

SUNTAF Appendix 4

Energy monitoring framework - (B) Energy and cost saving

Adapted from Spenceley, A., Rely, P., Keyser, H., Warmeant, P., McKenzie, M., Mataboge, A., Norton, P., Mahlangu, S., and Seif, J. (2002) Responsible Tourism Manual for South Africa, Department for Environmental Affairs and Tourism, July 2002

NOTE: Amounts here are presented in Rands currency - adapt the currency as relevant to the country in which the enterprise is situated, or utilise \$, £ or Euros where international comparisons are requi

KEY

	Recorded energy information (from bills, meters, etc)
	Enterprise information (no. beds, occupancies, no. lights etc)
	Benchmarks of volumes (calculated figures)
	Calculated costs and cost savings

ENERGY AND Rands SAVINGS

Energy use rate readings and predicted savings															
Source of use	Location	Number of fittings I	Power needed J	Frequency of use (estimate) K	Annual No. bed nights L	Predicted annual occupancy M	Estimated consumption per year (at predicted occupancy) Benchmark 10	Estimated annual consumption per bed Benchmark 11	Estimated consumption per occupied bednight Benchmark 12	Cost of New unit N	Total new units cost O	Cost Electricity consumption (per kWh) P	Cost electricity consumption per year Q	Financial saving per year R	Pay-back time for investment (days) S
LIGHTS										(obtain from supplier)	= N x I	(from bill, or from calculated pumping costs)	= B'mk 10 x Q	= Q(old) - Q(new)	= O / (R / 365 days)
Existing incandescent, argon bulbs	Honey Badger Lodge	150	100 W	1.5 hours/day	=24 beds x 365 days = 8760	72%	= 1 x J x K x 365 days x M = 150 x 100 x 1.5 x 365 x 0.72 = 5832 kWh	= B'mk 10 / 24 beds = 5832 / 24 = 243 kWh	= B'mk 10 / (L x M) = 5832 / (8760 x 0.72) = 924 W	R 3.00	R 450.00	R 0.33	R 1,950.22		
New low energy fluorescent bulbs	Honey Badger Lodge	100	21 W	1.5 hours/day			= 1 x J x K x 365 days x M = 150 x 21 x 1.5 x 365 x 0.72 = 1241 kWh	= B'mk 10 / 24 beds = 1241 / 24 = 52 kWh	= B'mk 10 / (L x M) = 1241 / (8760 x 0.72) = 197 W	R 40.00	R 4,000.00	R 0.33	R 414.99	R 1,535.23	951
<i>Difference</i>		50 less needed	85 W				4590 kWh less p/a (79% less)	191 kWh less (79% less)	727 W less (79% less)						

Watt comparisons

Conventional bulb	Energy saving equivalent	Note: the energy saving bulbs give out the same amount of LIGHT as normal argon bulb but use less electricity in doing so They generally last between 3-6 years given use for 3 hours every day
100 W	21 W	
75 W	16 W	
60 W	12 W	