ChecklistGuro

Energy Efficiency Audit Checklist

Facility Overview & Data Collection

Initial assessment of the facility, gathering key data for analysis. Includes building characteristics, operational schedules, utility bills, and production processes.

Total Facility Square Footage

Enter a number...

Number of Employees (Average Shift)

Enter a number...

Date of Last Energy Audit (If Applicable)

Enter date...

Brief Description of Manufacturing Processes

Write something...

Annual kWh Consumption (Last 12 Months)

Enter a number...

Annual Therms of Natural Gas Consumption (Last 12 Months)

Enter a number...

Peak Demand (kW) – Last 12 Months

Enter a number...

Primary Energy Source(s)

- [ ] Electricity
- [ ] Natural Gas
- [ ] Propane
- [ ] Fuel Oil
- [ ] Other (Specify in Long Text)

Recent Utility Bills (Electricity & Gas)

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HVAC Systems

Detailed evaluation of heating, ventilation, and air conditioning systems, including equipment, controls, and maintenance practices.

Total HVAC System Capacity (tons or kW)

Enter a number...

HVAC System Type (Check all that apply)

- [ ] Cooling Tower
- [ ] Chiller
- [ ] Roof Top Units (RTUs)
- [ ] Variable Air Volume (VAV)
- [ ] Constant Volume
- [ ] Split Systems
- [ ] Other (Specify in LONG_TEXT)

Description of HVAC control system (e.g., DDC, pneumatic, manual)

Write something...

Supply Air Temperature Setpoint (°F or °C)

Enter a number...

Return Air Temperature Setpoint (°F or °C)

Enter a number...

Economizer Status (Operational or Non-operational)

- [ ] Operational
- [ ] Non-operational

Describe any maintenance schedule for HVAC equipment.

Write something...

Upload recent HVAC system performance data (e.g., energy bills, maintenance logs)

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Approximate HVAC System Age (Years)

Enter a number...

Lighting Systems

Assessment of all lighting throughout the facility, including interior, exterior, and specialized lighting used for production processes.

Total Number of Fixtures

Enter a number...

Fixture Types Present (Check all that apply)

- [ ] LED
- [ ] T8 Fluorescent
- [ ] T5 Fluorescent
- [ ] Metal Halide
- [ ] Incandescent
- [ ] High Pressure Sodium

Average Fixture Wattage (W)

Enter a number...

Operating Hours Per Day (Lighting)

Enter a number...

Lighting Controls Present? (e.g., occupancy sensors, daylight harvesting)

- [ ] Yes
- [ ] No
- [ ] Partial

Description of Lighting Control Implementation (if applicable)

Write something...

Lighting System Layout or Diagram (optional)

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Estimated Annual Lighting Energy Consumption (kWh)

Enter a number...

Are lights controlled by a lighting management system?

- [ ] Yes
- [ ] No
- [ ] Unsure

Compressed Air Systems

Evaluation of compressed air generation, distribution, and usage, including leak detection and system efficiency.

Total Compressed Air System Capacity (CFM)

Enter a number...

System Pressure (PSIG)

Enter a number...

Air Compressor Type(s)

- [ ] Rotary Screw
- [ ] Reciprocating
- [ ] Centrifugal
- [ ] Other

Estimated % of Air Leaks (Visual Inspection)

Enter a number...

Description of Leak Detection Methods Used

Write something...

Compressed Air Uses (Select all that apply)

- [ ] Process Equipment
- [ ] Pneumatic Tools
- [ ] HVAC
- [ ] Other

Compressed Air System Schematic (if available)

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Air Receiver Tank Volume (Gallons)

Enter a number...

Maintenance Schedule for Compressors and Air Treatment Equipment

Write something...

Motor Systems & Drives

Review of electric motors, drives, and related equipment, focusing on efficiency and sizing.

Motor Nameplate Voltage (V)

Enter a number...

Motor Nameplate Horsepower (HP)

Enter a number...

Motor Efficiency (%) - As per Nameplate

Enter a number...

Motor Operating Load Factor (%)

Enter a number...

Motor Type (e.g., ODP, TEFC, Premium Efficiency)

- [ ] ODP
- [ ] TEFC
- [ ] Premium Efficiency
- [ ] Other - Specify in Long Text
- [ ] Unknown

Detailed observations about motor condition and performance (e.g., noise, vibration, overheating)

Write something...

Drive Type (Check all that apply)

- [ ] None
- [ ] VFD (Variable Frequency Drive)
- [ ] Mechanical Starter
- [ ] Other - Specify in Long Text

VFD Efficiency (%) - As per Documentation or Testing

Enter a number...

Last Motor Maintenance Date

Enter date...

Process Equipment

Assessment of energy consumption associated with specific manufacturing processes, machinery, and equipment.

Describe the primary manufacturing processes performed in this area.

Write something...

What is the total annual production volume (units)?

Enter a number...

What is the average cycle time for a unit (minutes)?

Enter a number...

What type of heat treatment processes are used (if any)?

- [ ] None
- [ ] Annealing
- [ ] Hardening
- [ ] Tempering
- [ ] Other

Which of the following process equipment is present?

- [ ] CNC Machines
- [ ] Injection Molding
- [ ] Welding Equipment
- [ ] Ovens/Furnaces
- [ ] Paint Booths
- [ ] Dryers
- [ ] Other

Estimated runtime (hours/week) of primary process equipment.

Enter a number...

Upload equipment specification sheets (if available)

Upload File

Describe any observed issues or anomalies with process equipment.

Write something...

Building Envelope

Evaluation of the building’s structure, including insulation, windows, doors, and roof, to identify heat loss or gain.

Wall R-Value (Existing)

Enter a number...

Roof R-Value (Existing)

Enter a number...

Wall Construction Type

- [ ] Metal Siding
- [ ] Brick
- [ ] Concrete
- [ ] Insulated Metal Panels (IMP)
- [ ] Other

Notes on Window Condition (e.g., cracked, sealed)

Write something...

Window Glazing Types Present

- [ ] Single Pane
- [ ] Double Pane
- [ ] Low-E Coating
- [ ] Tinted
- [ ] None

Door Type(s)

- [ ] Rolling Steel
- [ ] Insulated Metal
- [ ] Wood
- [ ] Other

Air Leakage (Cubic Feet per Minute - CFM)

Enter a number...

Water Heating & Usage

Assessment of water heating systems and water usage patterns within the manufacturing process and facility.

Total Water Consumption (Gallons/Day)

Enter a number...

Water Heating Energy Consumption (kWh/month)

Enter a number...

Water Heater Type

- [ ] Electric
- [ ] Gas
- [ ] Steam
- [ ] Other

Water Heater Storage Capacity (Gallons)

Enter a number...

Water Heater Temperature Setting (°F)

- [ ] Below 120°F
- [ ] 120-130°F
- [ ] 130-140°F
- [ ] Above 140°F

Description of Water Usage Processes (e.g., cleaning, cooling, production)

Write something...

Water Conservation Measures in Place?

- [ ] Low-flow fixtures
- [ ] Water recycling/reuse
- [ ] Leak detection/repair program
- [ ] Employee training
- [ ] None

Details about water recycling or reuse systems, if applicable.

Write something...

Waste Heat Recovery

Identification of opportunities to capture and reuse waste heat generated during manufacturing processes.

Describe current waste heat sources (e.g., exhaust gases, cooling water, process heat).

Write something...

Estimated temperature of primary waste heat stream (°C or °F).

Enter a number...

Estimated flow rate of primary waste heat stream (e.g., kg/h, gallons/min).

Enter a number...

Current use of waste heat (if any).

- [ ] None
- [ ] Space Heating
- [ ] Domestic Hot Water
- [ ] Process Heat
- [ ] Other (Specify in Long Text)

If 'Other' was selected above, please specify the current use.

Write something...

Potential applications for waste heat recovery (check all that apply).

- [ ] Preheating of incoming materials
- [ ] Process heating
- [ ] Space heating
- [ ] Domestic hot water heating
- [ ] Electricity generation
- [ ] Absorption cooling
- [ ] None

Estimated potential energy savings (kWh/year) if waste heat recovery is implemented.

Enter a number...

Potential challenges/barriers to implementing waste heat recovery.

Write something...

Control Systems & Automation

Review of the facility's control systems, including building automation systems (BAS) and programmable logic controllers (PLCs), to identify potential improvements.

Current PLC Program Version

Enter a number...

Building Automation System (BAS) Present?

- [ ] Yes
- [ ] No
- [ ] Unsure

Description of Automation Logic & Purpose

Write something...

Which automated processes are utilized? (Select all that apply)

- [ ] Lighting Control
- [ ] HVAC Scheduling
- [ ] Production Line Sequencing
- [ ] Process Monitoring
- [ ] Other (Specify in Long Text)

Number of Programmable Logic Controllers (PLCs)

Enter a number...

Is there a centralized data logging system?

- [ ] Yes
- [ ] No
- [ ] Unsure

Describe any scheduled maintenance or upgrades performed on control systems in the last year.

Write something...