

## Case Study

The challenge was to assess the energy consumption and carbon emissions and show how cost reductions could be achieved by improving the environmental performance of Coral Air. A company that has been operating since 1987 and is well run priding itself in providing quality air conditioning equipment that is energy efficient and well engineered to suit the job required.

Coral air also carries out extensive design, installation and servicing of commercial ventilation and air conditioning plant.

### Staffing;

Coral Air currently employs 30 persons with 24 full time employees and 6 part time employees. The staff is well trained and technically efficient.

Many of the staff is on the road at any one time quoting installing and maintaining equipment. At any given time there are approx 6 to 12 people in the office at any one time

### Building:

Coral Air currently leases the premises and have done so for 4 years.

At this point in time Coral Air intends to stay at these premises indefinitely.

The building is typical of an office sales and distribution centre.

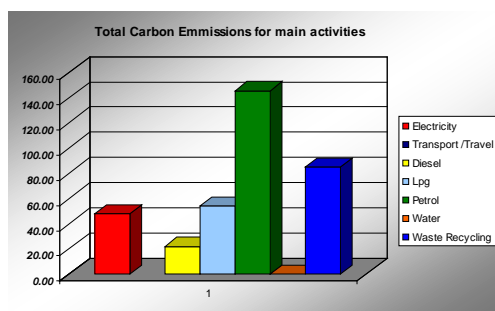
The building is approx 40 years old and is showing its age.

There are no green features in the building with any external shading features.

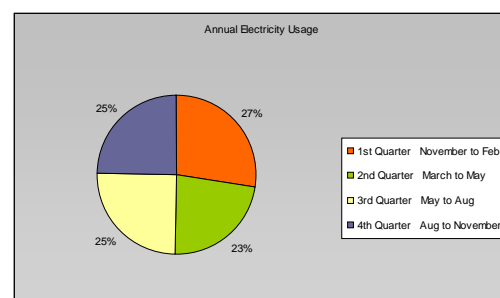
The window glass is 6mm laminated with filming. Internal fixtures are aging with inefficient water fixtures and 75% fluorescent lighting. With the balance being 50W Halogen down lighting. The building is air conditioned.

Water fixtures are old.

*Total Carbon Emissions for main activities*



*Annual Electricity Usage*



The energy audit conducted achieved the following results:

At the time of the audit, a cost reduction of \$22,288.00 can be achieved without any capital investment and in addition a reduction of 25.8 tonnes of carbon emissions.

**No Capital investment. Cost savings: Year 1**

Item	Energy savings	\$ Saving	Carbon tCO2-e
Remove 3.6 kWh 50L HWS	2725 kWh	\$276.00	2.8
Separate Metal waste	N/A	\$3,25.00	N/A
6 vehicles to LPG	N/A	\$18,987.00	23.0
<b>Totals</b>	<b>2725 kWh</b>	<b>\$22,288.00</b>	<b>25.8 tonnes</b>

**Capital investment. Cost savings: Year 1**

Item	Energy saving	\$ Capital Cost	\$ Saving	Carbon tCO2-e	ROI
Install c-bus system	11,175.00 kWh	7,500.00	1,788.00	11.85	23%
Replace lighting	9,749 kWh	9,507.00	1,559.00	10.3	16.3%
Replace cisterns and fit restrictors	(172.000 litres)	770.00	276.00	N/A	35.8%
Install internal reflective Al venetians	4,503 kWh	3,000.00	720.00	4.7	24%
<b>Totals</b>	<b>25,427 kWh</b>	<b>\$20,777.00</b>	<b>\$4,343.00</b>	<b>26.9 tonnes</b>	<b>20.9% avg</b>

**Notes:**

Savings are based on current fuel and energy costs. Predicted ROI's do not take into account energy and fuel price increases over the next 12 months.

ROI calculations are based on individual implementation and are not cumulative.

[Read more](#) about this case study