project to measure and verify carbon savings. We successfully created 10,183 VEECs in Sep ‘21... Northmore Gordon showed they understood what we were trying to achieve... the project was delivered through COVID-19 which for our business was a challenge. The work done by Northmore Gordon to support my abattoir was professional and Alan was a pleasure to work with over the project. Thank You Sincerely.”

– Robert Frew, Owner & Managing Director at Frew Foods International Pty Ltd

The Client

Frew Foods International is a large wholesaler of quality lamb and sheep meat products to the major supermarkets and butchers across Australia. As a halal and tier 2 accredited processor, Frew Foods exports to over 100 countries across all major continents including Europe, North America, South America, the Middle East, Africa and Asia. Their modernised abattoir in Stawell, Victoria employs over 500 people and has the capacity to process over 6000 lambs and sheep a day.

Key Facts

Equipment Upgraded – Installation of 3MW biomass boiler and 90,000 litre heat storage tank

Annual Energy Savings – 21,160 GJ A joule is a measure of the energy required to send an electrical current of one ampere through a resistance of one ohm for one second. One GJ is equal to 277.8 kilowatt hours (kWh), 1.055 million British thermal units (Btu) or 0.17 barrels of oil. Gas

Certificate Value – \$800,000

Program – Victorian Energy Upgrades (VEU)

Method – Project Based Activities (PBA) Project Based Activities)

The Project

The site's Energy Conservation Measure (ECM) The biomass boiler is fueled with locally sourced sawdust. The replacement included the installation of a 3 MW thermal biomass boiler with associated pipework, fittings and additional gantry, connection to the existing hot water circuit, and isolation of the existing natural gas boilers.

Challenges

M&V; modelling challenges imposed by COVID restrictions

Logistic issues with product fuel delivery due to COVID

Drastic gas price variations

Outcomes

More hot water capability with lower carbon emissions

Less affected by natural gas price variations

Our Role

Northmore Gordon provided an end to end service to ensure the project complied with the Victorian Energy Upgrade Program to maximise the financial incentives. Northmore Gordon's Certified Measurement & Verification Professionals (CMVPs) created the M&V; plan, collected site data and supporting evidence, built the baseline and operating energy models to calculate the energy savings. Subsequently we wrote the M&V; report, and then created and traded VEECs on the clients behalf.

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Based in Stawell, Victoria, Frew Foods is a leading Australian meat processor and exporter specialising in lamb, mutton, and goat products.

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

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Why would a large meat processor like Frew Foods prioritize energy efficiency improvements?

Meat processing requires continuous high-temperature hot water for cleaning, sterilization, and product handling—a significant operational cost. Frew Foods processes over 6,000 lambs and sheep daily, making energy consumption a major expense. By replacing natural gas boilers with a biomass system fueled by locally sourced sawdust, the business reduced exposure to volatile gas price fluctuations, improved carbon performance, and increased hot water capability. For a halal and tier 2 accredited processor exporting to over 100 countries, demonstrating operational efficiency and emissions reduction supports market competitiveness and sustainability credentials.

What is the significance of creating 10,183 VEECs from the Frew Foods project?

Victorian Energy Efficiency Certificates represent quantified energy savings recognized under the Victorian Energy Upgrades scheme. The 10,183 VEECs created in September 2021 provided \$800,000 in financial value, making the biomass boiler upgrade commercially viable and reducing the payback period substantially. This outcome demonstrates that the project met strict Victorian Government eligibility requirements, technical specifications, and measurement and verification standards. The certificate creation required documented baseline conditions, engineering calculations, and independent verification—processes that our Certified Measurement & Verification Professionals managed to maximize the financial incentive.

How did COVID-19 impact the Frew Foods biomass project, and why does this matter for similar projects?

The Frew Foods project faced three COVID-19-related challenges: M&V; modelling complications, logistics issues with sawdust fuel delivery, and extreme gas price volatility. These disruptions illustrate real-world project risks that advisers must manage during implementation. Despite these obstacles, our team maintained compliance with Victorian Energy Upgrades requirements and successfully completed the measurement and verification process. For projects undertaken during uncertain periods, early planning of measurement boundaries, baseline establishment before disruptions occur, and contingency arrangements for fuel or equipment sourcing become critical. Projects must document actual implementation conditions to preserve eligibility evidence.

What does the 21,160 GJ annual gas saving mean operationally for Frew Foods?

An annual saving of 21,160 gigajoules of natural gas represents a substantial reduction in both operating costs and carbon emissions for a facility processing thousands of animals daily. This magnitude of savings confirms the biomass boiler's technical effectiveness and validates the M&V; calculations that supported the VEEC creation. For Frew Foods, the ongoing benefit is lower exposure to gas price volatility—a critical advantage for international exporters where energy costs affect competitiveness. The savings also reduce the facility's carbon footprint, supporting halal and sustainability certifications valued by global customers. Achieving this outcome required precise baseline establishment and consistent monitoring of operating conditions.

Why did Northmore Gordon's involvement go beyond engineering to include certificate creation and trading?

Environmental certificates are tradeable instruments requiring expertise beyond equipment engineering. Our role—from M&V; planning through baseline modelling, savings calculations, reporting, and VEEC creation and trading—ensures the project captures all available financial value while maintaining scheme compliance. Our Certified Measurement & Verification Professionals understood that eligible activities, evidence requirements, and calculation methods vary under the Victorian Energy Upgrades program. By managing the entire workflow, we relieved Frew Foods of technical compliance burden and unlocked \$800,000 in financial incentives. This integrated service model is essential for industrial projects seeking maximum commercial benefit from energy improvements.

What practical challenges does measurement and verification present for a biomass boiler project like Frew Foods'?

M&V for biomass boilers requires establishing baseline hot water demand under normal operating conditions, then measuring post-installation performance while accounting for operational variables that affect consumption—production throughput, weather, cleaning cycles, and product mix. The Frew Foods project faced the added complexity of modeling during COVID-19 disruptions, fuel delivery logistics, and gas price variability. Effective M&V demands clear project boundaries, reliable metering, documented implementation records, and rigorous baseline assumptions. Our approach included collecting site data, building energy models, and writing comprehensive M&V reports that satisfied Victorian Government auditing standards. Early planning of measurement infrastructure and data responsibilities prevents post-installation gaps that can jeopardize certificate eligibility.

How does a biomass boiler decision connect to broader industrial decarbonization strategy?

For Frew Foods, the biomass upgrade represents a staged approach to reducing reliance on fossil fuels while maintaining operational reliability. By selecting locally sourced sawdust as fuel, the business supports circular economy principles and regional supply chains while achieving quantified carbon savings. The 3MW thermal capacity with 90,000 litre heat storage provides operational flexibility for a high-volume processor. However, biomass projects require careful assessment of fuel availability, storage, maintenance implications, and integration with existing systems—decisions that should consider long-term energy strategy, not just short-term savings. Our involvement in feasibility assessment, investment case development, and measurement planning ensures industrial decarbonization decisions align with technical viability, regulatory pathways, and financial sustainability.

What does the positive testimonial from Robert Frew indicate about project delivery in complex environments?

Robert Frew's statement highlights that successful industrial energy projects depend on understanding the client's operational needs, maintaining professional communication through disruptions, and delivering compliance without excessive burden. His acknowledgment that Northmore Gordon 'understood what we were trying to achieve' and 'supported my abattoir professionally' even during COVID-19 challenges indicates that technical expertise alone is insufficient—clients value advisers who navigate uncertainty, adapt to delays, and explain complex processes clearly. For meat processors and other continuous-operation facilities, energy projects must be scoped with production constraints, staffing realities, and supply-chain dependencies explicitly visible. Our engagement approach, which balanced technical rigor with operational pragmatism, created conditions for project success despite external pressures.