


Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure Installation of energy efficient tube lights in shop offices.	Sector Automobile
Year to be filled by BEE		Technology
Description of the energy conservation measure: Installation of energy efficient tube lights in offices with electronic ballast.		
Picture/ sketch/ drawing before modification (if available)	Picture/ sketch/ drawing after modification	
Original office was having 5 ft. 65 watts twin conventional (induction ballast) tube light fittings. Same have been replaced with 36 x 2 twin electronic ballast tube light fittings and glass windows to improve daylight illumination. Same is depicted in the picture.	 <p style="text-align: center; color: blue;">Renovation of offices with energy efficient tube light fitting with electronic ballast.</p>	
Agency that executed the project (with complete address and email):		
Total investment, Rs.: 100000	Year of implementation: 2006	
First year energy cost savings, Rs.: 40800		
First year other savings, Rs.: '--		
On annual basis	kWh 000'	Coal (Tons)
Energy consumption before	15.768	
Energy consumption after	60.701	
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	4.13	
Company complete address: <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> Ashok Leyland Ltd, Plot No 1 MID C Area, Gadegaon, Dist Bhandara, 441 904 (M.S.) </div>		We authorise Bureau to use this information for dissemination
Contact person who could be contacted for more information: <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> Mr S B Joshi - Senior Manager - Plant Engg. Tel No. 07184-274430 / 36 ; Fax No 07184-274431 Email ID : sbj.alb@ashokleyland.com </div>		Signature Date

Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure Installation of high productivity/speed, precision, & energy efficient CNC m/c's in place of existing old / conventional m/c tools (Grinding, Shaving, Machining centre etc.)	Sector : Automobile
Year to be filled by BEE		Technology

Description of the energy conservation measure:

Earlier machining of casing was done on HMC m/c's which were consuming around 3.5 KWH / component. For increasing productivity high speed MAZAK m/c's were commissioned which consumes 2.1 KWH/component. Maximum machining is carried out on MAZAK m/c & use of HMC m/c's is avoided.

Similarly machines such as NTC, Makino etc. are also commissioned for machine shops which are also energy efficient machines and consume less energy per component.

Picture/ sketch/ drawing before modification (if available)



HMC machining centre

Picture/ sketch/ drawing after modification



MAZAK machining centre



MAKINO machining centre

Agency that executed the project (with complete address and email):
 M/S MAZAK Japan, MAKINO Japan, NTC Japan

Total investment, Rs.: Above 10 crores. Productivity and quality improvement are the main purpose of these machines costing above Rs. 10 Crores, energy saving in these machine is additional advantage on our demand.		Year of implementation: 2005-2006			
First year energy cost savings, Rs.: 554878					
First year other savings, Rs.: Productivity and quality improvements.					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	5563.217				
Energy consumption after	5195.401				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	4.13				
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ID to be filled by BEE	Title of the measure Use of energy efficient metal halide lamps on Shop floor (Shop1) in place of twin 65 W Tube light fitting.	Sector : Automobile			
Year to be filled by BEE		Technology			
Description of the energy conservation measure: Earlier in shop1 twin fitting (65 w x 2) were in use. One Metal halide fitting of 150 watt was provided in place of four such fitting in Shop 1. There by reducing power consumption.					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
			Philips make 150 Watts metal halide lamps in place of 4 Nos, 65W twin tube light fittings		
Agency that executed the project (with complete address and email): Through local contractor					
Total investment, Rs.: 120000			Year of implementation: 2006		
First year energy cost savings, Rs.: 135360					
First year other savings, Rs.: Existing tube lights utilised as spares.					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	37.440				
Energy consumption after	10.800				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	4.13				
Company complete address: <div style="border: 1px solid black; padding: 5px; text-align: center;"> Ashok Leyland Ltd, Plot No 1 M I D C Area, Gadegaon, Dist Bhandara 441 904 (M.S.) </div>				We authorise Bureau to use this information for dissemination Signature Date	
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Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure	Sector : Automobile
Year to be filled by BEE	Optimization of Compressed Air System by interconnecting 8 Nos. of air compressors and controlling by programmable logic controller.	Technology
<p>Overview of old system:</p> <p>Plant having compressed air requirement of 3000 CFM at various pressures ranging from 5.0 to 6.2 Kg/sq. cm was getting fulfilled using 8 Nos. air compressors as follows:</p> <ul style="list-style-type: none"> • Kirloskar make BTDRM 1000 CFM • Chicago Pneumatic make CP2HN2 1200 CFM • Atlas Copco Make GA160 1000 CFM • Atlas Copco Make GA75 500 CFM • Atlas Copco Make GA55 300 CFM • Atlas Copco Make GA30 200 CFM • Chicago Pneumatic make SEWS 75 300 CFM • Chicago Pneumatic make SEWS 75 300 CFM <p>Out of above 8 compressors, 3 compressors were dedicated to certain critical and imported machines, whereas remaining 5 compressors were feeding to plant through common reservoirs.</p> <p>In order to suffice the total compressed air requirement of the plant, pressures setting of 5 Nos. compressors were between 5.3 (Cut in pressure setting) to 6.3 kg/sq.cm. (Cut out pressure setting)</p> <p><u>Study Conducted:</u></p> <p>Study of compressed air requirement (pressure and CFM) for various types/groups of machines was conducted. This study was conducted using flow meters and pressure transducers at different nodes. The study revealed that 40% machines require compressed air at higher pressure (5.9 Kg / Sq.cm; 1200 CFM) and remaining machines can be operated at low pressures (5.3 Kg / Sq.cm; 1400 CFM).</p> <p><u>New System introduced:</u></p> <p>To match above requirements and having 8 compressors available with us we worked out implementation of following PLC based system.</p> <ul style="list-style-type: none"> • High pressure (HP) line and low pressure (LP) line have been separately laid to cater to respective group of machines. • For HP requirements, 2 Nos. dedicated compressors have been allocated (CP2HN2 1200 CFM and GA55 300 CFM) • For LP requirements, 4 Nos. dedicated compressors have been allocated (BTDRM 1000 CFM, GA30 200 CFM, CP-1 and CP-2 300 CFM each) • For TRIM requirements, 2 Nos. dedicated compressors have been allocated (GA160 1000 CFM and GA75 500 CFM) to cater to HP as well as LP side for compensating variations. 		

Picture/ sketch/ drawing after modification



PID Flow controlled valves. (Separate for LP & HP)



PLC controller for interconnection of air compressor.

Agency that executed the project (with complete address and email):

Total investment, Rs.: **17.00 Lacs**

Year of implementation: 2006 – 2007
(benefit started from Apr-07)

First year energy cost savings, (workout of saving calculations mentioned below) Rs: **13.50 Lacs**

First year other savings : Un-interrupted compressed air to plant

On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	2948.234				
Energy consumption after	2810.106				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	4.50				

Company complete address:

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Plot No 1 M I D C Area,
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Energy saving calculations:

Energy consumption in 06-07 (actual) : 2948686 KWH
Annual production volume in terms of EGB (06-07) : 110945.68
KWH / EGB (06-07) : 26.57
Energy consumption in 07-08 actual (Ytd Sept-07) : 1405053 KWH
Annual production volume in terms of EGB (Ytd Sept-07): 60636.0
KWH / EGB (Ytd Sept-07) : 23.2
Saving in KWH/EGB : 3.4
Energy Saving Ytd Sept-07 : $3.4 \times 60636 = 206162$ KWH
Energy Saving workout for 07-08 considering same
Energy saving per EGB for rest of the year : $206162 \times 2 = 412324$ KWH
Power rate as on Sept-07 : Rs 4.50 per KWH
Power cost saving per year : $412324 \times 4.5 = \mathbf{Rs. 1855458}$

Energy consumption workout for 07-08 (Ytd Mar-08) : 2810106 KWH
Energy saving per annum : $2948686 - 2810106 = 138580$ KWH
Power rate as on Sept-07 : Rs 4.50 per KWH
Power cost saving per year : 623610

Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure Installation of translucent FRP roof sheets in place of aluminium sheet for better natural illumination.	Sector : Automobile
Year to be filled by BEE		Technology

Description of the energy conservation measure:

Installation of translucent FRP roof sheets in place of aluminium sheet for better natural illumination. Thereby harnessing the day light and eliminating the use of lamps / Tube lights etc on shop floor during day time

Picture/ sketch/ drawing after modification



Utilization of North light by providing reinforced glass installation at roof height on North direction of each Shop. Thus, tube lights / lamps use during day time is eliminated.



Installation of translucent FRP roof sheets in place of aluminium sheet for better natural illumination

Agency that executed the project (with complete address and email):
Glass fibro Products, Mumbai ; Contact Person Mr Kushal Doshi ; Ph No 022-66602192 ; Cell No 9820051186

Total investment, Rs.: 164000

Year of implementation: 2006

First year energy cost savings, Rs.: 201461

First year other savings, Rs.: 220800 (One time saving, i.e. existing aluminum sheets utilised) ; Aesthetic look.

On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	50.365				
Energy consumption after	0				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	4.00				

Company complete address:

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