

ENERGY AUDIT APPROACHES AND OUTCOMES FOR ENHANCING ENERGY EFFICIENCY IN SMALL & MEDIUM ENTERPRISES

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ARTICLE INFO

Article History

Received: February 3, 2026

Reviewed: June 4, 2026

Accepted: July 4, 2026

Published: July 31, 2026

Keywords:

Energy audit;
energy conservation measure;
energy efficiency;
small and medium enterprise;
power quality;
techno-economic analysis

ABSTRACT

This structured narrative review evaluates energy-audit approaches and reported outcomes relevant to small and medium enterprises (SMEs), with emphasis on industrial applications and resource-constrained implementation. The evidence base combines Indian case studies with international multi-enterprise evaluations and current audit guidance. Studies were compared according to audit scope, measurement practices, significant energy uses, recommended energy-conservation measures, economic indicators, implementation status, and reported barriers. Across the six Indian studies, power-factor or broader power-quality assessment appeared in all cases, motor or fan efficiency in five, and lighting-system improvement in three. Frequently recommended measures included efficient motors and drives, LED lighting, capacitor or automatic power-factor-correction systems, compressed-air leak control, load balancing, harmonic mitigation, operating-schedule optimization, and improved monitoring. One cable-manufacturing case reported an investment of INR 0.675 million with annual savings of INR 1.191 million and a payback of approximately 6.4 months; another medium-scale industrial audit reported a 25-month payback. Programme-level evidence from Sweden reported net annual savings of 340 GWh, equivalent to about 6% of participating firms' energy use. The synthesis shows that audits are most effective when recommendations are ranked by verified baseline data, technical feasibility, financial return, and implementation risk, followed by measurement and verification. A practical SME-focused audit framework is proposed to convert diagnostic findings into implementable and verifiable actions.



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I. INTRODUCTION

Energy is a production input whose cost and reliability directly influence industrial competitiveness. For small and medium enterprises (SMEs), the effect is particularly important because energy expenses must be managed alongside constrained capital, limited specialist staff, variable production schedules, and strong pressure to maintain product quality. India's installed electricity-generation capacity reached 441.97 GW by 31 March 2024, illustrating the scale of the national power system and the parallel need to manage demand efficiently [1]. The Energy Conservation Act and its subsequent amendment provide the statutory basis for energy-efficiency measures, institutional responsibilities, and energy-audit activities in India [2]. The Bureau of Energy Efficiency (BEE) complements this framework through guidance on energy management, electrical utilities, thermal utilities, and performance assessment [3]. An energy audit is not merely a list of high-consuming equipment. It is a structured investigation that establishes where, when, and why energy is used; quantifies avoidable losses; and converts observations into technically and financially evaluated energy-performance improvement actions. ISO 50002-1:2025 defines general requirements and guidance for conducting energy audits and emphasizes a transparent process that can be applied to buildings, processes, systems, and transport [4]. For SMEs, this structure must be adapted to the available data and resources without compromising measurement quality. A low-cost audit that relies only on utility bills may identify demand trends, whereas a detailed audit may require power-quality logging, motor loading assessment, illumination measurements, thermal imaging, compressed-air testing, combustion analysis, and process-specific energy balances.

The literature demonstrates a recurring gap between identification and implementation. Audits commonly reveal technically attractive opportunities, yet recommendations may remain unimplemented because of capital limitations, uncertainty regarding production disruption, incomplete baseline data, insufficient in-house expertise, or a preference for investments directly associated with production expansion. Therefore, the value of an audit depends on the credibility of its calculations, the clarity of its prioritization, and the presence of a follow-up mechanism. Measures with short simple payback can provide early savings, but longer-life measures may require life-cycle costing, risk assessment, and access to appropriate finance. Earlier versions of the present review described audit activities and individual case studies but did not systematically synthesize the reported outcomes. The present study addresses that limitation by organizing the evidence around four questions: which audit domains are repeatedly examined; which energy-conservation measures (ECMs) are most frequently recommended; what economic and implementation outcomes are reported; and what factors determine whether recommendations progress from an audit report to verified savings. The study consequently treats the published evidence as the result set of a structured narrative review rather than presenting unmeasured site-level savings as original experimental findings.

II. ENERGY AUDIT APPROACHES AND RELATED WORK

A. Levels of Energy Audit

Energy audits can be organized into three practical levels. A walk-through audit uses utility bills, operating records, equipment nameplates, interviews, and visual inspection to identify abnormal practices and immediate low-cost opportunities. A targeted audit examines a selected system, such as motors, compressed air, lighting, boilers, furnaces, refrigeration, or power quality, using short-term measurements and system-specific calculations. A detailed audit establishes an energy balance for the defined boundary, normalizes consumption against production or weather variables, evaluates multiple ECMs, and provides investment-grade technical and financial analysis. These levels are complementary. A walk-through audit should screen and prioritize; a targeted audit should resolve a defined uncertainty; and a detailed audit should support a capital decision and subsequent measurement and verification.

B. Principal Audit Domains

For electrically intensive SMEs, the principal domains are utility-bill analysis, contracted demand, load factor, power factor, voltage and current unbalance, harmonics, motor loading, pumping and fan systems, lighting, compressed air, refrigeration, and on-site generation. Thermal SMEs additionally require fuel accounting, combustion efficiency, steam-system assessment, insulation inspection, heat recovery evaluation, and process-temperature profiling. Rooftop photovoltaic systems introduce further requirements, including comparison of expected and measured yield, inverter performance, clipping, downtime, phase allocation, voltage variation, and harmonics. The audit boundary must distinguish production energy from common utilities so that recommendations are linked to controllable causes rather than to total consumption alone.

C. Evidence from Industrial Case Studies

Indian case studies have reported opportunities involving efficient motors, power-factor correction, LED lighting, improved fans, load balancing, harmonic mitigation, compressed-air leak reduction, operating-schedule changes, and monitoring improvements [5-10]. The reviewed cable-manufacturing study used ETAP to analyse the distribution system and reported both projected and implemented outcomes [7]. Larger international evaluations broaden the evidence beyond individual plants. Fresner et al. analysed lessons from 280 SME energy audits across Europe [11], while Viesi et al. assessed energy efficiency and sustainability across approximately 500 SMEs in Central Europe [12]. Paramonova and Thollander evaluated a Swedish audit programme and reported programme-level net savings [13]. Firm-level survey evidence further indicates that energy audits are positively associated with subsequent investment in efficiency measures [14]. Recent frameworks emphasize that the audit report must be understandable to non-specialist decision makers and must link each recommendation to the responsible system, baseline, expected saving, investment, operational risk, and verification method [15]. Research on barriers shows that economic constraints, limited awareness, behavioural factors, lack of time, and insufficient technical support influence decisions at different stages of ECM adoption [16]. Policy reviews therefore recommend combining audit support with financing, technical assistance, training, standardized tools, and implementation follow-up rather than treating the audit as a stand-alone intervention [17-19].

III. OBJECTIVES

The study aims to strengthen the technical and analytical basis for energy auditing in SMEs through the following objectives:

1. **Evidence synthesis:** Compare the scope, measurements, recommendations, and reported outcomes of selected SME and industrial energy-audit studies.
2. **Recurring opportunity identification:** Determine which electrical, thermal, operational, and management-related ECMs appear most consistently across the reviewed evidence.
3. **Outcome interpretation:** Evaluate reported savings, investment, payback, and implementation information while distinguishing projected savings from verified outcomes.
4. **Framework development:** Propose a practical audit workflow that an SME can use to progress from preliminary screening to implementation and measurement and verification.

IV. METHODOLOGY

A. Review Design and Evidence Base

A structured narrative-review design was used because the available studies differ substantially in industrial sector, audit boundary, instrumentation, reporting units, tariff assumptions, and follow-up duration.

The empirical evidence base comprised six Indian case studies already central to this review [5-10], three international multi-enterprise or programme evaluations [11-14], and one recent case-study-based framework [15]. Standards, BEE guidance, and policy reviews were used to interpret audit quality and implementation conditions [3], [4], [17-19]. The review was not designed as a statistical meta-analysis; accordingly, no pooled percentage saving was calculated. Studies were included when they explicitly described at least one of the following: energy-data collection, field measurement, equipment or utility-system assessment, identification of ECMs, economic evaluation, implementation status, or barriers affecting adoption. Sources that only discussed general sustainability without an identifiable audit process were not used as primary evidence in the result matrix. The publication years of the empirical and framework studies ranged from 2014 to 2024, enabling comparison of conventional audit practices with more recent implementation-oriented approaches.

B. Data Extraction and Thematic Coding

For each study, information was extracted under six headings: (1) industrial or organizational setting; (2) audit level and system boundary; (3) data and instruments used; (4) major inefficiencies identified; (5) recommended ECMs; and (6) reported technical, economic, or implementation outcome. The Indian studies were additionally coded for the presence of power-factor or power-quality analysis, motor or fan assessment, lighting assessment, compressed-air analysis, thermal assessment, operational scheduling, and photovoltaic analysis. These counts describe the reviewed sample only and are not estimates of prevalence across all SMEs.

C. Audit Calculations and Decision Metrics

The technical evaluation of an ECM begins with a baseline that represents normal operation. For production-dependent facilities, specific energy consumption (SEC) is calculated as energy use divided by production output. The expected annual energy saving is the difference between baseline and post-measure energy use after normalization for production, operating hours, weather, or other relevant variables. Annual cost saving should be calculated from the applicable tariff components, including energy charge, demand charge, power-factor incentive or penalty, time-of-day charge, fuel cost, and maintenance impact. Simple payback is calculated as initial investment divided by annual net monetary saving. Where equipment life, financing cost, or maintenance differences are significant, net present value, internal rate of return, and discounted payback provide a more appropriate decision basis than simple payback alone. Power-quality recommendations require particular care because the financial benefit may arise through several mechanisms: reduction of demand current and distribution losses, avoidance of utility penalties, improved voltage performance, reduced equipment heating, and prevention of production interruption. Harmonic filters or automatic power-factor-correction panels should therefore be sized using measured load profiles and harmonic spectra rather than only a single instantaneous reading. Similarly, motor replacement should be evaluated from measured loading, duty cycle, efficiency class, rewinding history, and remaining service life; nameplate power is not a substitute for actual input power.

D. Measurement and Verification

Projected savings become auditable outcomes only after implementation and verification. The proposed approach records pre-implementation operating conditions, identifies the independent variables that influence energy use, documents the commissioning status, and compares post-implementation performance with an adjusted baseline. Suitable indicators include monthly SEC, maximum demand, load factor, average power factor, total harmonic distortion, motor input power, compressor specific power, lighting power density, boiler efficiency, photovoltaic performance ratio, and avoided cost. Short-term measurements are appropriate for stable loads; variable production processes require longer logging or repeated measurements across representative operating conditions.

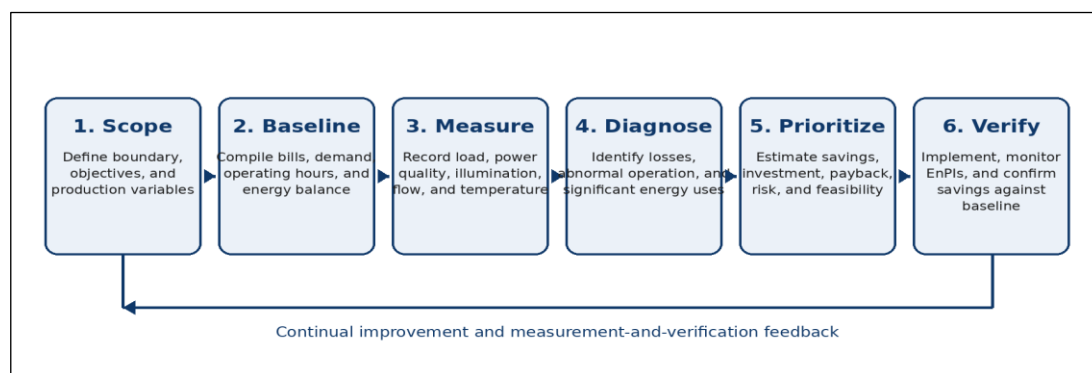


Figure 1: Evidence-informed energy-audit and implementation workflow.
Source: Authors (2026).

V. RESULTS

A. Characteristics of the Reviewed Evidence

Table 1 summarizes the empirical evidence used in the synthesis. The studies range from single-facility audits to programmes involving hundreds of SMEs. This heterogeneity is analytically useful because it shows both the plant-level diagnostic detail and the programme-level implementation effect. However, it also limits direct numerical comparison. Most Indian studies concentrate on electrical systems, whereas the international studies place greater emphasis on programme design, adoption behaviour, and standardized implementation support.

Table 1: Characteristics and reported outcomes of the reviewed energy-audit evidence.

Ref.	Setting/sample	Audit focus	Reported result or implication
[5]	Industrial case, India	On-site measurements; motors, power factor, and electrical losses	Efficient motors, capacitor correction, maintenance, and behavioural actions; qualitative economic and environmental benefits.
[6]	Steel plant, India	Bills, lighting, motors, fans, and power factor	LEDs, efficient motors/fans, maintenance, and power-factor correction were recommended; no verified post-implementation saving reported.
[7]	Cable manufacturing, India	ETAP model; load balance, power factor, motors, and operating schedule	INR 0.675 million investment; INR 1.191 million annual saving; reported payback 6.4 months; approximately 75% of expected outcomes implemented.
[8]	Textile sector, India	Bills, power factor, lighting, motors, compressed air, and rooftop PV	Multiple cross-utility opportunities identified, including LEDs, leak reduction, power-factor correction, and motor-efficiency improvement.
[9]	Medium-scale industry, India	Pre-audit, field audit, and post-audit planning	Lighting/fan replacement and capacitor-bank installation; reported combined payback of 25 months.
[10]	Steel industry and institute	Power-quality analyser; harmonics, power factor, and unbalance	Active filtering, monitoring, and correction measures proposed to reduce losses and improve power quality.
[11]	280 SME audits, Europe	Cross-sector audit experience	Demonstrated the value of systematic, practical audits and highlighted recurring challenges in converting identified opportunities into action.
[12]	Approximately 500 SMEs, Central Europe	Energy-efficiency and sustainability assessment	Provided a large multi-sector evidence base for benchmarking and sector-sensitive assessment.
[13]	713 firms in Swedish audit programme	Subsidized audits and programme evaluation	Net annual saving of 340 GWh, corresponding to approximately 6% of participating firms' energy use; information barriers were reduced.
[14]	EU firm-level survey evidence	Audit participation and investment decisions	Energy audits were positively associated with firms' adoption of energy-efficiency investments.
[15]	Non-energy-intensive manufacturing SMEs	Case-study-based implementation framework	Emphasized an action-oriented process linking data quality, opportunity evaluation, management engagement, and follow-up.

Source: Authors, (2026).

B. Recurring Technical Findings

Coding of the six Indian studies [5-10] showed that power factor or broader power-quality assessment was present in all six studies. Motor or fan efficiency appeared in five studies, and lighting-system improvement appeared in three. Load balancing, harmonic mitigation, operating-schedule changes, and improved monitoring were also recurrent. Compressed-air analysis and rooftop-photovoltaic assessment were each explicitly included in one of the six studies. These frequencies indicate the dominant concerns of the reviewed sample, not the distribution of energy use in every SME. The predominance of power-factor and power-quality measures is technically understandable. These parameters can be measured with portable instruments, are directly connected to electrical distribution performance, and may affect both utility charges and equipment stress. Nevertheless, a high power factor does not by itself prove efficient energy use. A facility may have acceptable power factor while operating oversized motors, throttled pumps, leaking compressed-air systems, or poorly controlled thermal processes. Therefore, power-quality analysis should be integrated with end-use and process analysis rather than treated as the complete audit. Motor and fan recommendations were the second most common category. The saving mechanism may involve replacement with a higher-efficiency motor, correct sizing, variable-speed control, improved transmission, reduced pressure or flow set points, or maintenance of bearings and alignment. The appropriate option depends on the load characteristic. Variable-speed drives are most effective where speed can be reduced for substantial operating periods; they are not automatically justified for constant-load applications. Lighting upgrades are usually easier to implement, but illumination level, glare, colour rendering, operating hours, and control strategy must be verified so that energy reduction does not compromise the work environment.

Table 2: Measurement-to-verification structure for major SME audit domains.

Audit domain	Key indicators	Typical instruments/data	Representative ECMs	Verification metric
Utility and demand	kWh, kVA, maximum demand, load factor, tariff	Bills, interval meter, production log	Demand control, schedule optimization, tariff correction	Monthly cost and normalized SEC
Power quality	PF, THD, unbalance, voltage variation	Three-phase power-quality analyser	APFC, load balancing, filters, conductor correction	PF, THD, current, losses, penalty avoided
Motors/pumps/fans	Loading, efficiency, flow, pressure, duty cycle	Power analyser, tachometer, flow/pressure data	Right-sizing, efficient motor, VFD, system optimization	kW, kWh/unit output, flow-specific energy
Lighting	Illuminance, installed power, hours	Lux meter, inventory, occupancy schedule	LEDs, zoning, daylight/occupancy controls	kWh, lux compliance, demand reduction
Compressed air	Pressure, flow, leakage, specific power	Ultrasonic detector, pressure logger, compressor data	Leak repair, pressure reset, control optimization	kW per flow, off-load hours, leakage rate
Thermal systems	Fuel rate, temperature, O ₂ /CO, heat loss	Flue-gas analyser, thermal imager, temperature sensors	Combustion tuning, insulation, heat recovery	Fuel/unit output, efficiency, stack loss
Rooftop PV	Yield, availability, clipping, voltage, harmonics	Inverter logs, irradiance and energy data	Cleaning, string repair, inverter/phase optimization	Performance ratio, specific yield, downtime

Source: Authors, (2026).

C. Economic and Implementation Outcomes

Only a limited subset of the reviewed Indian studies reported sufficiently explicit economic outcomes. The cable-manufacturing study [7] reported an investment of INR 0.675 million and annual savings of INR 1.191 million.

Direct division of investment by annual savings gives a simple payback of approximately 6.8 months, which is close to the reported 6.4 months and may differ because of rounding or additional cash-flow assumptions. The medium-scale industrial study [9] reported a payback of 25 months. These results demonstrate that attractive opportunities may exist, but they cannot be generalized into a universal SME payback because the underlying tariffs, operating hours, production levels, equipment condition, and project scope differ. The statement that 75% of the expected outcomes were achieved in the cable-manufacturing case is especially important [7]. It reveals an implementation gap between technically identified potential and realized performance. The gap may arise from partial implementation, changed operating conditions, delayed procurement, incomplete commissioning, or optimistic baseline assumptions. Audit reports should therefore separate four quantities: identified potential, approved projects, implemented projects, and verified savings. Combining these stages into a single “saving potential” figure can overstate actual performance. The Swedish programme evaluation provides a broader outcome measure: 340 GWh/year of net annual savings, equivalent to about 6% of the participating firms' energy use [13]. This programme-level result indicates that standardized and supported audit schemes can produce material savings across a large SME population. Survey evidence also suggests that audits increase the likelihood of energy-efficiency investment [14]. However, the audit itself is an informational intervention; financing, managerial commitment, competent suppliers, and follow-up remain necessary for implementation.

D. Barriers Identified Across the Evidence

The recurring barriers can be grouped into financial, informational, organizational, and technical categories. Financial barriers include limited internal capital, short required payback periods, high transaction cost relative to project size, and uncertainty about future production. Informational barriers include incomplete submetering, limited knowledge of efficient technologies, distrust of vendor claims, and uncertainty about achievable savings. Organizational barriers include lack of a designated energy manager, competing production priorities, limited time, and weak accountability for follow-up. Technical barriers include variable operating conditions, legacy equipment, poor documentation, and the risk that an intervention may affect product quality or production continuity [16-19]. The reviewed evidence indicates that a credible audit can reduce informational barriers by converting general concerns into measured and ranked actions. It cannot independently remove capital or organizational barriers. Consequently, recommendations should be grouped into no-cost or low-cost actions, short-payback retrofits, and strategic capital projects. This grouping allows early savings to build confidence while larger projects undergo engineering and financial review.

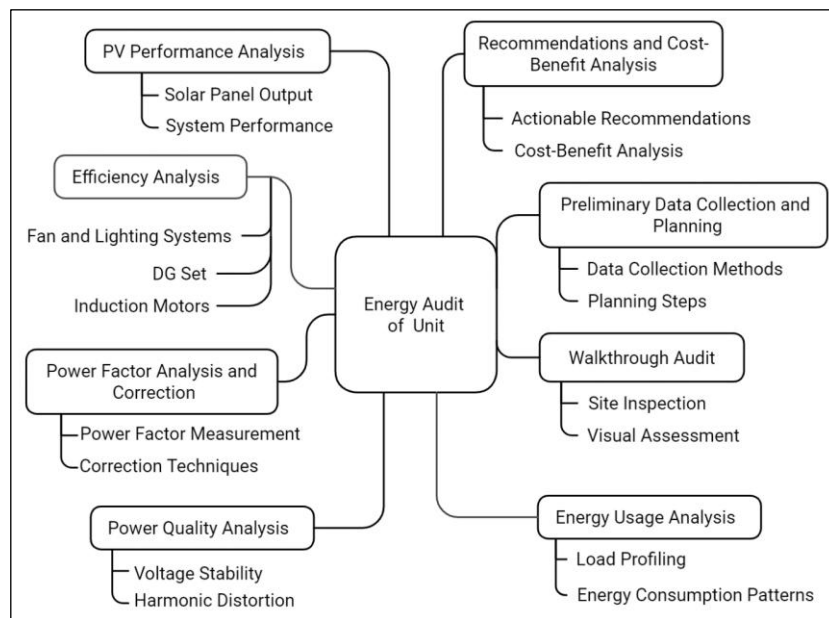


Figure 2: SME-focused energy-audit assessment domains.

Source: Authors (2026).

VI. DISCUSSION

A. Interpretation of the Dominant Audit Measures

The result synthesis shows that electrical utility measures dominate the reviewed Indian cases. Their popularity is partly attributable to measurement accessibility and comparatively low implementation complexity. Power-factor correction, lighting replacement, load balancing, and selected motor measures can often be evaluated without modifying the core production process. This makes them suitable entry points for SMEs. Nevertheless, an audit restricted to these measures may overlook larger process opportunities. The audit should therefore first establish the energy balance and significant energy uses, and only then select the depth of measurement for each system. A further distinction is required between energy saving and cost saving. Power-factor correction may reduce current and avoid penalties without producing a proportional reduction in billed kWh. Load shifting may reduce demand or time-of-day charges while leaving total energy use unchanged. Rooftop PV reduces purchased electricity but is not an efficiency measure unless accompanied by improvements in energy performance. Reporting these effects separately improves transparency and prevents double counting.

B. Quality of Baseline and Financial Analysis

The reliability of an audit outcome is determined by its baseline. A comparison between two monthly bills is inadequate when production, weather, working days, or product mix changed materially. SMEs with variable production should use SEC and, where possible, regression or matched-period analysis. The uncertainty of key assumptions should be reported. For example, a motor-replacement calculation should state loading, efficiency values, annual operating hours, electricity tariff, and whether avoided maintenance or downtime is included. A compressed-air leak calculation should state pressure, leak test method, compressor specific power, and operating schedule. Simple payback remains useful for rapid screening but can bias decisions against long-life measures. A project with a three-year payback and a fifteen-year life may have greater life-cycle value than a one-year project with a two-year life. Conversely, a short calculated payback may be unreliable if it assumes constant production or ignores commissioning and maintenance costs. A recommended SME decision table should therefore include investment, annual energy saving, annual cost saving, simple payback, expected life, implementation downtime, technical risk, and verification plan.

C. From Audit Report to Implementation

The reviewed implementation evidence supports a staged portfolio approach. Stage 1 should include housekeeping, control settings, leak repair, maintenance, and operator practices that require little capital. Stage 2 should include standard retrofits such as LEDs, capacitor banks, efficient motors, variable-speed drives, insulation, and monitoring. Stage 3 should include process redesign, heat recovery, major utility replacement, or renewable-energy integration. Each action should have a named owner, target date, budget status, and post-implementation indicator. Without ownership and follow-up, the audit remains a diagnostic document rather than an energy-management instrument. Cluster-based implementation is particularly relevant to Indian SMEs. Enterprises within a common industrial cluster often use similar motors, furnaces, compressors, pumps, and production practices. Common audit templates, benchmark ranges, pooled training, aggregated procurement, and shared technical support can lower transaction costs. Public or utility-supported programmes can further improve adoption through partial audit subsidies, credit guarantees, performance-linked finance, or approved technology-provider networks. International policy reviews similarly conclude that integrated packages are more effective than isolated audit obligations [17-19].

D. Appropriate Use of Software and Digital Tools

Software such as ETAP, DIALux, MATLAB, eQUEST, and specialized energy-management platforms can improve analysis, but model output is only as reliable as the input data. ETAP can assess load flow, short circuit, harmonics, and correction alternatives; DIALux can support lighting design; simulation tools can evaluate control and process scenarios; and interval-data platforms can identify abnormal load patterns. These tools should be used to test measured conditions and alternatives, not to replace site inspection or calibration. For SMEs with limited submetering, a phased monitoring plan may be more valuable than a complex model created from assumed loads.

E. Practical Framework for SMEs

The combined evidence supports a six-stage framework. First, define the audit boundary, objectives, production variables, and data responsibilities. Second, establish the baseline from bills, interval data, production records, and an energy balance. Third, measure significant energy uses using calibrated instruments under representative operating conditions. Fourth, diagnose losses and identify their operational causes rather than only their symptoms. Fifth, prioritize ECMs using technical feasibility, verified saving, investment, payback, risk, and production impact. Sixth, implement and verify results through defined energy-performance indicators. The feedback loop in Figure 1 converts a one-time audit into continual improvement.

F. Limitations

This study is a structured narrative review and not a systematic review or meta-analysis. The evidence is heterogeneous, and several case studies do not report complete baseline, uncertainty, implementation, or post-project verification data. The numerical results should therefore be interpreted as study-specific outcomes. The paper does not present a new field audit of a named SME, and it does not claim that the reported savings percentages or payback periods apply to all industrial sectors. Future work should use a standardized reporting template and should publish both projected and verified savings, production-normalized baselines, implementation cost, project life, and uncertainty.

VII. CONCLUSION

The expanded review demonstrates that energy audits can provide a practical route to lower energy cost and improve energy performance in SMEs when they progress beyond descriptive inspection. Across the reviewed Indian studies, power factor and power quality were the most consistently assessed domains, followed by motors and fans and then lighting. Reported measures included efficient equipment, power-factor correction, harmonic mitigation, load balancing, compressed-air leak control, operating-schedule optimization, and improved monitoring. The available economic results ranged from a reported 6.4-month payback in cable manufacturing to 25 months in a medium-scale industry, while a Swedish audit programme reported net savings equivalent to approximately 6% of participating firms' energy use. The evidence also shows that identified potential is not equivalent to achieved saving. Audit quality depends on representative measurement, normalized baselines, transparent financial assumptions, prioritized actions, and a defined verification method. For resource-constrained SMEs, the most effective strategy is to implement a portfolio beginning with no-cost and low-cost actions, followed by standard retrofits and then strategic process investments. Cluster-based technical assistance and financing can reduce the transaction and capability barriers that frequently prevent implementation.

The proposed six-stage framework - scope, baseline, measurement, diagnosis, prioritization, and verification - provides a defensible structure for future audits and for reporting results in a manner that is technically credible and useful to decision makers.

VIII. AUTHOR'S CONTRIBUTION

Conceptualization: Ankit B. Leheru and Dharmesh J. Pandya.

Methodology: Ankit B. Leheru and Dharmesh J. Pandya.

Investigation and evidence extraction: Ankit B. Leheru.

Analysis and discussion of results: Ankit B. Leheru and Dharmesh J. Pandya.

Writing - Original Draft: Ankit B. Leheru.

Writing - Review and Editing: Ankit B. Leheru and Dharmesh J. Pandya.

Resources: Ankit B. Leheru and Dharmesh J. Pandya.

Supervision: Dharmesh J. Pandya.

Approval of the final text: Ankit B. Leheru and Dharmesh J. Pandya.

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