WHOLE BUILDING ASSISTANCE

ENERGY AUDIT RULES & REQUIREMENTS

EFFECTIVE JULY 1, 2025 THROUGH JUNE 30, 2026 OR WHILE FUNDING LASTS.

ELIGIBILITY

Program pre-approval is required prior to the start of an energy audit process. Projects can be whole building or by system if determined cost-effective by Hawai'i Energy. Eligible program participants must:

- ❒ Own or operate a high energy usage facility that has at least 50,000 square feet of conditioned space or that consumes at least 1,000,000 kWh/year.
- ❒ Receive electric service from Hawaiian Electric Companies.
- ❒ Grant Hawai'i Energy access to the facility when requested for on-going program assessment, monitoring and measurement purposes.
- ❒ Be willing to invest facility management time to support multiple site visits and data requests from the energy audit consultant.

The intention of this offer is that all Energy Conservation Measures (ECMs) identified with simple payback less than three (3) years be installed and operational within 24 months of audit completion. Many ECMs are eligible for Hawai'i Energy's prescriptive and custom incentives.

All energy audit work performed (to include, but not limited to, documentation and reporting) must follow guidelines recommended by a professional organization, such as the ASHRAE Std 211 audit guidelines. The audit conductor must indicate in their report the organization's guidelines which were followed for audit process. The audit team must consist of at least one CEM or CEA through AEE, BEAP through ASHRAE, or a licensed PE.

Energy audits conducted by employees internal to an organization may not be the best use of Program funding and are subject to strict Program pre-approval before an incentive commitment is made. Energy audits completed by outside parties are preferred.

Hawai'i Energy requires an electronic copy of the final audit & ASHRAE normative reporting form be provided to the Program upon survey completion. The Program reserves the right to review all materials that result from a program-supported energy audit including, but not limited to, metered data, additional consultant recommendations, calculations, etc.

REQUIREMENTS

- **Program pre-approval is required prior to the start of an energy audit process to secure the incentive.**
- Hawai'i Energy requires an electronic copy of the draft audit be provided to the Program upon completion and before presentation to the participant (applicant). The Program reserves the right to review all materials that result from a program-supported energy audit including, but not limited to, metered data, additional consultant recommendations, etc. as well as request revision(s) for accuracy, clarification or additional documentation that will enhance the quality of the audit.
- The audit must be performed by a qualified person or firm. A summary of the consultant's qualifications should be submitted with the application. In some cases, a professional engineer may be required to provide verification of the analysis.
- Applicant receives an energy audit report from the qualified person or firm following the format outlined in this document and submits an electronic version of the report & normative reporting form to Hawai'i Energy for review.
- Within three (3) months of receiving the audit report, the applicant will meet with an energy advisor from Hawai'i Energy to review next steps and available resources such as incentives to implement the measures found.
- If it is determined that further analysis is necessary, an ASHRAE Level 3 or equivalent audit may be conducted and incentivized.
    - Upon completion of the ASHRAE Level 2 energy audit and finding the need for further analysis, or as pre-approved by the Program, an ASHRAE Level 3 energy audit may be commissioned. The report format must follow the outlined requirements in this document plus measurements taken, energy modeling, and bids/cost estimates for ECM implementation.
    - A Level 3 audit report draft must be provided to Hawai'i Energy for review prior to final submission to ensure all components will be included.

INCENTIVES

Milestone	Required Documentation	Incentive
ASHRAE Level 2 energy audit is completed	• Energy audit report & reporting form • Copy of invoice for the audit • Applicant's IRS Form W-9	5 cents per sq. ft. up to $15,000 or 75% of the audit cost, whichever is less
ASHRAE Level 3 energy audit is completed, if warranted	• Energy audit report & reporting form • Copy of invoice for the audit • Applicant's IRS Form W-9	10 cents per sq. ft. up to $25,000 or 75% of the audit cost, whichever is less
Meet with Hawai'i Energy within 3 months of receiving energy audit to discuss the energy audit findings and opportunities	--	--
An Energy Conservation Measure (ECM) identified in the energy audit is installed within 24 months of audit completion	• Pre-approval from Hawai'i Energy for the additional incentive • Completed Commercial Incentive Application • Contact Hawai'i Energy for additional requirements specific to the ECM	Additional incentive of 15% beyond standard equipment incentive, pending availability of funds

APPLICATION PROCESS

1. **Apply for pre-approval prior to starting the energy audit process, as pre-approval is required to receive an incentive.**
    a. Submit the following documents and information to Hawai'i Energy:
        i. Completed Commercial Incentive Application
        ii. Square footage of the facility
        iii. Energy audit scope of work, layouts, drawings, and other technical attachments
        iv. Energy audit quote – Hawai'i Energy recommends collecting at least three quotes for energy audits
    b. Email the pre-approval request and attachments to the appropriate Energy Advisor or HawaiiEnergy@Leidos.com.
    c. The program will review the completed application and contact the applicant if further information or clarification is required. Upon pre-approval, the applicant will receive a written pre-approval notice.
2. Work with your energy auditor to complete the energy audit.
3. Once the energy audit is complete, work with your energy auditor to submit the energy audit report and other required documentation defined in the table above and in the Energy Audit Report Format found on pages 3 through 5.
4. Schedule a meeting with an Energy Advisor from Hawai'i Energy to discuss Energy Conservation Measures (ECMs) identified by the energy audit and associated incentives.

QUESTIONS

Contact your Energy Advisor or email HawaiiEnergy@leidos.com.

ENERGY AUDIT REPORT FORMAT

1. Executive Summary
    a. Baseline Energy Consumption
    b. Energy Conservation Measures (ECM) Overview
        i. ECM 1
        ii. ECM 2
        iii. Etc.
    c. Financial Analysis Summary
    d. Note: Include Executive Summary Table or equivalent
    e. Carbon Footprint Reduction: An analysis of how the proposed ECMs will contribute to reducing the carbon footprint of the building. Include a comparison to the baseline scenario.
2. Technical Information and Analysis
    a. Project Background
    b. Purpose of Energy Assessment Audit
    c. Site Information
    d. Operating Hours and Building Occupancy
    e. Energy Consumption Analysis
        i. Baseline Energy Consumption
            1. **Utility Data Review**: Two (2) years of utility billing data (electricity, gas, water, etc.) must be collected and weather-normalized using Cooling Degree Days (CDD). Energy consumption should be benchmarked using relevant operating metrics (e.g., kWh/sq. ft., kW/sq. ft., kWh/room, kWh/occupant, etc.). Submit completed Mandatory Normative Reporting Form, available for download here: https://xp20.ashrae.org/211-2018/
            2. **Building Envelope Analysis**: A comprehensive review of the building envelope – including walls, roof, foundation, doors, windows, and insulation – for thermal performance, air leakage, and moisture intrusion. Use of infrared thermography is recommended to identify heat loss and thermal bridging.
            3. **HVAC System Efficiency**: An in-depth analysis of HVAC systems, including equipment type, age, control strategies, operating schedules, and opportunities for improved efficiency through maintenance, controls, upgrades, or replacements.
            4. **Lighting System Efficiency**: Detailed review of lighting systems, fixture types, operating schedules, controls (occupancy/vacancy sensors, daylight harvesting), and potential for upgrades to LED or other high-efficiency lighting systems.
            5. **Domestic and Hot Water Systems**: Evaluation of water heating systems including central boilers, water heaters, circulation pumps, recirculation controls, and water-saving fixtures. This section should include: Equipment type, age, and efficiency; Operating temperatures and setpoints; Heat loss from distribution piping; Opportunities for savings through high-efficiency water heaters, solar thermal systems, and water conservation measures
            6. **Building Amenities**: Assessment of energy and water use from major amenities such as: Pools, spas, and fitness centers; Commercial kitchens or food service areas; Laundry facilities; Parking garages and outdoor lighting; Each amenity should be evaluated for its energy intensity and potential for savings.
            7. **Integration of Smart Technology**: Review of existing and potential smart technologies including: Smart thermostats, lighting, and plug load controls; Building automation systems (BAS); Advanced metering infrastructure (AMI); Energy storage systems and demand response capability.

8. **Renewable Energy Opportunities**: Identification and preliminary assessment of onsite renewable energy potential such as: Solar PV and solar thermal; Battery energy storage paired with renewables; Participation in community solar or green energy purchasing programs; Geothermal and small wind systems (where applicable)
9. **Training and Awareness Programs**: Recommendations for staff and occupant education to support operational energy savings. This may include behavioral campaigns, training for controls and system operation, energy awareness signage or dashboards
10. **Other Energy-Consuming Systems**: All remaining energy-consuming systems not listed above must be evaluated for efficiency opportunities. These may include, but are not limited to: Plug loads and office equipment; Data centers or server rooms; Refrigeration systems; Specialty medical or lab equipment (for healthcare or institutional settings)

ii. Enhanced Case Energy Consumption

f. Proposed ECMs
   i. ECM1: Information for each ECM is to include the following:
      1. Name, Description and Summary
      2. Equipment and/or System Useful Life
      3. Baseline and Enhanced Case Energy Consumption
      4. Energy Savings (including source of savings, e.g., efficiency, lower run times, load shifting and behavior changes)
      5. Estimated Installation Cost (e.g., equipment, labor and material)
      6. Estimated Annual Cost Savings
      7. Measurement & Verification (M&V) Plan: Description of the proposed M&V plan for each ECM to track and ensure its energy savings in the long term.
   ii. ECM 2
   iii. ECM 3
   iv. Etc.

3. Appendix
   a. Backup Data and Analysis for each ECM
      i. Calculations (must be easy-to-follow and clearly indicate mathematical logic)
         1. Baseline Energy Consumption
         2. Enhanced Case Energy Consumption
         3. Estimated Energy Consumption and Demand Savings
         4. Estimated Annual Cost Savings
      ii. ECM Cost Backup (Vendor Proposals, Estimating Software, Database)
   b. Baseline Raw Data
      i. Thermal, Fluid, and Electrical Measurements
      ii. Sizing/Performance (Pump Curves, Cooling Bin Data etc.)
   c. Visual aids
      i. Building Plans (Mechanical, Electrical Schedules, Layouts etc.)
      ii. Equipment Locations
      iii. One-line diagrams (e.g., electrical, flow, meter points)
   d. Codes and Standards Compliance: Documentation showing how the proposed ECMs align with current energy codes and standards.
   e. Stakeholder Engagement: Documentation of consultations with stakeholders, their concerns, and how these have been addressed in the ECMs. Examples of stakeholders: front line building operators, maintenance, & engineering staff; third party HVAC & other critical systems' service providers; property manager; asset manager; etc.