Hawai'i Energy

WHOLE BUILDING ASSISTANCE

ENERGY AUDIT RULES & REQUIREMENTS
EFFECTIVE JULY 1, 2024 THROUGH JUNE 30, 2025
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, typically between 2-4 hours, 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 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 Certified Energy Auditor through AEE or Building Energy Assessment Professional through ASHRAE.

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 report & 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, an Energy Advisor from Hawai'i Energy will reach out to the Customer 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 ASHRAE Level 2 energy audits.
    b. Send the pre-approval request and attachments through one of the following:
        i. Mail to Hawai'i Energy, 45 N. King St., Suite 500, Honolulu, HI 96817
        ii. Fax to (808) 521-1446
        iii. Email 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 for review. Upon Hawai'i Energy review, the incentive for the milestone will be processed.
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 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. Two (2) years of Billing Data (weatherized using CDD and compared to some pertinent operating metric (e.g., kWh/sq. ft., kW/sq. ft., kWh/room)
            2. Building Envelope Analysis: A comprehensive review of the building's envelope (walls, roof, foundation, doors, windows, etc.) and its impact on energy consumption.
            3. HVAC System Efficiency: An in-depth analysis of the HVAC system's efficiency, if applicable.
            4. Lighting System Efficiency: Detailed review of the current lighting system and opportunities for energy-efficient upgrades, such as LED lighting.
            5. Integration of Smart Technology: Considerations on smart technology to optimize energy consumption, such as smart meters, energy storage systems, energy management systems, or automation.
            6. Renewable Energy Opportunities: Consideration of solar PV, solar thermal, or other renewable energy sources for potential implementation.
            7. Training and Awareness Programs: Recommendations for staff training or awareness campaigns to change energy usage behavior.
        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. Submit completed Mandatory Normative Reporting Form for Level 2 Energy Audits, available for download here: https://xp20.ashrae.org/211-2018/

4. 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 aides
        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.