Energy Audit Data Collection Form

Site Data													
Building Name	Address	Building Square Footage (ft ²)	Age of Buildi (years)	f ng)	Date of Last Major Renovation		Purpose of Building	Number of Floors		ly erational urs (e.g., M- -6, Sa 10-4)	Days of Use per Week	Name of Utility Company	Total Number of Occupants
Organization	al Information												
Name of				Name Contac	of et					Position			
Organization				Contac E-mail	et					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)?_____

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

Building Data				
Floor Name or	Activity Type (e.g., laboratory, executive	Floor Square Footage or %	Number of	Daily Operational Hours
Number	offices, reception, etc.)	of Building Area (ft ² or %)	Occupants	(e.g., M-F 8-6, Sa 10-4)

Annual Utility Co	nsumption										
Building Name											
Month	Electricity (kWh)	Electricity Cost (\$)	Electricity Rate (\$/kWh)	Natural G (MMBtu*	as [:])	Natural Gas Cost (\$)	Natural Ga (\$/MMBtu	us Rate	Water (Gallons)		Water Cost (\$)
Annual Totals											
Electricity Usage (Btu)	Natural Gas Usage (I	Btu)	Total Btu		Energy Use	Intensity (Btu/ft ²	2)	Total Wa	ater	Water	(gallons/ft ²)

*If natural gas is listed on utility bills as CCF or therms, please refer to the conversion table.

Calculate the energy use intensity by converting electricity from kWh to Btu and natural gas from MMBtu into Btu (as shown below), then total these two numbers and divide by the square footage of the building for energy intensity.

• Electricity Usage (Btu)

= Btu

= ____ Btu

= ____ Btu

= Btu/ft^2

- Natural Gas Usage (Btu) •
- = Electricity Btu + Natural Gas Btu

= TOTAL kWh x 3,412.14 Btu/kWh

= TOTAL MMBtu x 1,000,000 Btu/MMBtu

- Total Energy Use (Btu) ٠ ٠
 - = Btu/ft² Energy Use Intensity (Btu/ft²)

Where another fuel type is being used, please explain where and why it is being used:

Amount of the additional fuel type used per year (quantity and units):

More information about identifying bulb types is available in the accompanying guidelines documents.

Lighting								
Floor Name or Number	Location Description (near window, internal office, hallway, etc.)	Lamp Type	Ballast Type	Wattage	Total Number of Lamps	Number of hours lights are left on each day	Total kWh per Day	How are lights controlled?

Heating, Ventilation, and	Air Conditio	oning 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 planne

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:

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

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
Vending machine									
Computer									
Printer									
Computer Screen									
Refrigerator									

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)	Туре	Observations	Possible Energy Saving Opportunities
Windows				
Doors				
Roof				
Walls				
Floors				

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

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