Key Steps for Energy Audits in Mauritius Buildings

From audit evidence to implementable efficiency action

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MAURITIUS CONTEXT

Why audits matter in Mauritius

Building audits are a practical entry point for energy energy security, cost reduction and climate action. action.

90.9 % of primary energy requirement was sourced from imports in imports in 2024, mainly petroleum products and coal. coal.

49 %+ 34 % of electricity generation came from oil and coal respectively respectively in 2023.

35 %+ 34 % of final electricity use came from commercial/public services and residential buildings in 2023 in 2023

National efficiency target: 10% by 2030.

Sources: U.S. International Trade Administration, "Mauritius - Energy," 2026; International Energy Agency, "Mauritius: Electricity"; UNEP Copenhagen Climate Centre, "Advancing Energy Efficiency in Mauritius," 2024.

STEP 1

Start with the audit purpose

A useful audit begins with a decision question, not a a checklist.

What decision must this audit support?

01	Compliance	**Boundary:** regulated entity, site, building, tenant area or portfolio.
02	Investment case	**Outputs:** baseline, ECMs, cost, savings, risks payback.
03	Operations improvement	**Focus:** schedules, setpoints, maintenance, controls controls and staff routines.
04	EPC / ESCO preparation	**Need:** bankable baseline, risk allocation, procurement route.

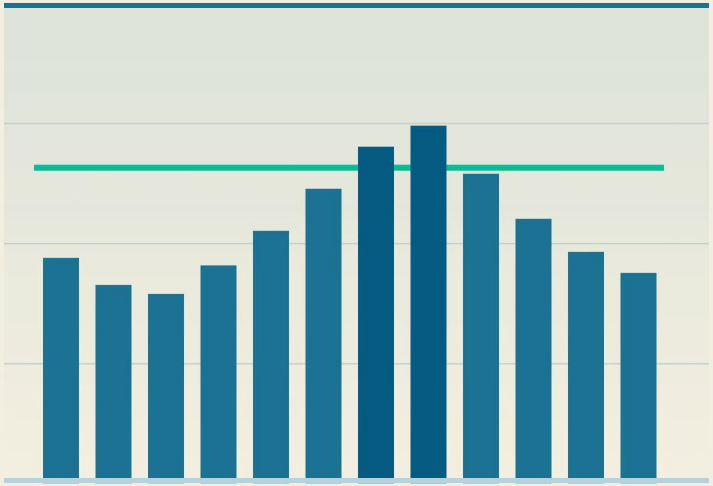
Regulatory context: Mauritius Energy Efficiency (Energy Consumer and Energy Audit) Regulations 2017 provide for mandatory audits at large energy consumers as directed by EEMO.

STEP 2

Build a reliable energy baseline

The baseline is the reference point for both savings and accountability.

Monthly consumption pattern



Collect 12–24 months of electricity, fuel, water, occupancy and operating data where available.

Normalize

BASELINE

Energy data

+

Operating context

Adjust for occupancy, weather, schedules and exceptional events.

Use building-relevant indicators

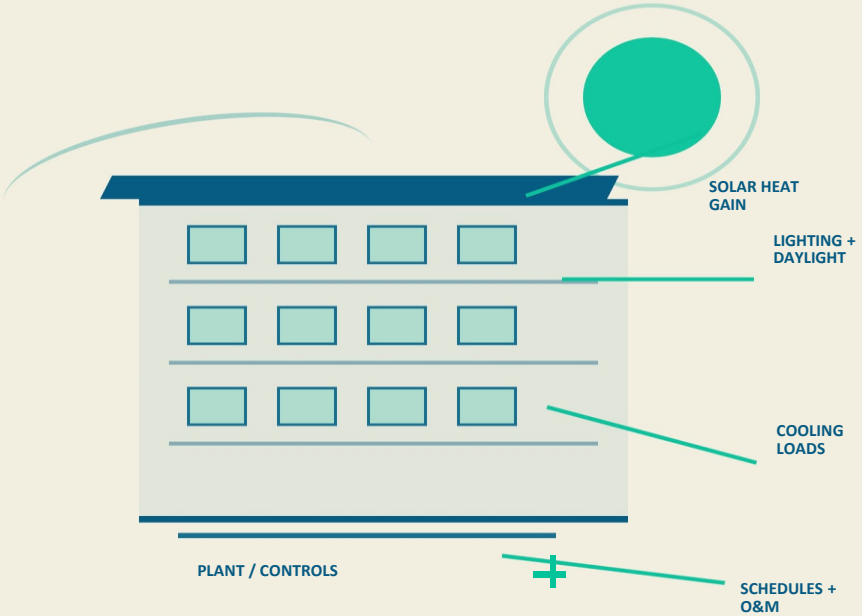
m²	kWh/m²-year Offices, retail, public buildings
G	kWh/guest-night Hotels and tourism facilities
B	kWh/bed Hospitals and care buildings
S	kWh/student Schools and universities
E	End-use map Cooling, ventilation, lighting, plug loads, hot water and pumps

Baseline practice note: indicators shown are audit-planning metrics for comparison and accountability; final benchmarks should be calibrated to Mauritius building type, operating schedule and data availability.

STEP 4

Inspect systems that drive demand demand

In tropical buildings, comfort and efficiency depend on how systems are operated together.



01 HVAC first

Check chillers, split AC, VRF, pumps, fans, controls and maintenance quality.

02 Lighting and daylight

Review lighting power density, occupancy controls, exterior lighting and and daylight use.

03 Envelope and passive measures

Assess shading, roof heat gain, glazing, infiltration and natural ventilation ventilation potential.

04 Operating faults

Look for setpoint drift, simultaneous cooling and heating, clogged filters and filters and leaking ducts.

05 System interactions

Estimate how lighting, envelope and controls affect cooling demand and and comfort outcomes.

Audit focus for Mauritius: cooling, humidity control, solar heat gain, operating schedules and maintenance practices are central to translating site observations into practical ECMs.

STEP 4

Measure before recommending

Measurements convert assumptions into credible savings estimates.

01

Spot-measure critical conditions

Record temperature, humidity, lighting levels, power draw and visible equipment equipment condition during occupied periods.

02

Log schedules and hidden loads

Use short-term data logging to detect after-hours cooling, ventilation, lighting and plug-lighting and plug-load operation.

03

Compare design with reality

Check nameplate capacity against actual control settings, runtime, part-load behavior behavior and maintenance status.

04

State confidence transparently

Document assumptions, data gaps and measurement limits so owners understand understand investment risk and evidence strength.

Evidence strength for audit recommendations

High confidence

Measured load profile, verified operating hours, clear baseline.

Medium confidence

Spot data plus utility bills; key assumptions documented.

Low confidence

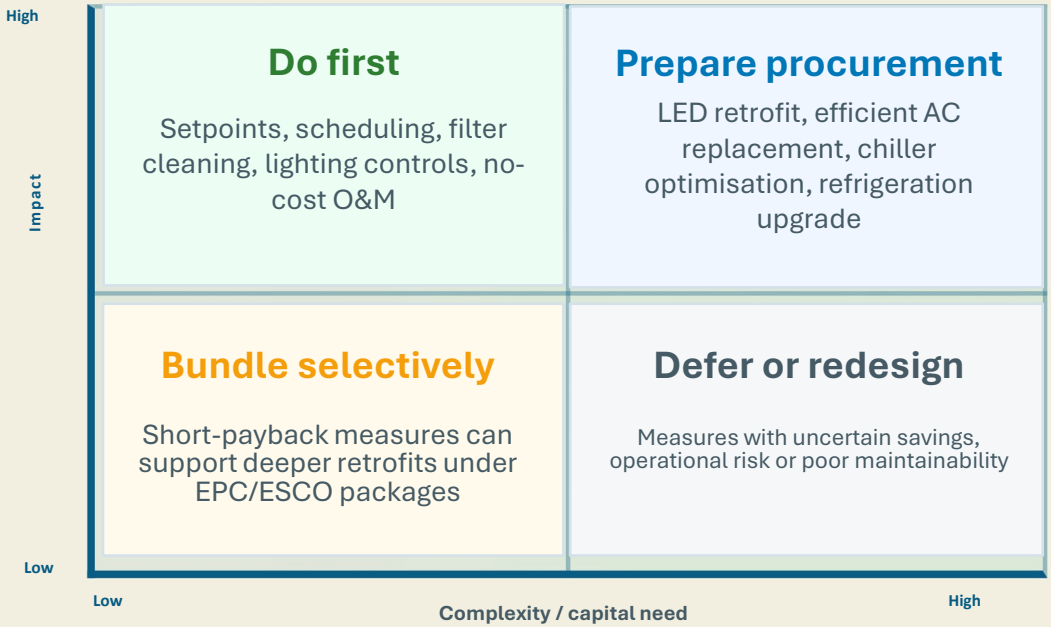
Nameplate estimates only; use for screening, not investment approval.

Practical audit principle: measurement effort should target the largest uncertainty, especially HVAC operation, after-hours consumption, lighting schedules and comfort conditions in tropical buildings.

STEP 5

Prioritize ECMs by value and feasibility

The best audit report ranks measures so owners know what know what to do first.



Ranking logic

1. **Classify measures** as no-cost/low-cost, capital retrofit, or deep renovation.
2. **Evaluate value** using savings, cost, payback, maintenance and implementation risk.
3. **Sequence work** so operational fixes and controls controls prepare the case for larger investments. investments.

Operational fixes → controls → efficient equipment → envelope → renewables

Mauritius audit practice note: recommendations should be presented through short-, medium- and long-term measures, consistent with the phased approach described in the Energy Efficiency (Energy Consumer and Energy Audit) Regulations 2017 guidance.

STEP 6

Turn findings into financeable projects

Implementation requires packaging, risk allocation and a bankable savings logic.

01
Audit evidence
Baseline, end-use data, measured operating conditions

02
ECM package
Scope, savings, cost, sequencing and risks

03
Procurement route route
Owner-led works, contractor contractor model or ESCO/EPC ESCO/EPC

04
Finance structure
Self-finance, debt, grant blend blend or performance contract contract

05
Verified savings
M&V plan, acceptance criteria criteria and reporting

Financing routes for action

NEAR TERM	**No-cost and low-cost measures** can be implemented through operating budgets and staff routines.
CAPITAL	**Retrofit bundles** need costs, payback, procurement scope responsible owners.
EPC	**ESCO models** can link remuneration to achieved savings when when baselines and M&V are credible.

Mauritius implementation lens

BARRIER	The EPC market is emerging; collateral limits and perceived performance risk can restrict lending.
SUPPORT	The MAF/UNEP CCC project proposes a first-loss guarantee and guarantee and enabling framework for EPC scale-up.
AUDIT ROLE	Audits should produce project packages that banks, owners and owners and ESCOs can compare and act on.

STEP 7

Verify savings and keep improving

M&V protects credibility and turns one audit into continuous energy management.

01 Define M&V before implementation

Set the verification method, baseline period and savings calculation approach before equipment is changed.

02 Establish metering and adjustment rules

Specify data points, reporting frequency, weather or occupancy adjustments, adjustments, and acceptance criteria.

03 Track energy and service quality

Monitor comfort, indoor air quality, reliability and user satisfaction alongside alongside kWh and cost savings.

04 Institutionalize the lessons

Convert findings into operating procedures, maintenance routines, staff training staff training and future audit updates.

Accountability lens

Verified savings support public reporting, private investment confidence confidence and ESCO/EPC contract credibility.

Practical message for Mauritius: M&V should be designed as part of the audit-to-action pathway, not added after implementation, so savings can be sustained and compared across buildings.

FIELD-READY SYNTHESIS

A Mauritius-ready audit checklist

Strong audits combine technical rigor with local policy, climate and climate and finance realities.

STEP	AUDIT QUESTION	MAURITIUS-SPECIFIC EMPHASIS
1	What decision will the audit support?	**EEMO compliance**, investment planning, operational improvement or EPC preparation.
2	What is the baseline?	Imported-fuel electricity context, monthly energy data and building-type indicators.
3	Where is demand created?	**Cooling, ventilation, lighting, envelope and controls** in tropical operating conditions. conditions.
4	Which ECMs come first?	No-cost and low-cost actions before capital-intensive retrofits and deep renovation.
5	How will action be financed?	Self-finance, bank finance, grants, **ESCO/EPC** and guarantee mechanisms.
6	How will savings be proven?	M&V plan, metering points, reporting frequency and updated operating procedures **EVIDENCE → ACTION → VERIFIED SAVINGS**

Use this checklist as a quality-control lens before finalizing an audit report: each recommendation should be traceable to data, a responsible owner, a financing pathway and a verification method.

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From audit to action: a practical 30-60-90 day pathway

The audit report should trigger a managed implementation sequence.

0–30 days

Validate baseline
Approve quick wins
Assign building owner

31–60 days

Package ECMs
Prepare specs and budget
Confirm procurement route

61–90 days

Launch procurement
Set M&V protocol
Start implementation plan

Three messages for Mauritius

1) Start with baseline discipline. 2) Focus on cooling, lighting, refrigeration and controls. 3) Link every major ECM to procurement and M&V.

CLOSING MESSAGE

From audits to action

Use every building audit as the start of an implementation pathway for measurable efficiency gains in Mauritius.

Priority: make audit outputs consistent, financeable and verifiable, so technical evidence becomes a project pipeline.

The practical pathway

Evidence

Baseline, system diagnostics and ranked ECMs.

Projects

Scope, cost, savings, procurement and finance finance route.

Verified savings

M&V, operating procedures and performance feedback.

Build local capacity

Auditors, facility managers, ESCOs, public public agencies and finance institutions institutions need shared methods.

Create benchmarks

Early projects should produce Mauritius-specific cost, savings and performance evidence.

Thank you very much!

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