



# 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

### Number of Employees (Average Shift)

### Date of Last Energy Audit (If Applicable)

### Brief Description of Manufacturing Processes

### Annual kWh Consumption (Last 12 Months)

### 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)**

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**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...