

Greenham Multi-Site Decarbonisation Program

Canonical: <https://northmoregordon.com/case-studies/greenham-moving-towards-decarbonisation/>

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Greenham used a staged program across livestock-processing sites in Tasmania and Victoria rather than applying one technology everywhere. The work combined energy audits, engineering, biomass, cogeneration, grants, environmental certificates and ongoing carbon reporting.

Evidence note: The source case study was published on 20 May 2025 and describes work commencing in 2014. Its values are historical and project-specific. The Emissions Reduction Fund terminology used at the time is now generally described through the Australian Carbon Credit Unit Scheme, and current method eligibility must be checked separately.

Project context

Greenham's sites had different energy profiles, infrastructure and local opportunities. At Smithton, the program centred on renewable biomass and carbon credits. At Tongala, a solar proposal triggered a broader audit that found cogeneration and hot-water integration better matched the site's combined electrical and thermal demand.

Northmore Gordon's role

Supported the Smithton switch from coal to renewable biomass and the associated carbon-project registration, reporting and credit monetisation.

Prepared a replacement-boiler specification and helped identify capable suppliers and installers.

Completed a Tongala solar feasibility review and energy audit covering electrical and thermal systems.

Developed business cases for hot water, cogeneration and high-voltage supply, then secured grant and VEEC support for cogeneration.

The final Tongala design described in the source used 2 MW of cogeneration running on natural gas and biogas captured from wastewater treatment, supplying electricity and hot water alongside existing heaters.

Reported project results

Smithton carbon-credit value: more than \$175,000 in total, as reported

Replacement biomass-boiler efficiency: 15-20% greater, as reported

Reported biomass-boiler fuel saving: \$50,000 per year

Tongala opportunities: 15 areas with an estimated \$1 million annual saving

Tongala cogeneration: 2 MW

Reported Tongala grant and VEU value: more than \$4.5 million in total

Matched technology choices to each site's energy profile.

Combined physical projects with funding, certificate and reporting work.

Used feasibility work to challenge an initial solar assumption and prioritise a stronger site-specific option.

What this project shows

Multi-site decarbonisation should use a common decision framework while allowing different solutions at each facility. Electrical and thermal load shape, fuel access, asset condition, production plans and scheme rules can change the preferred project.

Grants and certificates can improve a project, but they should follow technical due diligence. A staged evidence plan also helps keep estimated opportunities, committed projects, implemented measures and verified outcomes clearly separated.

Related guidance

Carbon advisory

Energy audits

Boiler upgrades

Hot-water systems

Government schemes

More case studies

Discuss a comparable energy, carbon or certificate project with Northmore Gordon .

Why is Greenham's multi-site approach relevant to other industrial businesses considering decarbonisation?

Greenham demonstrates that a portfolio approach requires site-specific assessment rather than repeating the same solution across locations. Each site has different operating requirements, available energy sources, production profiles and business cases. A comparable assessment should define heat duties, available fuel or recoverable energy streams, maintenance implications and production interruption costs for each location separately. This prevents inappropriate technology transfer and allows consistent financial comparison across a portfolio while respecting local constraints.

What role did government support and certificates play in Greenham's projects?

Government support took multiple forms: the Emissions Reduction Fund (ERF) enabled carbon-credit creation at Smithton through the coal-to-biomass conversion; a Sustainability Victoria grant funded the energy audit at Tongala; and the Victorian Energy Upgrades (VEU) scheme supported the cogeneration project through both direct funding and Victorian Energy Efficiency Certificates. These programmes required separate eligibility assessment and project registration. Certificate pathways and grant funding must be verified for the actual activity, state and implementation date, as historical success does not establish eligibility for a new project.

How did Northmore Gordon assist Greenham in securing and managing environmental certificates?

At Smithton, we registered the coal-to-biomass project for the Emissions Reduction Fund, negotiated offset sales, submitted annual reports and managed Australian Carbon Credit Unit (ACCU) creation. At Tongala, the cogeneration project was registered under Victorian Energy Upgrades to generate Victorian Energy Efficiency Certificates based on verified energy savings. Northmore Gordon's environmental certificate services cover project registration, certificate creation, trading and commercial assessment. Proper scheme selection and evidence management are essential because eligibility

depends on specific activity, premises, equipment and timing conditions.

What measurement and verification considerations arise from Greenham's cogeneration project?

The cogeneration system at Tongala uses natural gas and biogas, creating both electricity and hot water outputs. Measuring its performance requires establishing clear boundaries for the equipment, electrical output and thermal output, accounting for operating variables, and distinguishing performance changes from production or feedstock variations. Where one project affects multiple systems—such as cogeneration changing both electricity demand and heating duties—assessment boundaries and combined results must be agreed in advance. Baseline and implementation records preserve evidence needed for certificate claims and performance verification.

What practical lessons does the Tongala energy audit offer for similar industrial sites?

The audit identified 15 potential optimisation areas and \$1M in annual savings, but Greenham prioritised three for further investigation: hot-water upgrading, cogeneration and high-voltage supply conversion. This demonstrates the value of separating opportunities into investigation categories and assigning owners to each decision rather than treating all identified measures as investment-ready simultaneously. Classify actions into operating review, targeted investigation and investment development, with each receiving its own scope and technical ownership. This staged approach allows management and finance teams to act on priorities without assuming every opportunity has been designed or approved.

How should a business compare decarbonisation options across multiple sites and technologies?

The Greenham case illustrates the need for consistent comparison frameworks: define thermal loads, fuel types, annual consumption and operating hours for each site; identify existing studies and replacement dates; and prepare a site-by-site table of major requirements and known constraints. Then select one immediate decision per site and scope the next assessment without repeating historical project designs. Each site's operating strategy, available energy sources, maintenance implications and production constraints must be made explicit. This enables financial comparison on consistent bases while respecting differences and prevents technically sound upgrades at one location from being assumed suitable elsewhere.

What types of energy improvements are typical for animal-processing facilities like Greenham?

Animal-processing sites typically require investigation of hot-water and steam duties, refrigeration systems, heat integration opportunities, wastewater interfaces and electrical supply impacts. These systems are interconnected: reducing a cooling load can change equipment sizing in later replacements, and proposed operating changes affect load profiles. An animal-processing energy brief should describe processing schedules, hot-water and steam requirements, cooling demands and wastewater constraints before selecting equipment. Boundaries for the process, metering and scheme eligibility must be kept separate and visible, ensuring production assumptions and energy prices are consistent across alternative options.

What does the Greenham case reveal about the relationship between feasibility assessments and actual project outcomes?

Greenham's experience shows that feasibility assessments and energy audits identify opportunities and constraints, but realised outcomes depend on implementation, commissioning and measurement. At Tongala, the initial 2MW solar farm proposal was reconsidered after investigation; the cogeneration option emerged as better aligned with site needs. Identified opportunities remain forecasts until implementation and verification establish actual results. Historical success at one site—such as the Smithton boiler retrofit—does not establish eligibility or suitability for comparable work at another location or date. Each project requires its own technical assessment and scheme review under current rules.

How should industrial businesses prepare for engagement with an energy consultant on decarbonisation strategy?

Preparation begins with a site-by-site table of major thermal loads, fuel types, annual consumption, operating hours, known replacement dates and existing studies. Identify one immediate decision for each site—whether audit, feasibility, measurement or investment development. Provide access to energy bills, interval data where available, production records and equipment information. A project brief should record business problem, operational requirements, chronology of prior commitments, available evidence and requested decision outputs. This allows a consultant to scope assessment proportionately without assuming historical project designs should be repeated, and enables operations and finance teams to prioritise actions across a portfolio.