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B.E.E



Green Building
Council

CREATIVE TEXTILES MILLS PVT LTD., VAPI GUJARAT

CASE STUDY



Company Details

Creative Textile Mills Pvt. Ltd. (CTMPL) is one of the pioneers of India's home textiles industry. They have evolved into one of the major suppliers of home textiles including sheeting, basic bedding and fashion bedding, as well as institutional supplies.

PROJECT SPECIFICS

Load Details

Contract Demand KVA: 1500 KVA
Connected Load: 3200 KVA

Pre-Audit KWH Consumption

Daily Consumption: 19,388 KWH Avg.
Monthly Consumption: 581,640 KWH Avg.

Energy Saving Method

Comprehensive Energy Audit with
Guaranteed Energy Saving

POST-AUDIT RESULT

Direct Comprehensive Audit Benefit

- Detailed analysis of total load with specific machine consumption.
- 8% reduction in total power quality & plant harmonics.
- 11% Increase in energy efficiency w.r.t distribution losses and cable losses.
- 9% Increase in production efficiency w.r.t Energy.
- 7% reduction in monthly maintenance costs.
- Reduced incidences related to machine breakdown and machine malfunctions due to poor power quality.
- Reduced fire incidences after Electrical Safety Assessment.
- Maintenance team awareness for new technological advancements in Electrical & Energy Sector.

Post Audit KWH Consumption & Saving

Daily Consumption: 17,658 KWH Avg.
Monthly Consumption: 529,740 KWH Avg.

Cumulative Benefit & Returns

Avg. Monthly Benefit of Rs. 405,000/- per Month
Avg. Yearly Benefit of Rs. 48,60,000/- per Year

AUDIT APPROACH

- Analyze Energy Consumption & Monitoring
- Strategy Development for Energy Saving
- Recommendation & Implementation
- Results and Evaluation

CONTACT US



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Chembur-Govandi, Mumbai, MH, India.

Sr. No.	Working Load Details	Qty	Total Load in KVA
1	Air jet Looms - Type 2 Machines	-	780
2	Air Jet Looms	-	560
3	Weaving Prepatory Machines	-	340
4	Knitting Machines	-	150
5	ETP & Humidification Machines	-	130
6	Utility Load	-	740
7	Lighting & Other Load	-	120
8	Fire Fighting Pump Load	-	380
TOTAL			3200 KVA

CREATIVE TEXTILE MILLS PVT LTD.

Connected Load Data

ENERGY AUDIT FINDINGS

1. Distribution & Cable Losses
2. Transformer losses
3. Excess harmonics & related Energy losses
4. Heating losses
5. Losses due to unbalanced load
6. Power Factor & Reactive Power fluctuations due to load variation
7. High Capacity motors overheats beyond Standard range.
8. Voltage Drop and fluctuations at Machines and PDBs
9. Fault Identification to prevent machine breakdowns.
10. Excess Electricity Billing due to surcharges and penalties.
11. Excess consumption in Boiler due to mechanical faults.
12. Excess consumption in Air compressors due to mechanical faults & Air leakages.
13. Multiple thermography hotspots which could've resulted in Fire incidences.

SOLUTIONS FOR ENERGY SAVING**"1500 KWH Per Day total saving achieved"****On-Site Solutions**

BNN Power's observations and recommendations resulted in 650 KWH saved per day out of total 1500 KWH per day Saving saving by only using clients on-site resources, no capital investment was needed.

BNN Power's In-House Energy Saving Solutions

Installation of BNN Power's inhouse designed Energy Saving Solutions resulted in 850 KWH saved per day out of total 1500 KWH per day Saving.

Costs for the Energy Saving Solutions is included into Audit costs so no additional capital investment is needed on the client side. All installations are done in collaboration of Clients Maintenance Team.

CONCLUSION

BNN POWER team of experts use the unique combination of daily data monitoring, Production analytics, and human expertise to bring value to its customers. This results in optimized machine lifecycle, Efficiency and improved performance. From avoiding losses & wastage of electricity to providing solutions that improve circuit efficiency and to provide total system efficiency.

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COST BENEFIT ANALYSIS

Consumer Name: CREATIVE TEXTILE MILLS PVT. LTD. - VAPI, GUJARAT											
Consumer Number :37961 HT Supply-11KV MF-15											
MONTH	KWH	KVAH	RKVAH	PF	CONTRACT MD	ACTUAL MD	BILLING MD	CURRENT MONTH BILL IN RS.	UNIT RATE	DAILY AVERAGE	DAYS PER MONTH
BEFORE											
Apr-23	581640	582360	22680	0.998	1500	1011	1275	5331066	9.15	19,388	30
May-23	628275	630345	40650	0.996	1500	1003	1275	5689250	9.03	20,267	31
AFTER											
Jul-23	529740	532170	41880	0.995	1100	875	935	4773182	8.97	17,088	31
Aug-23	543405	545835	47535	0.995	1100	855	935	4957095	9.08	17,529	31

CREATIVE TEXTILE MILLS PVT LTD.

Source: GEB Monthly Electricity Bills

PAYBACK / RETURN ON INVESTMENT**Established Daily Energy Saving: 1500 KWH Avg. per Day**

Working Hours: 24 Hrs, 30 Days Operational

Cost Benefit Analysis

1500KWH * 30 Days = 45,000KWH Saved @Rs.8/Unit
 Avg. Monthly Benefit of Rs. 405,000/- per Month

Cumulative Returns

Comprehensive Audit Investment Cost - Rs. 28,00,000/-
 Cumulative Monthly Returns - Rs. 405,000/- Avg.
 Total ROI for Creative Textile Mills Pvt Ltd. is 7 Months
 Yearly Benefit of Rs. 48,60,000/- Cumulative Avg.

PRODUCTION STATISTICS VS ENERGY SAVING**PRE-AUDIT PRODUCTION ANALYTICS**

1st to 24th May 2023 - Particulars		UOM
May-23 Weaving Total power Consumption till 24/05/23	449947.795	KWH
May-23 Weaving Total Prod. In pick till 24/05/23	20615382	Picks
Existing Specific Power Consumption	0.0218	Kwh/Pick

Note:

All Pre-Audit and Post-Audit Production Analytics were calculated by CTMPL Maintenance Team.

POST-AUDIT PRODUCTION ANALYTICS

1st to 24th August 2023 - Particulars		UOM
BNN Power Target Energy Saving In KWH	1,000	Kwh/Day
Target Energy Saving for 24 days	24,000	Kwh
Expected Energy Consumption After Audit	425947.795	Kwh
Expected Specific Energy Consumption	0.0207	Kwh/pics
Achieved Energy Saving in KWH Peak	1,624	Kwh/Day
Achieved Energy Saving in KWH Avg.	1,500	Kwh/Day
Achieved Energy Saving for 24 days @1500/Day Avg.	36,000	Kwh/till date
Achieved Energy Consumption After Audit	4,14,721	Kwh/till date
Achieved Specific Energy Consumption	0.0201	Kwh/pics

ABOUT US

BNN Power with 15 years of experience in the Energy Sector we bring Value Engineering to achieve Energy Saving, system reliability & total system efficiency for our clients. We offer 24x7 support for our clients, with our credentials BNN Power can offer all types of consultancy related to the Energy Sector.

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