

LED POWER SAVING ESTIMATE

HAPPY PENGUIN / HAPPY PELICAN - IMO no 9623996 / 618850

HANS BUCH

FUEL COST (EUR)

HFO	650.00
MGO	900.00

TRADE PATTERN

OUTSIDE SECA
INSIDE SECA

DAYS

Cent/kWh

265	18.0
100	24.0
Cost / kWh	0.196

Total No. Of lightsources	=	1,300
Total annual kWh saving	=	241,361
Pay back time - In months	=	8 MONTHS
Cost of lamps	=	€ 32,180.0
KG CO2 savings from this projekt	=	166,539

BASIS SAVING FROM SIMPLE SHIFT TO LED TUBES

Old Fluorescent tubes

New LED tubes

Total nos. of Light tubes	Number of lamps	550	750	550	750
Tube dimensions	length in (m)	1.20	0.60	1.20	0.60
Number of tubes in Accomodation	tubes / ship	184.00	250.00	184.00	250.00
Rated power	W	40.00	18.00	20.00	10.00
Actual power consumed with Magnetic Ballast	W	46.00	23.00	20.25	10.25
Average Hours of running per day	hrs/day	24.00	24.00	24.00	24.00
Units of power consumed /year/ tube	kWh/Yr/tube	402.96	201.48	177.39	89.79
Number of tubes in Engine Room	tubes / ship	183.00	250.00	183.00	250.00
Rated power	W	40.00	18.00	20.00	10.00
Actual power consumed with Magnetic Ballast	W	46.00	23.00	20.25	10.25
Average Hours of running per day	hrs/day	24.00	24.00	24.00	24.00
Units of power consumed /year/ tube	kWh/Yr/tube	402.96	201.48	177.39	89.79
Number of tubes on deck and other areas	tubes / ship	183.00	250.00	183.00	250.00
Rated power	W	125.00	18.00	20.00	10.00
Actual power consumed with Magnetic Ballast	W	131.00	23.00	20.25	10.25
Average Hours of running per day	hrs/day	12.00	12.00	12.00	12.00
Units of power consumed /year/ tube	kWh/Yr/tube	573.78	100.74	88.70	44.90
Units of power consumed /year / group		252,888	125,925	81,333	56,119
Total power consumed in one year			378,813		137,452
Saving in the kWh power units using LED tubes			kWh/yr/ship	241,361	
Saving in the fuel costs by using LED tubes & Bulbs	EUR /year				€ 47,412.56
Cost for replacement of old fluorescent tubes	EUR / unit	3.00	2.00		
Saving from biannual replacing flourecent tubes	EUR /year	825	750		€ 1,575.00
			GRAND TOTAL SAVING EUR / YEAR >>>>>>>>		€ 48,987.56