

## Case Study – ESM™

### Tamworth City Administration Center

Business Type	Government Office Building
Location	The city of Tamworth is located in the New England region of New South Wales, Australia
A/C or Refrigeration	A/C
Brand	Carrier
Type	Reciprocating Chillers
# of Units	2
Controller	Carrier Building Automation System



### Result Highlights

**Return on Investment**  
21 Months

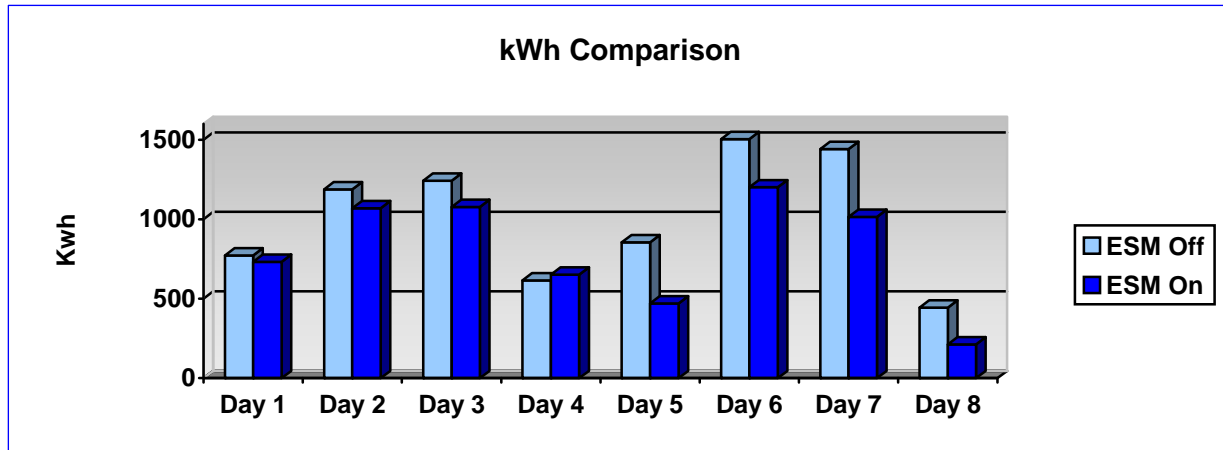
**Annual kWh Reduction**  
85,227

**kWh Savings**  
20%

**Greenhouse Gas Reduction**  
114,961 lbs

Evaluation Period	The evaluation was carried out over a two week period during January 2001. <ul style="list-style-type: none"> <li>• Energy Saving Module™ On period: January 3 to 10.</li> <li>• Energy Saving Module™ Off period: January 10 to 17.</li> </ul>
Project Description	The System Energy Saving Modules™ were installed to interface with the Carrier Building Automation System.  The electricity consumption of the chillers was measured by data loggers. Temperature and %RH loggers were also installed to measure and record the temperature and %RH of the return chilled water and outside ambient air.  The data loggers have an eight second sampling rate and provide a data print out every six minutes.
Results Summary	The kWh evaluation demonstrated an overall reduction in electricity consumption of the air conditioning units, attributed to the operation of the ESM™, of 20%.

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<b>Electricity Reduction</b>	
ESM OFF: Avg. Daily kWh	1152
ESM ON: Avg. Daily kWh	918
Average Daily kWh Reduction	233
kWh % Reduction	20%
Annual kWh Reduction	85,227
Pay Back Period	21 Months

<b>Environmental Benefits</b>	
Greenhouse Gas Reduction	114,961 lbs
Tree Equivalent	63 Acres
Enough Electricity to Supply	8 Homes