

ESM™ Performance Review

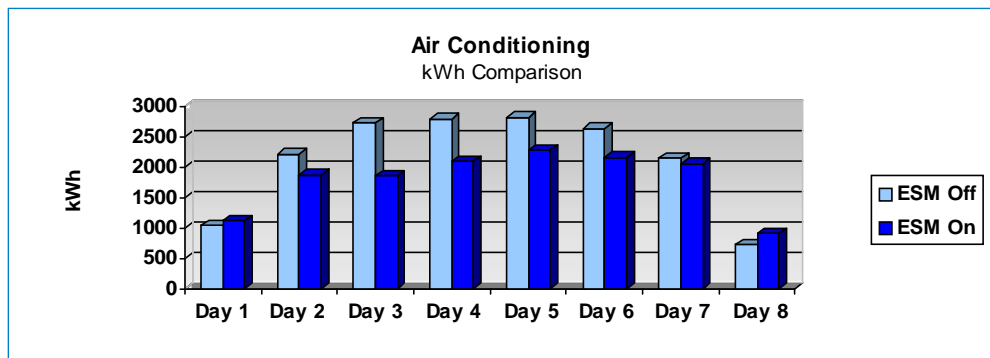
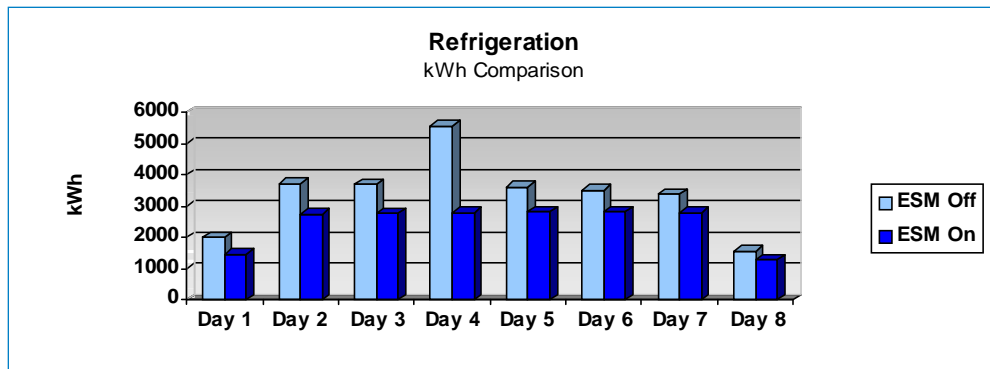
Supermarket: Fairfield, Australia

Business Type	Supermarket
Location	Fairfield, NSW, Australia
A/C or Refrigeration	Air Conditioning & Refrigeration
Brand	Trane
Type	Individual Single Refrigerant Circuit Compressors
# of Units	10
Controller	Thermostat

Result Highlights			
Return on Investment	Annual kWh Reduction	kWh Savings	Greenhouse Gas Reduction
18 months	317,002 kWh	22.2%	318,031 kg

Evaluation Period	The evaluation was conducted from February 7 to March 6, 2000.
Project Description	<p>The ESM™ was installed on the refrigeration and air conditioning systems at the Fairfield supermarket. Throughout the evaluation period the ESMs™ were switched between Savings mode (ESM™ ON) and By Pass mode (ESM™ OFF), at weekly intervals to determine the power consumption variations occurring.</p> <p>A 4-channel data logger capable of measuring Amperes, KW, KVA and kWh was installed to record the data for each of the air conditioning and refrigeration plants at the supermarket. The data loggers sampled every 8 seconds and provide an integrated output every hour.</p> <p>Temperature measures from the Dairy, Frozen Food and Meat cases were also recorded. A 2-channel temperature logger was installed for the period of the evaluation to record the ambient temperature to determine the degree days and record the return air temperature from the combined areas.</p>
Results Summary	The results from the evaluation clearly demonstrate that the ESM™ will produce a substantial energy savings and return on investment well within a 2 year payback. Temperatures will be maintained at acceptable levels compliant with requirements and any statutory codes. The evaluation demonstrated an overall reduction in the refrigeration and air conditioning compressor electricity consumption by 15-20% over the test period which is clearly attributable to the installation of the ESM™.

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Electricity Reduction

	Refrigeration	Air Conditioning
ESM™ OFF: Avg. Daily kWh	3589	2415
ESM™ ON: Avg. Daily kWh	2789	1904
Average Daily kWh Reduction	800	511
kWh % Reduction	22.3%	22.1%
Annual kWh Reduction	210,240	106,762

Total Environmental Benefits

Greenhouse Gas Reduction	318,031 kg
Tree Equivalent	233 acres
Enough Electricity to Supply	30 homes

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