ECO-SHIFT POWER CORP.

Life Cycle Analysis

Client Name: ABC Company

Location Description: Warehouse

Contact Name: Peter Mackenzie (Warehouse Manager)

Lighting System Cost/Performance Comparison	Existing	Proposed
Parameters		
System Type	**1000W MH Core On Coil**	**400W Electronic Ballast - Acrylic**
System lumens per watt	65	105
Bulb wattage (total unit)	1000	400
Number of Luminaires	150	150
Total Lumens emitted per unit	**65,000**	**42,000**
Total Lumens emitted (including dimming)	**9,750,000**	**5,040,000**
Footcandles at the workplane (Retrieved from data obtained on the Lighting Assessment Form)	15	55
Initial Costs		
Cost per Luminaire	n/a	$394
Net Cost per Luminaire	n/a	$394
Accessories	n/a	$46,890
Total Luminaire Package Cost	n/a	**$105,990**
Cost per Lamp	$72	$56
Number of Lamps	150	150
Total Lamp Cost	**$10,800**	**$8,400**
Sub Total	**$10,800**	**$114,390**
Installation Time in hours	0.50	1.00
Labour Rate ($/hour)	$69	$69
Total Estimated Installation Cost	**$5,175**	**$10,350**
Total Estimated Recycling/Disposal Fees		
Sub Total	**$15,975**	**$124,740**
Rebates and other adjustments	$0	-$50,586
TOTAL INITIAL COST	**$15,975**	**$74,154**
Operating Costs		
Input Power (Watts)	1155	421
Redundant Emergency Lighting Annual Load (Watts)	0	n/a
Energy Rate ($/kW)	$0.10	$0.10
Operating Time per Year, in Hours	6,883	6,883
ENERGY COST per Year (@ Full Load)	**$119,246**	**$43,465**
Total Possible Annual Load (KWhrs)	1,192,455	434,652
Total Proposed Load with Dimming	1,192,455	347,722
Load Reduction Due to Dimming (KWhrs)	0	86,930
Energy Savings Due to Dimming	**$0**	**$8,693**
ENERGY COST WITH DIMMING	**$119,246**	**$34,772**
Relamping Method	Spot	Spot
Lamp Life (Hours)	8000	30000
# Lamps Replaced per Year averaged over 10 years	103	28
# Hours per Lamp Change	0.5	0.5
Labour Rate to Replace Lamps, per Hour	$45.00	$45.00
RELAMPING COSTS per Year	**$9,756**	**$2,161**
Luminaire Cleaning Time (hours)	0	0
Labour Rate to Clean Luminaires, per Hour	$0	$0
Cleaning Costs per Year	**$0**	**$0**
HVAC Factor Estimate		**$0**
TOTAL MAINTENANCE & OPERATING COSTS PER YEAR	**$129,002**	**$36,933**
TOTAL SYSTEM COSTS for 10 YEAR PERIOD (incl. initial costs)	**$1,305,995**	**$443,488**
The Savings		
TOTAL ANNUAL OPERATING COST SAVINGS (based on operational savings only)		**$92,069**
TOTAL COST SAVINGS OVER 10 YEAR PERIOD (includes initial costs)		**$862,506**
SAVINGS as a %		**66.0%**
Payback period (years)		**0.6**
Payback period (months)		**8**
ROI (yearly savings on capital investment)		**124%**
Net Present Value @ Weighted Cost of Capital		***$1,209,036***
NET CASH FLOW /month		***$7,672***
Financing Lease (ESP In House Financing calculated net of rebates)		*$3,241*
NET CASH FLOW /month (including lease through term)		***$4,431***
Scenario B Investment Returns - Rising Energy Costs		
Energy cost savings over 10 years (Including non-discounted rising energy costs)		$1,657,058
Maintenance cost savings over 10 years		$75,952
Initial Investment difference		-$58,179
Total Cost Savings over 10 Year Period		**$1,674,832**
Net Present Value of Investment		
Energy cost savings over 10 years @ rising costs (discounted cash flows)		***$298,207***
Maintenance cost savings (discounted cash flows)		***$94,940***
NPV of cost savings		***$451,326***
Environmental Impact		
Annual Emissions REDUCTION	**metric tonnes (1000 kg) CO_2**	**231**
	metric tonnes (1000 kg) Carbon	**63**

***** Disclaimer***

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NOTES & ASSUMPTIONS

INPUT TABLE

A) Existing Operating Hours

	M	T	W	T	F	S	S	Ttl Hrs/Week	Wks/Yr	Total Hours/Season	Load	Load/Hrs
Summer	24	24	24	24	24	12	0	132	17	2250	100%	2250
Fall	24	24	24	24	24	12	0	132	9	1191	100%	1191
Winter	24	24	24	24	24	12	0	132	17	2250	100%	2250
Spring	24	24	24	24	24	12	0	132	9	1191	100%	1191
						Totals		**528**	**52**	**6883**	100%	**6883**

B) Proposed Operating Hours

	M	T	W	T	F	S	S	Ttl Hrs/Week	Wks/Yr	Total Hours/Season	Load	Load/Hrs
Summer	24	24	24	24	24	12	0	132	17	2250.1644	80%	1800.132
Fall	24	24	24	24	24	12	0	132	9	1191	80%	953
Winter	24	24	24	24	24	12	0	132	17	2250	80%	1800
Spring	24	24	24	24	24	12	0	132	9	1191	80%	953
						Totals		**528**	**52**	**6883**	**80%**	**5506**

C) HVAC Annual Cost Savings Calculations

254	Existing Heat Loss	78%	Old Ballast Efficiency	**Months Used Annually** **0**
13	Proposed Heat loss	97%	New Ballast Efficiency	
241	Heat Loss savings	92%	AC Efficiency	
-	**Total Kilo/Watt hours Saved**	**$ -**	**Savings**	

D) Capital Cost (WACC) rate: 8.0% (Weighted Average Cost of Capital)
Leasing Information rate: 4.9% Buyout %: 0.0% Term (months): 24

E) Rising Energy Costs

Year	$/KWh	costs	disc
1	$0.01	$ 8,447.33	0.0100
2	$0.02	$ 16,894.66	0.0185
3	$0.03	$ 25,341.99	0.0257
4	$0.04	$ 33,789.32	0.0318
5	$0.05	$ 42,236.66	0.0368
6	$0.06	$ 50,683.99	0.0408
7	$0.07	$ 59,131.32	0.0441
8	$0.08	$ 67,578.65	0.0467
9	$0.09	$ 76,025.98	0.0486
10	$0.10	$ 84,473.31	0.0500
		$464,603.21	0.3530

F) Accessories

Product Description	Quantity	Unit Price	Discount	Total Cost
Emergency Lighting Control & Lamp	30	$ 128.00	0%	$ 3,840.00
Occupancy Motion/Sensor	150	$ 89.00	0%	$ 13,350.00
Isolated Step Down Transformer (700va)	150	$ 98.00	0%	$ 14,700.00
Lenses (Glass/Acrylic/Silicone)	150	$ 61.00	0%	$ 9,150.00
Wire Guard	0	$ 36.00	0%	$ -
Lens Clamp	150	$ 39.00	0%	$ 5,850.00
	0	$ -	0%	$ -
			TOTAL ACCESSORIES	$ 46,890.00

G) Client Internal Project Costs (For Rebate Applications ONLY)

Details	Type	Quantity/Hrs	Rate/Price	Total Cost
Client Employee supervising/assisting	Labor Costs	10	$ -	$ -
Consulting Fees	Consulting Fees	0	$ -	$ -
Electrical Engineering Review	Contractor Fees	0	$ -	$ -
	Permits, etc	0	$ -	$ -
			TOTAL CLIENT PROJECT COSTS	$ -

H) Rebate Calculations (Use only applicable)

$0.00	<- 1. Rebate per luminaire (Enter $ amount)	$ -	
$0.00	<- 2. Rebate rate on investment (enter %)	$ -	
$400.00	<- 3. Rebate on kWatts saved (Change in luminaire wattage)	$ 44,040.00	
$0.00	<- 4. Rebate on kWatts saved (per kW without Dimming)	$ -	
$0.00	<- 5. Rebate on kWatts saved (including Dimming)	$ -	
$0.00	<- 6. Rebate on GJ/yr saved (including Dimming)	$ -	*Total Estimated Project Cost (incl. labour & recycling)*
$150.00	**X QTY** 150 <- 7. Occupancy Sensor Rebate (Box 1 X Box 2)	$ 22,500.00	
$0.00	<- 8. Flat Amount	$ -	
	Total Calculated Rebate	**$ 66,540.00**	*$ 126,465.00*
	Total Allowable Rebate (max of 40%)	**$ 50,586.00**	

I) Recycling/Disposal Fees (For Rebate Applications ONLY)

Unit Disposal Rate for Fixture	$ 10.00	# of Units	150	$ 1,500.00
Unit Disposal Rate for Lamp	1.5	# of Lamps	150	$ 225.00
			Total Estimated Disposal Fees	$ 1,725.00

Select a System Type 0 # Units 0 # hours Lit/day 0 # days lit/week