

Retail: Electricity saving project

[September 2010]

BP cuts electricity consumption at 59 retail outlets by 15%.

The service provider

The energy manager for BP, ECOsystems, is one of the service providers for the Electricity Commission funding programmes for electricity saving projects in the commercial sector.

The opportunity: switch it off!

A quick survey of some of BP sites by ECOsystems, showed that switching off plant when not needed represented the best savings option.

ECOsysteMS identified that the main areas of controls were:

- Inside and outside light level and occupation controls
- Fridge display door anti-sweat and cold rooms doors closing controls

The barrier

Installing controls on lighting and refrigeration systems on 59 retail outlets around New Zealand would reduce annual electricity consumption from 14,500 MWh to 12,300 MWh and costs from \$1,900,000 to \$1,555,000.

However, national set-up costs of \$1,606,100 made installation of controls relatively unattractive.

The difference

Funding provided under the Commission's Electricity Savings Incentive Scheme, as shown in the financial summary below, made the difference, virtually halving the payback period for the investment and convincing BP to proceed.

The financial summary

Project financial summary		Funding summary	
Electricity saving project cost	\$1,606,100	EC funding on guaranteed savings	\$700,100
Savings per year	\$345,000	Customer net investment	\$946,000
Project simple payback	4.6 years		

EC funding criteria

Project cost: cents per kWh saved over 10 years	7.3 cents	<= 8.5 cents per kWh saved over 10 years*
EC funding: share of project cost	44%	
EC funding: cents per kWh saved over 10 years	4.3 cents	
Customer's payback period	2.8 years	



BP Connect Rosedale, Albany. Site on completion of upgrade in March 2010.



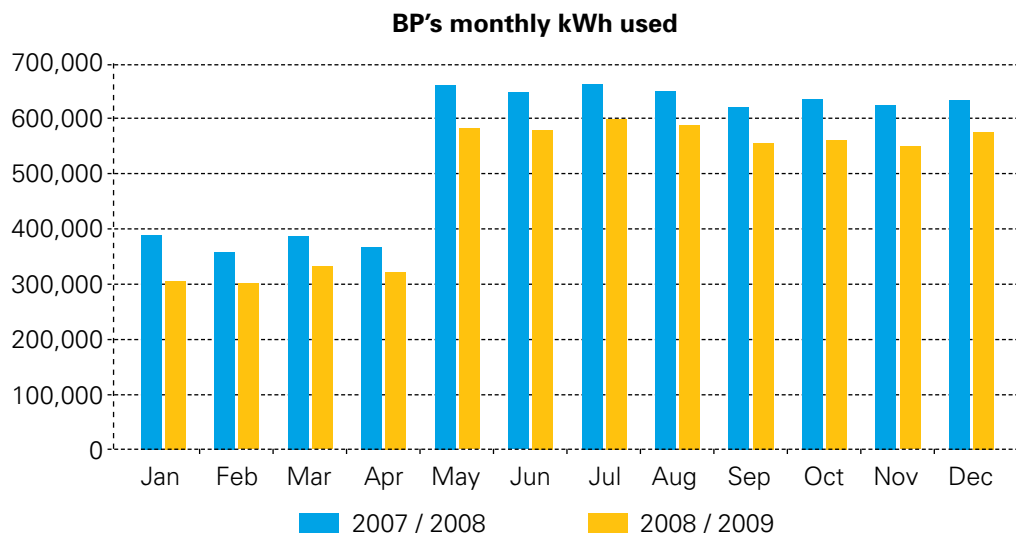
Daylight dimming in BP Connect Rosedale, Albany. The row of fittings to the top right of the photo is dimmed completely, taking advantage of natural light near the front of the outlet (on the right of the photograph).

* Projects are assessed on a case-by-case basis in accordance with the Commission's investment criteria, which focus on achieving electricity savings at less than the long run marginal cost of new generation.

The verified savings

Since installation of controls, BP's annual electricity consumption has dropped by 2,340 MWh (1,404 tCO₂) and costs have been cut by \$345,000, representing real savings of 15% (see graph).

This equates to average savings per site per month of 3.31 MWh (1.98 tCO₂).



Further opportunities

Other sites at which this solution could obviously be applied, include:

- Distribution terminals, some of which are jointly owned with other fuel retailers.
- Other multi-site companies' premises.
- International locations. In Australia alone, BP has around 1,500 company-operated sites and the company has a strong commitment to sharing information and standards already in place.
- ECOsystems will use the process developed for highly replicable sites, involving level 3 audits to determine the appropriate energy saving technologies initially and then 'site specification audits' to accurately, but cost effectively, cost out the installation, for a range of chain operations.

Electricity Commission funding – how to access it

The Electricity Commission promotes and facilitates electricity efficiency, in accordance with the Government Policy Statement on Electricity Governance and the Electricity Act. As part of this process, the Commission offers financial assistance to organisations in the commercial sector who want to improve their electricity efficiency.

Details of programme partners who manage these commercial sector projects on behalf of the Commission can be found at www.electricitycommission.govt.nz/opdev/elec-efficiency

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