Finding a path to better energy management

CASE STUDY

Key features

- Establishing a company-wide energy strategy
- Targeting and monitoring energy use
- Allocating capital annually to energy efficiency projects
- Using software and controls to manage operations

Key benefits

- Nearly $200,000 saving in energy consumption
- Enhanced environmental credibility

You can talk the talk, but what do you actually do to manage energy better? ASB Bank has found a path that rewarded it with energy savings worth nearly $200,000 in 2008 – one big step towards a targeted $1 million annual saving. This case study looks at how this large and dynamic organisation has made energy efficiency integral to its business.

"Energy management is like the typical Kiwi OE. There's a global plan with goals and milestones."

"The early stages are challenging and basic with low cost 'backpacker' wins. Later it becomes more planned and sophisticated, needing extra capital to deliver on increased expectations."

Brett Laurent, Head of Property Services, ASB Bank

ASB Bank's rolling energy management programme is called Project Save Watt. In 2008, the project reduced consumption by over 1.6 MWh, or around 5%. It also reduced CO_2 emissions by an estimated 1,140 tonnes. Key project components have included:

- Collecting energy data and graphing it
- A company-wide energy strategy, regularly updated and reviewed by EECA
- Comprehensive energy auditing of key buildings and selected branches
- HVAC and other energy efficiency initiatives in support buildings

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- Occupancy lighting controls
- Energy efficient lighting systems
- Shorter operating hours and daylight sensor control on external signage
- Installing software to remotely manage after hours computer operation
- Virtual servers.

Initial commitment

Energy costs aren't as significant in banking as in other sectors. Still, when Brett Laurent joined in 2003, ASB's annual energy bill was around $4 million. Energy procurement was amongst Brett's responsibilities and he soon realised the business could do better in this area.

A vital first step was persuading Derek Shortt, GM of Property, to earmark $100,000 in each year's capital spend specifically for energy initiatives.

"It meant we'd start the year with a minimum capital allocation for energy efficiency projects and flexibility to decide later how we'd use it, based on the payback for the various items on our list."

The $100,000 is by no means the limit. Other energy-related projects that meet ASB's RoI criteria have additional funds allocated. For instance, occupancy-initiated lighting at head office recently had a separate budget.

Many other projects that aren't energy-specific also contribute. For example, energy efficiency is now part of the specification for new air conditioning units. They may end up costing a small premium but it is quickly recovered through operational savings.

Taking it step-by-step

Brett developed a basic energy strategy then started exploring energy saving opportunities. One approach was educating staff to switch off lights and equipment not being used.

"Education got a good response, but we found it virtually impossible to achieve consistent results that way," recalls Brett. "People quickly went back to their old habits, so now we favour solutions with automated controls that eliminate the human factor."

A measured approach

Brett and his team then began going through their property portfolio to develop action plans. Problems finding the human resource proved to be a cloud with a silver lining.

"I had a Building Services team of six. Two were dedicated to security and the rest had to cover maintenance management, infrastructure upgrades and new buildings or tenancies for the total ASB property portfolio.

"Power procurement and energy management was just one of our responsibilities, so we couldn't commit significant resource to move initiatives particularly quickly.

"Surprisingly, that turned out to be an advantage. We've found that developing an energy efficiency strategy in a measured way is far better than rushing in and getting mixed results."

Getting outside help

"Energy Solutions Providers (ESP), our energy solutions consultants, had been helping with energy procurement. We engaged them to audit some facilities and review our energy strategy document. That external input gave us a renewed focus."

ASB has worked closely with its lighting designers. By revising the design brief to increase the emphasis on energy efficiency, energy consumption in new branches has been reduced by 23%.

ASB also put its energy management strategy through an energy management diagnostic tool provided by EECA.

Targeting and monitoring

"Originally, we only recorded total electricity spend. We had no database for what sites were using or whether they were performing well or badly.

"We started targeting and monitoring very simply, reviewing two or three years' power accounts and relating consumption to floor area.

"We developed a metric of kWh per square metre. So instead of just a 'cost per month' we could compare similar branches and ask why one was doing really well and another poorly. We could also start measuring the results of changes implemented.

"It showed which parts of the business we should target, where we'd get the best gains, and what 'reasonable' energy consumption targets should be."

Reviewing and learning

Some key sites had Time of Use power meters but many had meters that only measured total consumption.

"ESP felt strongly that to lock in real savings, we'd need to understand our usage a lot better. They got us thinking about a better targeting and monitoring programme, which proved to be one of the biggest steps we could have made.

"We learned that the Electricity Commission was offering businesses grants for energy initiatives. Working with ESP, we prepared a paper and won support for an EnergyICT Server metering system.

"The system collects data that is uploaded wirelessly into a programme which creates reports configured for us.

"We can also go online and get real-time data on specific sites. So, we can compare a current or 'actual' profile against a target profile. If a site deviates, we get an alarm so we can get straight onto it.

"If someone overrides light or air-conditioning controls, in the old system it might have been three months before it was identified on a maintenance visit. Now we fix problems like that much earlier."

Re-committing

To get the Electricity Commission's financial support ASB had to make a very concrete commitment to energy efficiency.

"We agreed that we will achieve an annual saving of 6 GWh against a baseline of our 2007 consumption. With the 2008 result we're part way down that track already.

"The new targeting and monitoring system has a key role in completing the commitment.

"It's also vital for identifying savings in a very dynamic situation. The business is growing rapidly. While we continue implementing energy efficiency initiatives, sometimes we find the savings are offset by growth. Our targeting and monitoring project will help us identify more clearly where we've made gains."

Securing cooperation

Improving energy management has required cooperation of various parts of ASB. For example, Brett and the property team have worked closely with the designer of the lighting in their branches to balance the need for energy efficiency with aesthetic and image requirements.

Another important team has been the bank's Technology Operations (TO) staff.

"Our main data suites use lots of energy, particularly for cooling. We needed to ensure the TO teams factored energy efficiency into purchasing, installing and managing equipment.

"For example, TO staff needed to understand about coordinating air distribution with equipment rack layouts so hot and cold air wouldn't mix, and why cabling penetrations in raised floors must be sealed so cooling air doesn't bypass equipment.

"Another TO-related issue was computers being left on 24/7 to facilitate remote management of maintenance and software upgrades. We've trialled software which lets computers go to sleep then be woken up remotely when centralised management is required. We're now rolling this out, which we believe makes us the first large business in New Zealand to deploy this software. This one initiative will achieve large annual energy savings.

Getting buy-in

Compared to manufacturing businesses, energy is hardly a "blip on the radar" for banks like ASB.

"With many other more pressing drivers, until recently there was no particular executive level focus on energy efficiency.

"That's changed as senior management has committed to sustainability, because energy is such a big component. In fact, 66% of our overall carbon footprint comes from electricity. So now, energy isn't just about dollars but about being good corporate citizens – demonstrating that ASB Bank is concerned about its environmental impact and is taking responsibility."

Looking ahead

"We're working in many areas and while energy isn't a big cost, we're fully committed to managing our power consumption and being as energy efficient as possible.

"We're considering projects in various premises that will push boundaries. We're thinking holistically to create buildings that are people friendly, good from a sustainability perspective and high performers in terms of energy efficiency."

EECA enables organisations to increase their domestic and international competitiveness by adopting energy efficiency and renewable energy practices.

We work with businesses to identify the opportunities for energy management that are available to them and help them develop energy management action plans to make the most of these opportunities.

Good energy management has many benefits for businesses, including lower costs, increased productivity, reduced greenhouse gas emissions and a positive effect on the brand.

We have a particular interest in:

- encouraging new or under-used technology that can make processes more efficient
- projects that reduce greenhouse gas emissions, and
- developing the wood fuel industry.

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