

## ■ Energy Audit Data Collection Form

Site Data										
Building Name	Address	Building Square Footage (ft <sup>2</sup> )	Age of Building (years)	Date of Last Major Renovation	Purpose of Building	Number of Floors	Daily Operational Hours (e.g., M-F 8-6, Sa 10-4)	Days of Use per Week	Name of Utility Company	Total Number of Occupants
Organizational Information										
Name of Organization	Name of Contact			Position						
	Contact E-mail			Phone Number						

Please check all that apply:

- This building is leased.
- This building is owned.
- The organization receives monthly bills based on accurate meter readings.
- Meters are read regularly by on-site staff.
- Bills are compared to monthly meter readings on a regular basis.
- A Building Automation System or Energy Management Control System is in place and used to track utility data regularly.
- The building is sub-metered.
- The building has automated 15-minute interval or SMART meters.

If the building is leased:

When is the lease up for renewal (date/year)? \_\_\_\_\_

How long does the lease contract last (years)? \_\_\_\_\_







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Heating, Ventilation, and Air Conditioning Systems								
What type of HVAC system does the building have (e.g., constant volume, multi-zone, VAV, etc.)?	What fuel type does this system use?	How is the HVAC system controlled (e.g., manually, DDC system, etc.)?	What are the operational setpoints?	What type of chilled water system does the building have, where relevant (e.g., rotary screw chillers with cooling towers, etc.)?	How old is the chilled water system?	What is the capacity of the system?	What are the operational setpoints?	Do any of these systems have weather optimization sensors? If so, which systems and what brand of sensor?

Who is responsible for managing and trouble-shooting the control system? \_\_\_\_\_

Are there any recurring or major occupant complaints about being too hot, too cold, etc.? \_\_\_\_\_

What energy efficiency efforts have been completed, started, or planned? \_\_\_\_\_

Are any capital improvement projects planned? If so, what are they and how will they affect the energy use of the building?

**Please select what is currently installed at the building:**

<input type="checkbox"/> Ground source heat pumps	<input type="checkbox"/> Segregated recycling	<input type="checkbox"/> Energy-efficient lighting	<input type="checkbox"/> Other: Please specify
<input type="checkbox"/> Solar hot water	<input type="checkbox"/> Co-mingled recycling	<input type="checkbox"/> Lighting controls	_____
<input type="checkbox"/> Solar PV panels (electric)	<input type="checkbox"/> Composting	<input type="checkbox"/> Insulation	_____
<input type="checkbox"/> Wind turbines	<input type="checkbox"/> Anaerobic digestion	<input type="checkbox"/> Underfloor heating	_____
<input type="checkbox"/> Micro-hydro	<input type="checkbox"/> Sustainable procurement	<input type="checkbox"/> On-demand hot water heater	_____
<input type="checkbox"/> Geothermal	<input type="checkbox"/> Energy-efficient windows	<input type="checkbox"/> Weather-optimized heating sensor	_____
<input type="checkbox"/> Gray-water systems	<input type="checkbox"/> Green/living roof	<input type="checkbox"/> Low-flush toilets	_____
<input type="checkbox"/> Efficient HVAC systems	<input type="checkbox"/> Rainwater harvesting	<input type="checkbox"/> Waterless urinals	_____
<input type="checkbox"/> External shading	<input type="checkbox"/> Porous pavement	<input type="checkbox"/> Low-flow faucets	_____

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PLUG LOADS									
Equipment Type	Manufacturer	Model or Size	Total Number	Wattage	Hours of Use per Day	Days of Use per Year	Total kWh	How is Equipment Controlled?	Description, Observations, or Notes
<i>Vending machine</i>									
<i>Computer</i>									
<i>Printer</i>									
<i>Computer Screen</i>									
<i>Refrigerator</i>									

Please specify where you feel there is room for improvement either in efficiency measures or renewable energy technologies:

Please check off the information that is being provided to NREL:

- Copy of utility bills
- Screen shot of EMCS or DDC control system
- Copies of previous energy audit reports
- Copies of action plans or capital improvement plans
- Copies of any M&V plans
- Copies of an O&M contract (if outsourced)
- Copies of nameplates from HVAC and chiller equipment

Building Envelope				
Building Element	Condition (Excellent, Good, Poor)	Type	Observations	Possible Energy Saving Opportunities
<i>Windows</i>				
<i>Doors</i>				
<i>Roof</i>				
<i>Walls</i>				
<i>Floors</i>				

**Operations and Management**

Does the organization have an environmental policy? \_\_\_\_\_

Does the organization have an energy policy? \_\_\_\_\_

Does the organization have an environmental or energy manager? \_\_\_\_\_

Does the organization review these policies on an annual basis and establish reduction targets? \_\_\_\_\_

Do organizational stakeholders or shareholders value environmental and social responsibility? \_\_\_\_\_

**Conversion Table**

To convert from cubic feet (CCF) to million British thermal units (MMBtu), multiply the CCF by 0.1. To convert from therms of natural gas to Btu multiply the therms by 100,000. Other conversions are shown below:

Energy Content of Various Fuels	
1 kilowatt hour of electricity	3,412.14 Btu
1 cubic foot of natural gas	1,008 to 1,034 Btu
1 therm of natural gas	100,000 Btu
1 gallon of crude oil	138,095 Btu
1 barrel of crude oil	5,800,000 Btu
1 gallon of residual fuel oil	149,690 Btu
1 gallon of gasoline	125,000 Btu
1 gallon of diesel	129,500 Btu
1 gallon of ethanol	84,400 Btu
1 gallon of methanol	62,800 Btu
1 gallon of kerosene or light distillate oil	135,000 Btu
1 gallon of middle distillate or diesel fuel oil	138,690 Btu
1 gallon of liquefied petroleum gas (LPG)	95,475 Btu