



Industry Case Examples

The following examples are provided to illustrate how some of our trial corporations are meeting the intent and key requirements of the Energy Efficiency Opportunities Assessment Framework.

The examples aim to demonstrate:

- what a key requirement or intent looks like in practice;
- that different approaches to assessments can be taken;
- that existing systems and processes can be utilised and built upon; and
- some of the early benefits coming out of energy efficiency opportunities assessments

It is important to remember when reading these examples that most companies are in the early stages of the assessment identification process. Future approaches will be recorded and published over time.

When planning for assessments, program participants should ensure they refer directly to the key requirements of the Assessment Framework which are published in the **Energy Efficiency Opportunities' industry guidelines**. Businesses should not rely solely on the information contained in the following examples. The industry guidelines and other support material are available on our website at www.energyefficiencyopportunities.gov.au.

Key Element 1: Leadership

INTENT

- Visible leadership and commitment from senior management provides clear direction to the assessment through the setting of energy use and assessment objectives aligned with business priorities.
- Senior management support, motivate and provide value to the efforts of staff and other stakeholders involved in the identification and implementation of energy efficiency opportunities.

BORAL

Midland Brick's parent company, Boral, has a comprehensive sustainability management and reporting process. Boral's Environmental Policy includes a commitment to sustainable development, best practice environmental management and 'continual improvement of our environmental performance including regular review and the setting of rigorous environmental objectives and quantified targets'. Environmental strategic plans are prepared annually for each of Boral's six divisions, and each site has an environmental action plan which forms part of their Environmental Management System (EMS).

This environmental management and reporting process drives the need to collect data for energy efficiency and greenhouse emissions. As data collection and reporting improves, each division and site is required to set specific targets. This is reflected in Midland Brick's strategic plans, which incorporate energy efficiency improvement targets of 1 percent for electricity and 2 percent for natural gas.

To support the development of projects to achieve these targets, a new position has been proposed to manage Performance Enhancement Program (PEP) projects at Midland Brick. Projects will include those identified through the energy efficiency assessment process. Direct responsibility for energy efficiency is to be assigned to business unit managers with support from PEP project personnel.

At the commencement of the energy efficiency assessment process, senior management at both corporate and site level participated in workshops and communicated a strong message of support for the assessment. This support was also demonstrated through the allocation of resources: both people (assignment of a project coordinator for the process, and meeting/investigation time of other personnel) and financial (e.g. external consultancy engaged to undertake a detailed analysis of proposed energy efficiency and productivity improvements to Kilns 7 & 8).

Read more about Boral's sustainability program at <http://www.boral.com.au/CommunityEnvironment/SustainableDevelopment.asp?AUD=CommunityEnvironment&site=CI>

BUNKER FREIGHT

Bunker Freight Lines has a weekly management meeting involving board members. Fuel efficiency is monitored and discussed at these meetings and action plans are updated. This discussion is informed by reporting of energy performance based on rigorous data tracking and analysis. There is also regular discussion at these meetings about the trialing of new engines and other related efficiency issues such as tyres, trailer aerodynamics, engine and fuel types.

The company has targets for greenhouse gas emission reductions and fuel efficiency objectives are considered in all aspects of the business, including vehicle purchases and operations. Fuel is a major cost to the company, and increasing energy costs mean that efficiency is a priority issue. Daily monitoring means that energy consumption can be positively influenced on a daily basis.

Bunker works with its supply chain partners to reduce energy consumption. Vehicle, equipment and fuel suppliers are encouraged to achieve continuous improvement in energy efficiency. Customers are encouraged to consolidate their loads and to have B-double or Road Train loads where possible to reduce consumption. Drivers have a bonus system which is linked to performance including vehicle overall usage efficiency.

Bunker also has an environment management system based on ISO 14001 which helps to ensure that energy efficiency and greenhouse reduction is integrated within relevant policies and programs.

INVESTA PROPERTY GROUP

Investa Property Group is Australia's largest listed owner of commercial property. The company reports annually against energy use and greenhouse emission reduction targets in its Sustainability Report. These targets include a commitment to reduce the energy consumption of a building by 15% within 3 years of its inclusion in Investa's efficiency program, to achieve at least 3.5 Stars at more than 50% of the portfolio's buildings measured under the Australian Building Greenhouse rating scheme (ABGR) and to identify and implement projects with an internal rate of return greater than 15%. By 2006 Investa expects to have 36 ABGR-rated buildings in its portfolio.

To promote awareness across Investa's portfolio, each tenant receives a report on energy performance and targets every two months with the company's newsletter. This report includes targets and energy consumption for each site. Each month the action plan for each site is updated via monthly meetings of facilities managers, sustainability managers and energy service providers.

Property supervisors, facilities managers and other senior staff have performance targets for sustainability (including energy) incorporated into their personal objectives which tie into the company's incentive scheme.

Investa's leadership was recognised globally by its inclusion in the 2005 Dow Jones Sustainability World Index which ranked it among the world's top real estate groups in terms of sustainability performance.

TOYOTA

Toyota's parent company in Japan has set a clear vision for all its affiliates throughout the world to demonstrate leadership in its country of operation. This includes the setting of specific targets to reduce energy use. In response to this global vision, Toyota Australia has set specific energy efficiency and greenhouse reduction targets and developed robust monitoring and reporting systems for its manufacturing sites. Toyota Australia's latest five year Environmental Plan specifies a CO₂ reduction target of 13% per unit from 2001 levels by the end of the 2010-11 fiscal year.

To further support the achievement of environmental targets, an environmental steering committee with both board and site representation meets every second month. The committee tracks energy efficiency performance, discusses the application of emerging energy efficient technologies, and identifies strategies to promote the benefits of energy efficiency and other positive environmental actions.

At an operational level, monthly progress reports on energy use and production levels are compiled for managers. These reports assist in tracking energy use at a site level, increasing awareness on the shopfloor and reporting to the sustainability committee.

Toyota will utilise these existing targets and business systems in conjunction with the requirements of the Energy Efficiency Opportunities program to renew its drive to improve energy efficiency performance.

Key Element 2: People

INTENT

- Skilled and knowledgeable people and people with direct and indirect influence on energy use are involved in the assessment to effectively identify and evaluate energy efficiency opportunities, provide fresh perspectives and make the business case for identified energy efficiency opportunities.
- Responsibilities and accountabilities are suitably allocated and team diversity is encouraged.

BORAL

Midland Brick (Boral) initiated the assessment process by bringing a group of site personnel together for a workshop to broadly identify opportunities. This group included a project manager (to coordinate project development and assessment activities), electrical engineer, business unit manager, kiln supervisor, data analyst, business improvement analyst and an external energy efficiency consultant. These people have agreed to sponsor individual opportunities, and to meet regularly to discuss energy efficiency projects with a program coordinator in order to maintain focus and momentum.

It is intended that formal roles and responsibility for energy efficiency will be assigned as the assessment proceeds. For example, the assessment process has highlighted the potential benefits of focusing additional resources on energy efficiency, and it is proposed that a Performance Enhancement Program (PEP) Manager be employed to coordinate projects. Energy efficiency responsibilities have also been incorporated into the roles of each business unit manager.

COCA-COLA AMATIL

At its Northmead bottling plant, Coca-Cola Amatil's (CCA's) National Environment Manager invited people with a wide range of skills, roles, and backgrounds to join an Energy Action Team. This approach was road tested by CCA to determine how best to garner opportunities arising from the Energy Efficiency Opportunities Program, with a plan to replicate the process across other areas of the business. The team included people from different operational areas and shifts at Northmead with roles in engineering, finance and production, a representative from another bottling plant owned by CCA, and people with national responsibilities in engineering and environment. An external energy data specialist and an external facilitator were also engaged and used at different stages during the process to maximise the chance of capturing potential savings.

For the team's first meeting, a full day workshop was used to establish an energy management program. A background briefing paper on energy consumption, performance indicators and possible efficiency opportunities was prepared by the external energy data specialist and distributed as prior reading.

The external facilitator ensured that team members had the opportunity to generate and prioritise potential opportunities (short-list of 34) by providing an effective process and keeping the workshop to schedule. Team members volunteered to take responsibility for building on the background data, further extending the business case for key opportunities identified during the workshop session.

CCA determined that this process was a great way to collect ideas from across the workforce, by engaging staff and taking advantage of their knowledge and experiences within the organisation. The process provided an opportunity for open discussion and had a positive impact on the participants. It will be used in other sites within the CCA group.

Read more about CCA's environment program at <http://www.ccamatil.com/EnvironmentalPolicy.asp>.

Key Element 3: Information, data and analysis

INTENT

- Sufficient data, in suitable forms, is used to quantify and understand energy use, identify and quantify energy saving opportunities, and to track performance and outcomes (where actions are implemented).
- Energy data is analysed from different perspectives to understand relationships between activity and consumption, and to identify energy efficiency opportunities.

COCA-COLA AMATIL

Background company information which could influence or create energy efficiency opportunities was provided to an external data consultant through research and discussion with nominated site personnel. This background information, together with some preliminary analysis of energy data, was captured in a report and shared at a workshop-style meeting of national and site environmental, energy and engineering personnel. This report framed the Energy Efficiency Opportunities program in the context of the Company's broader environmental commitments, and site processes and programs, whilst providing graphical representation of average annual and monthly energy consumption data for the site. The requirements of the Energy Efficiency Opportunities program were discussed within this context during the initial workshop, where issues regarding internal financial requirements on investment were also discussed.

Many of the energy efficiency opportunities which were identified during the workshop involved heat transfer. Evaluating these potential opportunities required more information on the heating and cooling requirements of the processes on site, and quantification of existing and potential heating and cooling sources. The site Energy Action Team decided that compilation of an energy mass balance and understanding the energy usage profile would be an important step in better exploring these opportunities.

To produce the energy mass balance, electricity and gas load profiles were compared with production data, with particular attention to the few periods each year when production was interrupted. This analysis revealed periods of apparently excessive energy use which did not contribute to product manufacture. 'XY plots', which graphed electricity and gas use in relation to production, showed that a significant proportion of both energy sources did not appear to contribute to production. This, combined with the load profile information, focused the team's efforts on 'base-load' or 'parasitic' energy consumption.

CCA Northmead has a number of procedures and programs in place for collecting and analysing data. In addition to key performance indicators targeting energy performance, Northmead monitors energy use online, and can track efficiencies within specific elements or stages of the manufacturing process. This capability was used to better understand energy performance, and was correlated with data presented in the background assessment. Sound measurement and performance review processes will enable CCA to quickly identify and validate opportunities, both within the Northmead site and across similar operations within the Group.

BUNKER FREIGHT

The Fleet Manager receives fuel billing data on a daily, weekly and monthly basis for each truck. The data is analysed by the fleet manager each day for trends and anomalies and if necessary appropriate actions are taken in response. The data is reported in a monthly report to the board.

Bunker also has real time data for every truck. This data includes the truck's overall performance including its engine, hard braking reports, idling time and other performance areas related to energy efficiency. All of the data is analysed and immediate corrective action can be undertaken by providing feedback to the maintenance workshops for action. The data is also analysed across common truck categories such as B-Doubles and singles, and compiled each month in a report to the board.

INVESTA PROPERTY GROUP

Investa's general practice is to sub-meter each discrete component of a building's services. These sources can include pumps, fans and chillers (HVAC systems), lighting, car parks, lifts, escalators, power and fire services. Sub-metering is regarded as an essential tool in effectively monitoring energy use.

Each sub-meter is connected to a centralised metering system and database and can be accessed in real time via the internet. The data can be accessed and analysed at any time during the day, but is formally analysed on a fortnightly and monthly basis to track consumption and to identify potential energy efficiency opportunity areas.

To confirm the accuracy of the system and data received, regular spot checks are carried out on each building and appropriate changes are made to the system.

Through this overall information, data and analysis approach, Investa has implemented projects which are expected to save over \$1 million per annum recurrent savings across

the commercial office portfolio. All of these savings were delivered through operational adjustments and involved very little expense—for example by turning things off when not required. Control strategies and schedules for HVAC and lighting systems were adjusted to more closely reflect the occupancy of each building and the needs of tenants. The payback on the meters was under three years at each building and most of the initiatives undertaken to-date have had shorter than three year paybacks.

Key Element 4: Opportunity identification and evaluation

INTENT

- An effective process is undertaken so that all potential energy efficiency opportunities are identified. This process is broad, open-minded and encourages innovation.
- Opportunity areas are documented and analysed to a level sufficient for informed evaluation up to a 4 year payback.
- A whole of business evaluation is undertaken to enable decision makers to make good business decisions about energy efficiency opportunities.

COCA-COLA AMATIL

Coca-Cola developed a progressive program to identify, investigate and evaluate potential energy efficiency opportunities, building on its experience and the requirements of the Energy Efficiency Opportunities program. An important first step was a meeting of people with site and national responsibilities for energy and environment, which included a briefing on the Energy Efficiency Opportunities requirements and mapping of any gaps in the current opportunity identification processes.

Although many energy efficiency opportunities had been identified and implemented before the Energy Efficiency Opportunities program, compliance with Energy Efficiency Opportunities led to involvement of staff with a broader range of roles and skills, a more comprehensive assembling and analysis of energy and production data, and a more structured approach. This in turn led to identification of additional energy efficiency opportunities.

The first formal opportunity identification activity was a workshop in which the Northmead Energy Action Team examined energy and production data and initial analysis, looked at word-of-mouth savings initiatives at other factories, and brainstormed further possible opportunities.

A list of 34 potential opportunities was generated and prioritised according to degree of difficulty/resource intensity, anticipated energy savings and cost. Team members

volunteered to take responsibility for researching in more detail the top 10 ranked opportunities. This included a commitment to gather preliminary data and complete a one-page summary assessment on the opportunity to highlight areas where further information would be required. These assessments were presented to the team when it convened three weeks after the initial workshop. At this meeting these assessments were reviewed, with the list further refined, indicating those projects for which a business case would be developed, or further review required to determine if a business case should be developed. Agreed actions and milestones were developed for each of these projects.

The next phase of work will be thorough detailed evaluation of these top opportunities, and the development of business cases for these projects for consideration by the business.

XSTRATA COAL

Xstrata Coal ran an opportunity identification and evaluation process that included the use of workshops and small investigation teams at eight of its New South Wales sites to engage staff in identifying a broad range of opportunities. In some cases, workshops were combined across sites that shared management teams and responsibility for energy management. The process was designed to meet the requirements of both the Energy Efficiency Opportunities program and the NSW Government's Energy Savings Action Plan. It was also developed to support the integration of energy efficiency into all aspects of the company's sites and systems to deliver sustainable energy management outcomes. The main aim was to ensure that sites accepted ownership of all energy efficiency activities.

The Xstrata Coal assessment process was successful because it:

- built on an existing process of open engagement at sites which is used to support culture change on health, safety and environment issues;
- was designed to have a consistent framework within which site-based activities were tailored to the needs of each site by local staff; and
- involved all relevant staff (including senior site personnel), enhanced site ownership of the process, leveraged site expertise and definitely improved outcomes.

The process comprised three individual workshops spaced over a two to three month period. The first workshop focused on opportunity scoping, beginning with a systematic review of the systems and processes used to manage energy at each site. Opportunities were then brainstormed by using site energy cost and consumption data as a catalyst, and by drawing on the expertise of staff and outside experts. After the site-specific discussion finished, opportunity lists from other sites were reviewed for potential synergies and any ideas which hadn't been fully explored.

After the list of opportunities had been finalised, it was discussed by the group, and any opportunities with obvious limitations were removed. A 'project owner' was identified to undertake follow-up research on each of the remaining opportunities. This research was conducted by carrying out more detailed data and analysis and by using, where necessary, equipment suppliers and external expertise to provide further insight into each opportunity being investigated. To make this process as efficient as possible, the project owner

was asked to complete a questionnaire which made it possible to test the performance of projects against energy efficiency, financial, safety, environmental, technical and management criteria.

A follow-up workshop with the site's energy management team was held to rank and prioritise the list of projects from the first workshop. Evaluation criteria were weighted by the group to ensure they reflected the specific needs and priorities of each site. The weightings were then applied to the information gathered from questionnaires to develop a ranked list of projects. Finally, action plans were developed for detailed assessments of projects with a level of information sufficient to enable a business decision to be taken.

Through this process across the eight sites, over 90 energy efficiency opportunities were identified. Some of these opportunities were quickly assessed, investigated and even implemented; others will be investigated and trialed over time; and some will be considered in future plant upgrades or new mine designs.

Key Element 5: Decision making

INTENT

- Management responsible for resource allocation make informed decisions on the assessment based on investment quality information.
- Clear lines of accountability, appropriate resources and timeframes are developed for all energy efficiency opportunities that a corporation decides to implement or investigate further.
- Mechanisms for reviewing, monitoring and reporting on outcomes are established to learn from experience and allow public reporting.

BORAL

At Midland Brick (Boral), the evaluation of energy efficiency opportunities is to be integrated within the company's existing operating and capital expenditure system—the Process Enhancement Project (PEP) system. This system ensures that the appropriate individuals will be involved in making the decision to proceed or defer the investigation of an identified opportunity. The site intends to appoint a Performance Enhancement Program Manager to ensure that an effective evaluation is undertaken of each project. In order for such a system to be successful a clear and accurate evaluation of energy efficiency's place within the capital expenditure approval system will be established and reflected in the targets set at site and business unit level.

XSTRATA COAL

Xstrata Coal made decisions at each of the three workshops which formed the assessment process about whether to further investigate, implement or not implement opportunities throughout the course of its assessment process. The decisions were made by different people in the organisation (involving the relevant people at both site and corporate levels) and at different times, depending on the complexity of the opportunity and the level of authority to approve the resources required for implementation.

Some straightforward and low-cost opportunities were implemented shortly after the initial workshop by departmental managers and staff. Other opportunities were presented to site managers throughout the assessment process in order to compete for existing site discretionary funding. The participation of decision-makers in the original workshops made this process easier, as they had been involved in the evolution of opportunities into projects and action plans. Finally, large capital projects requiring future budget approvals were developed for inclusion in Xstrata Coal's next annual budget cycle.

The opportunities that required formal site and corporate approvals underwent detailed investigation to improve the evaluation accuracy and financial scrutiny according to Xstrata Coal's standard corporate evaluation methodologies, before final decisions could be made.

The progress of the assessments and their outcomes are regularly reported to the senior executives of Xstrata Coal on an overall basis by the project manager, and individually by the sites through the monthly and quarterly business reporting process. This reporting supports business decision making and promotes understanding across the business about the benefits of energy efficiency.

Key Element 6: Communicating outcomes

INTENT

- Senior management and the members of the board are aware of the outcomes of the assessment in a strategic business context (risk management, corporate social responsibility and major investment decisions).
- The board reviews and notes the public report in the context of relevant business information.
- Increased awareness of the benefits of improved energy efficiency and the outcomes achieved by the assessment within an organisation.

BORAL

Boral's existing internal and external sustainability reporting system will be modified to incorporate progress reporting on energy efficiency assessments.

The outcomes of the energy efficiency assessments will be summarised for each division, reviewed by senior management (including the Managing Director) and summaries provided

to the Board of Directors. The outcomes and case studies of successful projects will be communicated across the business, and a summary will be included in Boral's annual Sustainability Report which is published on the company's web site.

INVESTA PROPERTY GROUP

Investa makes clear decisions on energy efficiency opportunities at monthly meetings of facilities managers, sustainability managers and energy service providers at each site, and as part of the annual budget planning process.

Asset managers (responsible for leasing), portfolio managers (accountable to investors), facilities managers and property supervisors (jointly responsible for building services) all want to see the best results they can. As such, ideas are typically built up from the operational level and the business case develops as it passes along the line. Each business case needs to demonstrate consistency with the group's commercial objectives: to attract and retain tenants and reduce unnecessary running costs (which are what wasted energy is). Rarely will an initiative have to go to the Board for approval unless it's outside delegated authority limits.

Decisions made about the approval or rejection of energy efficiency opportunities and the reasons for the decision are communicated to the staff members responsible for the proposed projects. Direct feedback is also given by the facilities manager to the property supervisor.

Public accountability and reporting are very important for Investa. It has an ongoing focus on reporting performance against targets through its Sustainability Report, which is signed off by the board. Performance is also recorded on tenant scorecards and a range of survey responses.