

Energy and Carbon Solutions by Sector

Canonical: <https://northmoregordon.com/sectors/>

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Start with the process, load and operating constraint

Energy and emissions opportunities differ by sector because equipment duties, production schedules, reliability requirements and available evidence differ. Northmore Gordon works with industrial facilities, commercial buildings, utilities and public-sector organisations to identify practical opportunities and connect them with investment, reporting and certificate decisions.

The same discipline applies across sectors: establish the baseline, define the decision, identify opportunities, test feasibility, separate funding from operating benefits, and verify outcomes after implementation. An energy audit can identify where to investigate, while measurement and verification defines how project performance will be evaluated.

Industrial and process operations

Manufacturing, food and beverage, animal processing, chemicals, pharmaceuticals, mining, oil and gas, and wood or paper processing often have large process loads and strict production constraints. Useful investigations may include:

steam, boilers, furnaces and other thermal systems;

refrigeration, chilled water and process cooling;

compressed air, pumps, fans and motor systems;

heat recovery, controls and operating schedules;

electrification, renewable energy and fuel alternatives;

metering, production-normalised performance and maintenance practices.

Project estimates should reflect throughput, product mix, operating hours, shutdowns and interactions between systems. A measure that works at one plant still needs site-specific validation. The Nomad Coffee case study shows how an audit can use production context and short-term metering to identify opportunities.

Commercial buildings and public-sector portfolios

Commercial and public-sector work can involve HVAC, lighting, hot water, controls, on-site generation and demand management. Portfolio owners also need a consistent way to compare sites and decide where detailed investigation will have the greatest value.

Rank sites using energy intensity, operating conditions, data quality, equipment condition and upcoming capital works. Avoid applying a single benchmark without checking differences in occupancy, service level and climate. When a technology pathway is selected, review the relevant energy-efficiency upgrades and plan post-project evidence.

Water, wastewater and waste operations

Water and wastewater facilities can have material pumping, aeration, treatment, biogas and process-heating loads. Reliability and regulatory obligations may constrain when and how equipment can be changed. A site and asset register, interval data, operating records, SCADA or submeter data, planned capital works and operating constraints provide a practical starting evidence set.

For a multi-site estate, begin with the highest-energy or highest-opportunity sites, then refine the programme as better data becomes available. The Victorian water corporation case study shows how site assessments can be connected with an organisation-wide energy-management programme.

Build the commercial and emissions case together

Keep energy savings, tariff effects, maintenance benefits, emissions reductions and potential certificate revenue visible as separate components. Check government-scheme and environmental-certificate requirements before implementation when eligibility or evidence timing matters.

Where decarbonisation or reporting is the main driver, carbon advisory can connect the emissions boundary, reduction pathway, responsibilities and reporting evidence. Forecast opportunities remain forecasts until the work is implemented and performance is assessed.

Related guidance

Turn audit findings into an action programme

Understand Scope 1, 2 and 3 emissions

Assess a hot-water upgrade pathway

Browse Northmore Gordon advisory services

Start with the sites and the decision

Contact Northmore Gordon with the sector, sites, main energy uses, available records, operating constraints and the decision or deadline. That brief helps establish the right starting scope.

How does an energy assessment change between sectors?

The assessment follows the same evidence-based process, but the systems, operating variables and constraints differ. Industrial sites may require production-normalised analysis of process heat, refrigeration or compressed air. Buildings may focus on occupancy, HVAC and controls. Utilities may need site prioritisation, SCADA data and reliability constraints. The agreed scope should reflect the actual decision and operating conditions.

What information should we prepare for a sector-specific assessment?

Prepare available electricity and fuel records, interval data, production or service-level information, operating schedules, equipment and asset registers, planned capital works and known operational constraints. Identify shutdowns, changes in activity and data gaps so they can be addressed in the scope.

How should a multi-site organisation decide where to start?

Rank sites using energy use, intensity, equipment condition, data quality, operating importance and upcoming investment decisions. Begin with sites where the potential impact and evidence justify further investigation, then update the programme as better information becomes available.

Can a project result from one site be applied to another site in the same sector?

It can provide a useful reference, but it is not a forecast or guarantee. Equipment duty, production, climate, controls, tariffs and maintenance conditions can change the result. Validate the opportunity and assumptions at the new site before relying on the earlier outcome.

What is the difference between an audit estimate and a verified saving?

An audit estimate forecasts an opportunity using the evidence and assumptions available at the time. A verified saving evaluates post-project performance against an agreed baseline under comparable conditions. Keep these result stages distinct in investment papers and public claims.

When should funding and environmental certificates be assessed?

Assess them before implementation when programme rules require pre-approval, registration, measurement or specific evidence. Show grant or certificate value separately from energy, tariff and maintenance benefits so the operating case remains visible if support changes.

How should operational constraints be handled?

Record production, safety, reliability, product-quality and regulatory requirements at the start. Opportunities should be screened against those constraints, and implementation planning should identify shutdown needs, commissioning responsibilities and the evidence required to confirm normal operation.

What is a useful first deliverable for a sector-wide programme?

A prioritised opportunity register is a practical first deliverable. For each site or measure it should identify the decision, evidence quality, expected impact, constraints, dependencies, accountable owner and next action. This separates early ideas from assessed opportunities and approved projects.