

Electrification Checklist for Home Energy Auditors

This checklist will aid residential energy auditors in assessing opportunities for the electrification of key home systems.

Key systems include space heating, water heating and other fossil fuel-based appliances, as well as readiness for installation of electric vehicle (EV) charging and solar photovoltaic (PV) systems. Many of these end uses provide important opportunities for homeowners to switch from existing fossil fuel-based systems to efficient electric systems. Electrification retrofits provide a host of benefits including financial, health, safety and climate.

The checklist is intended to supplement a traditional home energy audit, which typically assesses the thermal performance of the home (i.e. insulation levels, window efficiency/glazing areas, a blower door test, a duct leakage test, etc.), along with efficiency of primary systems, but ignores comment on the type of fuel used within the home. The checklist is meant to supplement, not replace, existing auditing practices, including those designed by Building Performance Institute, NATE, ACCA, and ASHRAE. As home energy auditors are already in millions of homes a year, this information can easily expand the usefulness, and potential scope, of their work.

Systems to Inspect

This checklist will require the inspection of the following systems:



Space Heating/
Cooling System(s)



Clothes Dryer



Water Heater



Cooking
Appliances



Roof/Property



Electric Panel

Record findings in the following tables.



Space Heating/Cooling System(s)

Heating System(s)

Existing Heating System(s)

- Forced Air Furnace (with ductwork)
- Boiler (with hydronic radiators/baseboard)
- Electric Resistance (baseboard)
- Forced Air Heat Pump
 - Part of Dual Fuel System
 - Standalone
- Ductless Heat Pump
- Other (e.g. woodstove) _____

Rated Voltage

- 120V
- 208V
- 240V

Rated Amps

Rated Wattage

Electric Resistance System Wattage

(If electric resistance is present as primary or supplemental)

Primary: _____ W

Supplemental: _____ W

Existing Heating System Fuel Source(s)

- Natural Gas
- Propane
- Fuel Oil
- Electricity
- Other _____

Age of Heating System

- 1-10 years
- 11-20 years
- 20+ years

Manufacturer

Serial Number

Model Number

Heating Capacity

Heating System Zoning

- Single zone
- Multi-zone

If cooling system is same as heating system described above, skip to Clothes Dryer section

Is the cooling system the same as the heating system? Yes No

Cooling System(s)

Existing Cooling System(s)

- Forced Air Central Air Conditioner (AC)
- Window/Portable AC
- No Cooling Systems
- Forced Air Central Heat Pump
 - Part of Dual Fuel System
 - Standalone
- Ductless AC/Heat Pump

Manufacturer

Serial Number

Model Number

Cooling Capacity

Rated Voltage

- 120V
- 208V
- 240V

Rated Amps

Rated Wattage

Ductwork Inches of Insulation

_____ inches

Age of Cooling System

- 1-10 years 11-20 years 20+ years

Heating/Cooling System Condensate Management (if necessary)

- Floor Drain Condensate Pump

Size of Ductwork (inches, if present)

- Round metal/flex: _____ inch diameter
 Rectangular metal: _____ X _____ inches

Condition of Ductwork (if present)

- Good Satisfactory Poor

Is Ductwork Insulated?

- Yes No

Do Ducts Provide Cooling and Heating, or Heating Only? (if present)

- Heating Only Heating & Cooling Cooling Only

Occupant Feedback on Current System

- Comfortable Uncomfortable

Notes: _____

Captured Photos of Current System(s), Including Nameplate

- Heating Systems Cooling Systems Ductwork



Clothes Dryer

Existing Clothes Dryer

- Standalone Washer/Dryer Combo
 None

Existing Fuel

- Natural Gas Propane Electricity

Manufacturer

Serial Number

Model Number

Drum Capacity

_____ cu. ft.

Is Exhaust Fan Present and Vented to Outdoors?

- Yes No

Rated Voltage

- 120V 208V 240V

Rated Amps

Rated Wattage

Age of Dryer

- 1-10 years 11-20 years 20+ years

Air Volume Surrounding Dryer

- Abundant (at least 750 cubic feet)
 Limited (i.e. in a closet, louvered doors)
 Very Limited (small closet)

Captured Photos of Dryer, Including Nameplate

- Dryer Venting



Water Heater

Existing Water Heater Type

- Storage On-Demand None

Existing Water Heater Fuel

- Natural Gas Electricity
 Propane Other _____

Manufacturer

Serial Number

Model Number

Capacity (if storage)

_____ gallons

Rated Voltage

- 120V 208V 240V

Rated Amps

Rated Wattage

Existing Water Heater Location

Dimensions of Area with Water Heater

Age of Water Heater

- 1-10 years 11-20 years 20+ years

Venting (if fossil fueled)

- Atmospheric Direct

Air Volume Surrounding Water Heater

- Abundant (at least 750 cubic feet)
 Limited (i.e. <750 cubic feet or in a closet, louvered doors)
 Very limited (small closet)

Number of People in Household

- Adults: _____ Children: _____

Temperature Setting

_____ °F

Occupant Feedback on Current Hot Water Supply

- Sufficient Insufficient

Captured Photos of Water Heater, Including Nameplate and Venting

- Water heater Venting

Are Hot Water Pipes Insulated?

- Yes No



Cooking Appliances

Existing Cooking Appliance(s)

- Stove/Oven Combo
- Standalone Stove
- Standalone Oven

Cooking Appliance Fuel(s)

- Natural Gas
- Electricity
- Propane
- Other _____

Dimensions of Cooking Appliance(s)

- Stove/Oven: _____
- Standalone Stove: _____
- Standalone Oven: _____

Cooking Appliance #1

Manufacturer _____ **Serial Number** _____

Model Number

Rated Voltage
 120V 208V 240V

Rated Amps _____ **Rated Wattage** _____

Exhaust Fan Present?
 Yes No

Occupant Feedback on Exhaust Fan Use

Cooking Appliance #2 (if present)

Manufacturer _____ **Serial Number** _____

Model Number

Rated Voltage
 120V 208V 240V

Rated Amps _____ **Rated Wattage** _____

Exhaust Fan Present?
 Yes No

Occupant Feedback on Exhaust Fan Use



Roof/Property

Solar Photovoltaic (PV)

Does Home Already Have a PV System?

- Yes No

If Yes, Provide Size of System

_____ Watts

Orientation of Roof (degrees of true north)

_____ degrees

Identify Best Possible Array Location

- Roof Mounted Location: _____
 Ground Mounted Location: _____
 No Possible Location (e.g. too shady)

Roof Slope (rise/run)

- _____ / _____ Flat Roof

Maximum Allowable Dead Load and Live Load Ratings of Existing Roof

- Dead Load Rating: _____ lbs/sq ft
 Live Load Ratings: _____ lbs/sq ft

Is there Conduit From Appropriate Location on Roof to Electrical Panel?

- Yes No

Captured Photos of Possible Siting Location(s)

- Location: _____

Age of Roof

_____ years

Age of Building

_____ years

Electric Vehicle (EV) Charger

Does Home Already Have EV Charger?

- Yes No

If Yes, Level 1 or 2?

- Level 1 Level 2

If Yes, is it Hard Wired?

- Yes No

Identify Potential Location(s) For a Level 1 Charger

- Garage Driveway Curbside

Identify Potential Location(s) For a Level 2 Charger

- Garage Driveway Curbside

1st Potential Location:

Is there already a junction box or outlet(s) located near the identified location?

- Yes, 120V Yes, 240V No

2nd Potential Location:

Is there already a junction box or outlet(s) located near the identified location?

- Yes, 120V Yes, 240V No

Captured Photos of Possible Siting Location(s)

- Location 1: _____

- Location 2: _____



Electric Panel

Size of Current Panel (circle or fill in)

100A 150A 200A

Other Size _____ A

Number of Breaker Slots (including subpanel)

Currently Used: _____ Total: _____

Surge Protector

Yes No

Age of Panel

_____ years old

Condition of Panel

Good Satisfactory Poor

Captured Photos of Current Panel, Including Nameplate

Panel Nameplate

Captured Copy of 12 Months of Utility Bills

Yes No

Maximum Annual Demand From Utility Bills

_____ (kWh)

For more information on available air-to-air heat pump technologies, contact your local HVAC contractor/distributor and refer to DOE's Better Buildings' Low Carbon Technology Strategies resources.

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