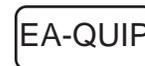
	<p style="text-align: center;">State of Ohio Weatherization Program Standards</p>	Section	APPENDICES AND REFERENCES
		Subject	Symbols, Abbreviations and Definitions

SYMBOLS

Consumer Energy Education - This symbol identifies points in the weatherization process to provide information to the customer regarding the impacts of their behavior on the energy use in the home.



EA-QUIP - This symbol identifies situations where calculations for the Energy Audit using the Queens Information Package are necessary to determine the cost effectiveness of a given retrofit.



Exclamation Point - This symbol indicates a hazard or critical area to examine for situations which could affect the safety or health of the customer or weatherization employee.



MHEA - This symbol identifies situations where calculations for the Mobile Home Energy Audit are necessary to determine the cost effectiveness of a given retrofit.



NEAT - This symbol identifies situations where NEAT calculations are necessary to determine the cost-effectiveness of a given retrofit.



STOP - This symbol indicates when weatherization work cannot start or continue until a particular problem or situation is corrected.



EBM - Electric Baseload Measurements - This symbol identifies sections that are specific to electric baseload measures and to the Electric Partnership Program. Replacement freezers and waterbed covers are not allowable HWAP expenditures.



*ABBREVIATIONS AND DEFINITIONS***- A -****- A -****Abatement**

Abatement - A measure or set of measures designed to permanently eliminate a hazard (i.e. lead based paint). Abatement strategies include removal of the hazardous materials, replacement of building components containing the hazardous material, enclosure or encapsulation. All of these strategies require proper preparation, cleanup, waste disposal post abatement clearance testing, and if applicable, record keeping and monitoring.

Absorption

Absorption - Absorption is the process by which a substance can be readily taken into the body through the skin or membranes. The best defense is to have a protective barrier between the substance and the skin.

ACH50

Air Changes per Hour at 50 Pascals (ACH50) - The number of times that the complete volume of a home is exchanged for outside air in one hour when a blower door depressurizes or pressurizes the home to 50 Pa.

ACHnat

Air Changes per Hour natural (ACHnat) - The number of times the indoor air is exchanged with the outdoor air in one hour under natural driving forces. It can be estimated with blower door use.

air exchange

Air exchange - The process where indoor air is replaced with the outdoor air through air leakage and ventilation. One CFM out equals one CFM in.

air free CO

Air Free CO - A method used to be able to compare CO readings with varying amounts of dilution air mixed in.

air handler

Air handler - A steel cabinet containing a blower with cooling and/or heating coils connected to ducts, which circulates indoor air across the exchangers and into the living space.

air infiltration barrier

Air infiltration barrier - A spun polymer sheet (for example, house wrap) that stops almost all the air traveling through a building cavity, while allowing moisture to pass through it.

AFUE

AFUE - Annual Fuel Utilization Efficiency - A laboratory derived efficiency for heating appliances which accounts for chimney losses, jacket losses, and cycling losses, but not distribution losses or fan/pump energy.

AAMA - Architectural Aluminum Manufacturers' Association **AAMA**

Asbestos - A fibrous mineral with fireproof and insulation characteristics which may be shaped into a variety of building materials. Small, sharp asbestos fibers may cause damage to lungs if they are inhaled. **asbestos**

Ambient air - Air in the living space. **ambient air**

ANSI - American National Standards Institute, Inc. **ANSI**

ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. **ASHRAE**

ASME - American Society of Mechanical Engineers **ASME**

ASTM - American Society for Testing and Materials **ASTM**

Ampere - A unit of measurement that tells how much electricity flows through a conductor. It is like cubic feet per second to measure the flow of water. For example, a 1,200 watt, 120 volt hair dryer pulls 10 amperes of electric current (watts divided by volts). **ampere**

Aquastat - A heating control that switches the burner or the circulator pump in a hydronic heating system. **aquastat**

Atmospheric appliances - A heating device that takes its combustion air from the surrounding room air. Also know as open-combustion heater. **atmospheric appliances**

- B -

- B -

Backdrafting - Continuous spillage of combustion gases from a vented combustion appliance into the living space. **backdrafting**

Backdraft damper - A damper, installed near a fan, that allows air to flow in only one direction and prevents reverse flow when the fan is off. **backdraft damper**

Backer rod - Polyethylene foam rope used as a backer for caulking. **backer rod**

Baffle - A plate or strip designed to retard or redirect the flow of flue gases. **baffle**

balance point	Balance point - The outdoor temperature at which no heating is needed to maintain inside temperatures.
ballast	Ballast - A coil of wire or electronic device that provides a high starting voltage for a lamp and limits the current from flowing through it.
balloon framing	Balloon framing - A method of construction in which the vertical framing members (studs) are continuous pieces running the entire height of the wall.
bandjoist	Bandjoist - See Rim joist.
barometric vent damper	Barometric vent damper - a device installed in the heating unit vent system to control draft. Usually used on oil-fueled units.
base temperature	Base temperature - The outdoor temperature below which heating or above which cooling systems are used.
batt	Batt - A blanket of preformed insulation, generally 14.5" or 22.5" wide and varying in thickness from 3.5" to 9".
belly return	Belly return - A configuration found in some mobile homes that uses the belly cavity as the return side of the distribution system.
BCR	Benefit-to-Cost Ratio (BCR) - See Savings-to-Investment Ratio (SIR).
bimetal element	Bimetal element - A metal spring, lever, or disc made of two dissimilar metals that expand and contract at different rates as the temperature around them changes. This movement operates a switch in the control circuit of a heating or cooling device.
blocking	Blocking - A building element or material used to prevent movement into or through building cavities.
blow-down	Blow-down - Removing water from a boiler to remove sediment and suspended particulates.
blower	Blower - The "squirrel-cage" fan in a furnace or air handler.
blower door	Blower door - A calibrated device to measure the air tightness of a building by pressurizing or depressurizing the building and measuring the flow through the fan.

Blown insulation - A loose-fill insulation that is blown into attics and building cavities using an insulation blowing machine. **blown insulation**

Boot - A duct section that connects between a duct and a register, floor, or wall cavity or between round and square ducts. **boot**

Branch circuit - An electrical circuit used to power outlets and lights within a home. **branch circuit**

Brightness - The luminous intensity of any surface in a given direction per unit of projected area of the surface as viewed in that direction. **brightness**

British Thermal Unit (Btu) - The quantity of heat required at sea level to raise the temperature of one pound of water one degree Fahrenheit. **Btu**

Btuh - British thermal units per hour. **Btuh**

Building cavities - The spaces inside walls, floors, and ceilings or between the interior and exterior sheeting. **building cavities**

Building science - An involved perspective on buildings, using contemporary technology to analyze and solve problems dealing with design, construction, maintenance, safety, and energy efficiency of the buildings. **building science**

BWR - Building Weatherization Report. **BWR**

Burner - A device that facilitates the burning of a fossil fuel like gas or oil. **burner**

Bypass - An air leakage site that allows air to leak out of a building passing around the air barrier and insulation. **bypass**

- C -

- C -

Carbon dioxide (CO₂) - A heavy, colorless, nonflammable gas formed by the oxidation of carbon, by combustion, and in respiration of plants and animals. **Carbon Dioxide**
CO₂

Carbon monoxide (CO) - An odorless, colorless, tasteless, and poisonous gas produced by incomplete combustion. **Carbon Monoxide**
CO

caulking	Caulking - A mastic compound for filling joints and cracks.
cellulose insulation	Cellulose insulation - Insulation, packaged in bags for blowing, made from newspaper or wood waste and treated with a fire retardant.
certified	Certified - Having successfully completed required training courses at the Ohio Weatherization Training Center or equivalent training facility.
chimney	Chimney - A building component designed for the sole purpose of assuring combustion by-products are exhausted to the exterior of the building.
circuit breaker	Circuit breaker - A device that disconnects an electrical circuit from electricity under a specified or abnormal condition of current flow.
CFR	CFR - Code of Federal Regulations.
COP	Coefficient of Performance (COP) - A heat pump or air conditioner's output in watt-hours of heat moved divided by watt-hours of electrical input.
coil	Coil - A snakelike piece of copper tubing surrounded by rows of aluminum fins which clamp tightly to the tubing to aid in heat transfer.
CRI	Color rendering index (CRI) - A measurement of a light source's ability to render colors the same as sunlight. CRI has a scale of 0 to 100.
color temperature	Color temperature - A measurement of the warmth or coolness of a light source in the Kelvin temperature scale.
combustible	Combustible - Susceptible to combustion, inflammable, any substance that will burn.
combustible gas leak detector	Combustible Gas Leak Detector - A device for determining the presence and general location of combustible gases in the air.
combustion	Combustion - The act or process of burning. Oxygen, fuel and a spark must be present for combustion to occur.
combustion air	Combustion air - Air required to chemically combine with a fuel during combustion to produce heat and flue gases, mainly carbon dioxide and water vapor.

Combustion analyzer - A device used to measure steady-state efficiency of combustion heating units.	combustion analyzer
Combustion appliance - Any appliance in which combustion occurs.	combustion appliance
Combustion Appliance Zone (CAZ) - The closed space or area which holds one or more combustion appliances.	CAZ
Combustion chamber - The area inside a heating unit where the flame burns.	combustion chamber
Compact fluorescent light (CFL) - A small fluorescent light engineered to fit conventional incandescent fixtures.	compact fluorescent light
Compressor - A motorized pump that compresses the gaseous refrigerant and sends it to the condenser where heat is released.	compressor
Condense - To change from a gaseous or vaporous state to a liquid or solid state by cooling or compression.	condense
Condenser - The coil in an air conditioning system where the refrigerant condenses and releases heat, which is carried away by air moving across the coil.	condenser
Condensate - The liquid formed when a vapor is condensed.	condensate
Condensate receiver - A tank for catching returning condensate water from a steam heating system.	condensate receiver
Conditioned - Intentionally heated or cooled areas of a building are conditioned.	conditioned
Conductance - The quantity of heat, in Btu, that will flow through one square foot of material in one hour, when there is a one degree Fahrenheit temperature difference between both surfaces. Conductance values are given for a specific thickness of material, not per inch thickness.	conductance
Conduction - The transfer of heat energy through a material (solid, liquid or gas) by the motion of adjacent atoms and molecules without gross displacement of the particles.	conduction
Conductivity - The quantity of heat that will flow through one square foot of homogeneous material, one inch thick, in one hour, when there is a temperature difference of one degree Fahrenheit between its surfaces.	conductivity

confined space	Confined space - A space with a volume of less than 50 cubic feet per 1,000 Btu per hour of the total input rating of all combustion appliances installed in that space.
CEE	CEE - Consumer Energy Education.
contractor	Contractor - Any for-profit, not-for-profit, or government entity that provides services to the program under contract, not as a result of a grant of funds.
control circuit	Control circuit - A circuit whose work is switching a power circuit or opening an automatic valve.
convection	Convection - The transmission of heat by the actual movement of a fluid because of differences in temperature, density, etc.
CDD	Cooling Degree Day.
cooling load	Cooling load - The maximum rate of heat removal required of an air conditioner when the outdoor temperature and humidity are at the highest expected level.
cost-effective	Cost-effective - Having an acceptable payback, return-on-investment, or savings-to-investment ratio.
critical framing juncture	Critical Framing Juncture - An intersection of framing members and envelope components that require special attention during prep and installation of insulation.
cross section	Cross section - A view of a building component drawn or imagined by cutting through the component.
Ccm	Ccm - Cubic feet per centimeter. Used to measure fluid flow.
CFM	CFM - Cubic Feet per Minute - A measurement of air movement in cubic feet past a certain point or through a certain structure per minute.
CFM50	CFM50 - The number of cubic feet per minute of air flowing through the fan housing of a blower door when the house pressure is 50 Pa (0.2 inches of water). This figure is the most common and accurate way of comparing the airtightness of buildings that are tested using a blower door.

CFMnat - The number of cubic feet of air flowing through a house from indoors to outdoors during typical, natural conditions. This figure can be roughly estimated using a blower door using the LBL (Lawrence Berkeley Labs) infiltration model.

CFMnat

- D -

- D -

Degree-days (DD) - A measure of the temperature element of climate produced by summing the temperature differences between the inside (65°F) and the daily average outside temperature for a one year period.

DD

Demand - The peak need for electrical energy. Some utilities levy a monthly charge for demand.

demand

Density - The weight of a material divided by its volume, usually measured in pounds per cubic foot.

density

DOE - The United States Department of Energy.

DOE

Depressurize - To lower the pressure in an enclosed area with respect to a reference pressure.

depressurize

Design temperature - A high or low temperature used for designing heating and cooling systems when calculating the building load.

design temperature

Dew point - The warmest temperature of an object in an environment where water vapor would condense from the surrounding air onto that object.

dew point

Dilution air - Air that enters through the dilution device-an opening where the chimney joins to an atmospheric-draft combustion appliance.

dilution air

Dilution device - A draft diverter or barometric draft control on an atmospheric-draft combustion appliance.

dilution device

Direct Vent Appliance - Appliances that are constructed and installed so that all combustion air is taken directly from and the flue gases are vented directly to the outside.

direct vent appliance

Distribution system - A system of pipes or ducts used to distribute energy.

distribution system

DHW	DHW - Domestic Hot Water
dormer	Dormer - A framed structure projecting above a sloping roof surface, and normally containing a vertical window.
draft diverter	Draft diverter - A device built into an appliance or made a part of the vent connector for an appliance that is designed to: 1) provide for the ready escape of the flue gasses from the appliance in the event of no draft, backdraft, or stoppage beyond the draft hood, 2) prevent a backdraft from entering the appliance, and 3) neutralize the effect of stack action of the chimney or gas vent upon the operation of the appliance.
drywall	Drywall - Gypsum interior wallboard used to produce a smooth and level interior wall surface and to resist fire. Also called gypsum wall board and sheetrock.
dry bulb temperature	Dry bulb temperature - Normal ambient air temperature measured by a thermometer.
duct blower	Duct blower - A blower-door-like device used for testing duct leakiness and air flow.
duct zone	Duct zone - A building space or cavity which contains heating or cooling ducts.
- E -	
eave	Eave - The part of a roof that projects beyond its supporting walls. See also soffit.
efficiency	Efficiency - The ratio of output divided by input.
efficacy	Efficacy - The number of lumens produced by a watt used for lighting a lamp. Used to describe lighting efficiency.
electric service	Electric service - The electric meter and main switch, usually located outside the building.
emittance	Emittance - The rate that a material emits radiant energy from its surface. Also called emissivity.
encapsulation	Encapsulation - Any covering or coating that acts as a barrier between the hazard (i.e. lead-based paint) and the environment, the durability of which relies on adhesion and the integrity of existing bonds between any existing layers (i.e. paint) and the substrate.

Enclosure - The use of rigid, durable construction materials that are mechanically fastened to the substrate to act as a barrier between the hazardous material (i.e. lead-based paint) and the environment.	enclosure
Energy - A quantity of heat or work.	energy
Energy Audit - The process of identifying energy conservation opportunities in buildings.	energy audit
EQ-QUIP - This symbol identifies situations where calculations for the Energy Audit using the Queens Information Package are necessary to determine the cost effectiveness of a given retrofit.	EA-QUIP
Energy consumption - The conversion or transformation of potential energy into kinetic energy for heat, light, electricity, etc.	energy consumption
Energy efficiency - Term describing how efficiently a building component uses energy.	energy efficiency
EEM - Energy efficiency measure.	EEM
Energy efficiency ratio (EER) - A measurement of energy efficiency for room air conditioners. The EER is computed by dividing cooling capacity, measured in British Thermal Units per hour (Btuh), by the watts of power. (See also Seasonal Energy Efficiency Rating-SEER)	EER
Envelope - The building shell. The exterior walls, floor, and roof assembly of a building.	envelope
Environmentally-sensitive - A person who is highly sensitive to pollutants, often because of overexposure, is said to be environmentally sensitive.	environmentally-sensitive
Evaporation - The process of being changed into a vapor or gas, at a temperature below the boiling point. Evaporation is a cooling process.	evaporation
Evaporative cooler - A device for cooling homes in dry climates that cools the incoming air through the evaporation of water.	evaporative cooler
Evaporator - The heat transfer coil of an air conditioner or heat pump that cools the surrounding air as the refrigerant inside the coil evaporates and absorbs heat.	evaporator

exacerbate	Exacerbate - To aggravate or make worse.
exfiltration	Exfiltration - Air flowing out of a building from its conditioned space through the holes in the shell.
- F -	- F -
°F	Fahrenheit - A temperature scale in which water boils at 212° and freezes at 32°.
fan control	Fan control - A bimetal thermostat that turns the furnace blower on and off as it senses the presence of heat.
FS	F.S. - Federal Specifications
feeder wires	Feeder wires - The wires connecting the electric meter and main switch with the main panel box indoors.
fenestration	Fenestration - Window and door openings in a building's wall.
fiberglass	Fiberglass - A fibrous material made by spinning molten glass.
fill tube	Fill tube - A plastic or metal tube used for its stiffness to blow insulation inside a building cavity and allows the insulation to be delivered at the extreme end of the cavity.
FHDA	FHDA - Fir and Hemlock Door Association
fire stop	Fire stop - Framing member, usually installed horizontally between studs, designed to stop the spread of fire within a wall cavity.
firring	Firring - Thin wood strips fastened to a wall or ceiling surface as a nailing base for finish materials.
flame safety control	Flame safety control - A control for avoiding fuel delivery in the event of no ignition.
flammable/ inflammable	Flammable/Inflammable - Combustible; readily set on fire.
flashing	Flashing - Waterproof material used to prevent leakage at intersections between the roof surface at walls or penetrations.

Floor joists - The framing members that support the floor. **floor joists**

Flue - a vent for combustion gases. **flue**

Foamboard - Plastic foam insulation manufactured most commonly in 4' x 8' sheets in thicknesses of 1/2" to 3". **foamboard**

Footcandle - A measure of light striking a surface. **footcandle**

Footing - The part of a foundation system that actually transfers the weight of the building to the ground. **footing**

Frost line - The maximum depth of the soil where water will freeze during the coldest weather. **frost line**

- G -

- G -

Gable - The triangular section of an end wall formed by the pitch of the roof. **gable**

Gable roof - A roof shape that has a ridge at the center and slopes in two directions. **gable roof**

GAMA - Gas Appliance Manufacturers' Association **GAMA**

Gasket - Elastic strip that seals a joint between two materials. **gasket**

Ground Fault Circuit Interrupter (GFI or GFCI) - An electrical connection device which breaks a circuit if a short occurs. These are required for all exterior use of electrical equipment or when an electrical outlet is located near a water source. **GFI/GFCI**

Glazing - Glass installation. Pertaining to glass assemblies or windows. **glazing**

Glazing compound - A flexible, putty-like material used to seal glass in its frame. **glazing compound**

Grantee - A non-profit service provider that has been awarded a grant of funds to operate the Home Weatherization Assistance Program. **grantee**

Gypsum board - A common interior sheeting material for walls and ceilings made of gypsum rock powder packaged between two sheets of heavy building paper. Also called sheetrock, gyprock, or gypboard. **gypsum**

- H -

- H -

hazardous condition	Hazardous condition - A situation which is causing a danger to the client/crew/contractor that either exists prior to, is created by, or is exacerbated by, weatherization. For example, a dwelling could have a moisture problem that is allowing biological hazards (molds, viruses, bacteria, etc.) to flourish. Another example would be allowing fiberglass to enter the living space due to improperly fastened or sealed ductwork.
hazardous material	Hazardous material - A particular substance that is considered to be a danger to the client/crew/contractor.
HHS	HHS - United States Department of Health and Human Services
heat anticipator	Heat anticipator - A very small electric heater in a thermostat that causes the thermostat to turn off before room temperature reaches the thermostat setting, so that the house does not overheat from heat remaining in the furnace and distribution system after the burner shuts off.
heat capacity	Heat capacity - The quantity of heat required to produce a unit of temperature change.
heat exchanger	Heat exchanger - The area in a heating unit that separates the combustion process from the distribution fluid with the sole purpose of transferring heat from the combustion process to the distribution fluid.
heat loss	Heat loss - The amount of heat escaping through the building shell during some period of time like a month or year.
heat pump	Heat pump - A type of heating unit, usually electric, which uses a refrigerant fluid to produce heat.
heat rise	Heat rise - The number of degrees of temperature increase that air is heated as it is blown over the heat exchanger. Heat rise equals supply temperature minus return temperature.
HDD	Heating degree day (HDD)- Each degree that the average daily temperature is below the base temperature (usually 65°F) constitutes one heating degree day.

Heating load - The maximum amount of heat needed by a building during the very coldest weather to maintain the designed inside temperature. **heating load**

Heating seasonal performance factor (HSPF) - Rating for heat pumps describing how many Btus they transfer per kilowatt-hour of electricity consumed. **HSPF**

HVAC - Heating, Ventilating, Air-Conditioning **HVAC**

High limit - A bimetal thermostat that turns the heating element of a furnace off if it senses a dangerously high temperature. **high limit**

Hip Roof - A roof that slants in four directions from a central peak. **hip roof**

Home energy index - The number of Btus of energy used by a home divided by its area in square feet, then divided by the number of heating degree days during the time period. **home energy index**

HVI - Home Ventilating Institute **HVI**

HWAP - Home Weatherization Assistance Program **HWAP**

House pressure - The difference in pressure between the inside and outside of the house. **house pressure**

HUD - United States Department of Housing and Urban Development **HUD**

Humidistat - An automatic control that switches a fan, humidifier, or dehumidifier on and off based on the relative humidity at the control. **humidistat**

Humidity ratio - The absolute amount of air's humidity measured in pounds of water vapor per pound of dry air. **humidity ratio**

Hydronic - A heating system using hot water or steam as the heat-transfer fluid. A hot-water heating system (common usage). **hydronic**

- I -

- I -

Illumination - The light level measured on a horizontal plane in footcandles. **illumination**

incandescent light	Incandescent light - The common light bulb found in residential lamps and light fixtures and sold in stores everywhere that is known for its inefficiency.
IAQ	IAQ - Indoor Air Quality
infiltration	Infiltration - The uncontrolled movement of non-conditioned air into a conditioned air space.
infrared	Infrared - Pertaining to heat rays emitted by the sun or warm objects on earth.
ingestion	Ingestion - Ingestion is the process by which a substance enters the body by swallowing through the mouth. The best defense is to wash your hands before eating or putting your fingers in your mouth, keeping hazardous materials out of reach from small children, and guarding against splashing of hazardous materials into your mouth.
inhalation	Inhalation - Inhalation is the process by which a substance is breathed into the body in the form of a gas, vapor, fume, mist, or dust. The best defense is to use a proper filter to remove these contaminants before they enter the body or to not create dust if possible.
input rating	Input rating - The designed capacity of an appliance usually specified in Btus or units of energy.
insulating glass	Insulating glass - Two or more glass panes spaced apart and sealed in a factory giving a higher R-value.
insulation	Insulation - A material used to retard heat transfer.
IID	Intermittent ignition device (IID)- A device that lights the pilot light on a gas appliance when the control system calls for heat, thus saving the energy wasted by a standing pilot.
internal gains	Internal gains - The heat generated by bathing, cooking, and operating appliances that must be removed during the summer to promote comfort or will reduce the heating demand in the winter.
interstitial	Interstitial - Space between framing and other building components.

- J -

Joist - A horizontal wood framing member that supports a floor or ceiling.

joist

Joule - A unit of energy. One thousand joules equals 1 Btu.

joule

- J -

- K -

Kilowatt - One thousand watts. A unit of measurement of the amount of electricity needed to operate given equipment.

kilowatt (kW)

Kilowatt-hour - The most commonly used unit of measure telling the amount of electricity consumed over time. It means one kilowatt of electricity supplied for one hour.

kilowatt hour (kWh)

Kinetic energy - Consisting of or depending on motion; distinguished from potential energy.

kinetic energy

- L -

Lamp - A light bulb.

lamp

Latent heat - The amount of heat required to change the state of a substance from a solid to a liquid or from a liquid to a gas without changing the temperature of the substance.

latent heat

Lath - A thin strip of wood or base of metal or gypsum board serving as a support for plaster.

lath

Light quality - Good light quality is characterized by absence of glare and low brightness contrast.

light quality

Low-water cutoff - A float-operated control for turning the burner off if a steam boiler is low on water.

low-water cutoff

Lumen - A unit of light output from a lamp.

lumen

Low-E - Short for low emissivity, which means the characteristic of a metallic glass coating to resist the flow of radiant heat.

low-e

- L -

- M -

Main panel box - The service box containing a main switch, and the fuses or circuit breakers located inside the home.

main panel box

- M -

major gas leak	Major gas leak - A gas leak that is detectable by the human nose.
make-up air	Make-up air - Air supplied to a space to replace exhausted air.
manifold	Manifold - A tube with one inlet and multiple outlets or multiple inlets and one outlet.
manometer	Manometer - A pressure differential gauge used for measuring gas and air pressures.
MHEA	MHEA - Manufactured Housing Energy Audit, developed by DOE for HWAP. Used to audit mobile homes.
masonry	Masonry - Construction of stone, brick, or concrete block.
mastic	Mastic - A thick creamy substance used to seal seams and cracks in building materials and especially useful on ductwork.
MSDS	MSDS - Materials Safety Data Sheet
metabolic process	Metabolic process - Chemical and physiological activities in the human body.
minor gas leak	Minor gas leak - A gas leak that is detectable only with the use of sensitive gas detection equipment.
mitigate	Mitigate - To make less severe. To mollify.
mobile home	Mobile Home. See manufactured home.
manufactured home	Manufactured Home A manufactured home is built on a steel undercarriage with a necessary wheel assembly, to be transported to a permanent or semi-permanent site. The wheel assembly can be removed when the house is placed on a permanent foundation, but the steel undercarriage remains intact as a necessary structural component.
modular home	Modular Home A modular home is made of large prefabricated units that are assembled at the final site. Although a modular home can be transported on a steel undercarriage, the undercarriage is not a permanent and necessary structural component and is usually removed when the home is placed on a permanent foundation.

Mortar - A mixture of sand, water, and cement used to bond bricks, stones, or blocks together. **mortar**

- N -

- N -

NBS - The National Bureau of Standards, Department of Commerce renamed the National Institute of Standards and Technology (NIST). **NBS**

NEMA - National Electrical Manufacturers' Association **NEMA**

NEAT - National Energy Audit, developed by DOE for HWAP. Used to audit single-family and low-rise multi-family buildings. **NEAT**

NFPA - National Fire Protection Association **NFPA**
NWMA - National Woodwork Manufacturers Association **NWMA**

Net Free Vent Area (NFVA) - The area of a vent after that area has been adjusted for the restrictions caused by insect screen, louvers and weather coverings. The free area is always less than the actual area. **NFVA**

Natural ventilation - Ventilation using only natural air movement, without fans or other mechanical devices. **natural ventilation**

Non-conditioned space - An area within the building envelope that is not intentionally heated and tends to be the same temperature as outside. **non-conditioned area**

Nozzle - An orifice designed to change a liquid like oil into a mist to improve the combustion process. **nozzle**

- O -

- O -

OEE - Ohio Department of Development's Office of Energy Efficiency. **OEE**

ODOD - Ohio Department of Development. **ODOD**

Ohm - A unit of measure of electrical resistance. One volt can produce a current of one ampere through a resistance on one ohm. **ohm**

orifice Orifice - A hole in a gas pipe where gas exits the pipe to be mixed with air in a burner before combustion in a heating device. The size of the orifice will help determine the flow rate.

output capacity Output capacity - The conversion rate of useful heat or work that a device produces after waste involved in the energy transfer is accounted for.

O₂ O₂ - Oxygen

ODS Oxygen Depletion Sensor (ODS) - A safety device for unvented combustion heaters that shuts off gas when oxygen is depleted.

- P -

- P -

ppm Parts per million (ppm) - The unit commonly used to represent the degree of pollutant concentration where the concentrations are small.

Pa Pascal (Pa) - A metric unit of measurement of air pressure. 2.5Pa = 0.01 inches of water column.

payback period Payback period - The number of years that an investment in energy conservation will take to repay its cost in energy savings.

PMI PMI - Per manufacturer's instructions.

perimeter pull Perimeter Pull - A technique used in attics previously insulated with batt insulation. The batts are cut back 2 feet from the eaves and the area is insulated with blown insulation to ensure coverage over the outer wall top plate and to prevent wind washing of the insulation under the existing batts.

perlite Perlite - A heat-expanded mineral used for insulation.

perm Perm - A measurement of how much water vapor a material will let pass through it per unit of time.

pitot tube Pitot Tube - A device for measuring fluid velocity: an instrument placed in a moving fluid and used along with a manometer to measure fluid velocity.

Plaster - A plastic mixture of sand, lime, and portland cement spread over wood or metal lathe to form the interior surfaces of walls and ceilings.	plaster
Plate - A piece framing member installed horizontally to which the vertical studs in a wall frame are attached.	plate
Plenum - The section of ductwork that connects the air handler to the main supply duct.	plenum
Plywood - Laminated wood sheeting with layers cross grained to each other.	plywood
PAC - Policy Advisory Committee is a group of advisors that oversee the operation of the HWAP.	PAC
Polyethylene - A plastic made by the polymerization of ethylene, used in making translucent, lightweight, and tough plastics, films, insulations, vapor retarders, air barriers, etc.	polyethylene
Polyisocyanurate - A plastic foam insulation sold in sheets, similar in composition to polyurethane.	polyisocyanurate
Polystyrene insulation - A rigid plastic foam insulation, usually white, blue, pink or green in color.	polystyrene insulation
Polyurethane - A versatile plastic foam insulation, usually yellow in color.	polyurethane
Potential energy - Energy in a stored or packaged form.	potential energy
Pressure - A force that encourages movement by virtue of a difference in some condition between two areas. High pressure moves to low pressure.	pressure
Pressure diagnostics - The practice of measuring pressures and flows in buildings to control air leakage, and also to ensure adequate heating and cooling air flows and ventilation.	pressure diagnostics
Pressure pan - A device used to block a duct register, while measuring the static pressure behind it.	pressure pan
Pressure Relief Valve - A safety component required on a HWT, designed to relieve excess pressure buildup in the tank.	pressure relief valve

pressuretrol Pressuretrol - A control that turns a steam boiler's burner on and off as steam pressure changes.

prime window Prime window - The main window installed on the outside wall. Not to be confused with a storm window.

provider Provider - Either a grantee or contractor.

- R -

- R -

R-value R-value - A measurement of thermal resistance.

radiant barrier Radiant barrier - A foil sheet or coating designed to reflect radiant heat flow. Radiant barriers are not insulating materials.

radiant temperature Radiant temperature - The average temperature of objects in a home like walls, ceiling, floor, furniture, and other objects.

radiation Radiation - Heat energy that is transferred by electromagnetic or infrared light from one object to another. Radiant heat flow can travel through a vacuum.

radon Radon - A radioactive gas that decomposes into radioactive particles.

rafter Rafter - A beam that gives form and support to a roof.

rated ventilation Rated ventilation - A ventilation system that has been designed and installed under the guidelines established by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) or guidance in the WPS.

reflectance Reflectance - The ratio of lumenation or radiant heat reflected from a given surface to the total light falling on it. Also called reflectivity.

refrigerant Refrigerant - Any of various liquids that vaporize at a low temperature, used in mechanical refrigeration.

register Register - A grill covering a duct outlet used to diffuse the air flow and sometimes control the flow.

Relative humidity - The percent of moisture present in the air compared to the maximum amount possible at that given temperature. Air that is saturated has 100% relative humidity.	relative humidity
Relay - An automatic, electrically-operated switch.	relay
Removal - A complete withdrawal of the hazardous material from the dwelling.	removal (hazard)
Reset controller - Adjusts fluid temperature or pressure in a central heating system according to outdoor air temperature.	reset controller
RCS - Residential Conservation Service Program	RCS
Resistance - The property of a material resisting the flow of electrical energy or heat energy.	resistance
Retrofit - An energy conservation measure that is applied to an existing building. Also means the action of improving the thermal performance or maintenance of a building.	retrofit
Return air - Air circulating back to the furnace or central air conditioning unit from the house, to be heated or cooled and supplied back to the living area.	return air
Rim joist - The outermost joist around the perimeter of the floor framing.	rim joist
Room air conditioner - A unitary air conditioner installed through a wall or window, which cools the room by removing heat from the room and releasing it outdoors.	room air conditioner
- S -	
Sash - A movable or stationary part of a window that frames a piece of glass.	sash
Saturation - Describing air at 100% relative humidity or dry steam.	saturation
Savings-to-Investment Ratio (SIR)- Measures how many times an energy retrofit pays for itself during its lifetime and includes discounting the investment value and escalations in fuel costs.	SIR

sealed combustion appliance	Sealed-combustion appliance - An appliance that draws combustion air from outdoors and has a sealed exhaust system.
SEER	Seasonal energy efficiency ratio (SEER) - A measurement of energy efficiency for central air conditioners. The SEER is computed by dividing cooling capacity, measured in Btuh, by the watts. (See also Energy Efficiency Rating.)
sensible heat	Sensible heat - The heat required to change the temperature of a material without changing its form.
sequencer	Sequencer - A bimetal switch that turns on the elements of an electric furnace in sequence.
service wires	Service wires - The wires coming from the utility transformer to the service equipment of the building.
sheathing	Sheathing - A structural sheeting, attached on top of the framing, underneath siding and roofing of a building. Any building material used for covering a building surface.
sheetrock	Sheetrock - See drywall.
shell	Shell - The building's exterior envelope—walls, floor, and roof of a building.
shingle	Shingle - A modular roofing component installed in overlapping rows.
short circuit	Short circuit - A dangerous malfunction in an electrical circuit, where electricity is flowing through conductors and into the ground without going through an electric load, like a light or motor.
sill	Sill - The bottom of a window or door frame.
sill box	Sill box - The area bounded by the rim joist, floor joists, sill plate, and floor.
sling psychrometer	Sling psychrometer - A device holding two thermometers, one wet and one dry, that is slung through the air to measure relative humidity.
slope	Slope - The roof section of a kneewall attic with the roof and ceiling surfaces attached to the rafters.

Soffit - The underside of a roof overhang or a small lowered ceiling, as above cabinets or a bathtub.	soffit
Solar gain - Heat from the sun that is absorbed by a building and contributes to the need for cooling in the summer and less heating in the winter.	solar gain
Solenoid - A magnetic device that moves a switch or valve stem.	solenoid
Space heating - Heating the living spaces of the home with a room heater or central heating system.	space heating
Spillage - Temporary flow of combustion gases from a dilution device.	spillage
Stack effect - The tendency for warm buoyant air to rise and leak out of the top of the house and be replaced by colder outside air entering from the bottom of the house.	stack effect
Standing losses - Losses from a hot water storage tank through its shell.	standing losses
Steady-state efficiency (SSE) - The efficiency of a heating appliance, after an initial start-up period, that measures how much heat crosses the heat exchanger. The steady-state efficiency is measured by a combustion analyzer.	SSE
Steam trap - An automatic valve that closes to trap steam in a radiator until it condenses.	steam trap
Steam vent - A bimetal-operated air vent that allows air to leave steam piping and radiators, but closes when exposed to steam itself.	steam vent
SDI - Steel Door Institute	SDI
Stud - A vertical framing member used to build a wall.	stud
Subfloor - The sheathing over the floor joists and under the flooring.	subfloor
Supply air - Air that has been heated or cooled and is then moved through the ducts and out the supply registers of a home.	supply air

suspended ceiling Suspended ceiling - Modular ceiling panels supported by a hanging frame.

- T -

- T -

therm Therm - A unit of energy equalling 100,000 Btus or 29.3 kilowatt-hours.

thermal break Thermal break - A piece of relatively low conducting material between two high conducting materials installed to reduce heat flow through the assembly.

thermal bridging Thermal bridging - Rapid heat conduction resulting from direct contact between very thermally conductive materials like metal and glass.

thermal bypass Thermal bypass - An indirect penetration that tends to reduce the effectiveness of insulation by allowing conditioned air to move out of a structure, or allowing unconditioned air to move in, depending on the pressures exerted on it.

thermal conductance Thermal conductance - A material's ability to transmit heat; the inverse of the R-value.

thermal resistance Thermal resistance - Same as R-value, expressing ability to retard heat flow.

thermocouple Thermocouple - A bimetal-junction electric generator used to keep the safety valve of an automatic gas valve open.

thermostat Thermostat - A device used to control a heating or cooling system to maintain a set temperature.

transformer Transformer - A double coil of wire that reduces or increases voltage from a primary circuit to a secondary circuit.

transition duct Transition duct - Transition ducts are used to connect the dryer to the exhaust duct and shall be listed for that application or installed in accordance with the clothes dryer manufacturer's installation instructions.

truss Truss - A braced framework usually in the shape of a triangle to form and support a roof.

- U -

U-value - The total heat transmission in Btus per square feet per hour with a 1°F temperature difference between the inside and the outside; the thermal conductance of a material.

Ultraviolet radiation - Light radiation having wavelengths beyond the violet end of the visible spectrum; high frequency light waves.

Underlayment - Sheeting installed to provide a smooth, sound base for a finish material.

UL - Underwriter's Laboratory
 Unintentionally conditioned space - Areas in a building that are not intentionally heated but are heated indirectly by internal heat gain from the heating unit, duct or heat distribution losses, or other unintended heat loss.

- U -

U-value

ultraviolet radiation

underlayment

UL
unintentionally conditioned space

- V -

Vapor barrier - A material that retards the passage of water vapor.

Vapor diffusion - The flow of water vapor through a solid material.

Vapor diffusion retarder - A vapor barrier.

Vaporize - Change from a liquid to a gas.

Vent damper - An automatic damper powered by heat or electricity that closes the chimney while a heating device is off.

Ventilation - The movement of air through an area for the purpose of removing moisture, air pollution, or unwanted heat.

Venting - The removal of combustion gases by a chimney.

Vermiculite - A heat-expanded mineral used for insulation.

- V -

vapor barrier

vapor diffusion

vapor diffusion retarder

vaporize

vent damper

ventilation

venting

vermiculite

volt	Volt - A unit of electromotive force. It is the amount of force required to drive a steady current of one ampere through a resistance of one ohm. Electrical systems of most homes have 120 volts.
- W -	- W -
wc"	WC" - Water Column, Inches of, a measure of pressure in fluids.
watt	Watt (W) - A unit measure of electric power at a point in time, as capacity or demand. One watt of power maintained over time is equal to one joule per second.
watt-hour	Watt-hour - One watt of power extended for one hour. One thousandth of a kilowatt hour
weatherization	Weatherization - The process of reducing energy consumption and increasing comfort in buildings by improving energy efficiency of the building and maintaining health and safety.
WPS	WPS - Weatherization Program Standards. Inspection, installation and materials standards developed for use in the Ohio Home Weatherization Assistance Program.
weatherstripping	Weatherstripping - Flexible gaskets, often mounted in rigid metal strips, for limiting air leakage.
weep holes	Weep holes - Holes drilled for the purpose of allowing water to drain out of an area in a building component where it may accumulate.
wet-bulb temperature	Wet-bulb temperature - The temperature of a dampened thermometer of a sling psychrometer used to determine relative humidity.
window films	Window films - Plastic films, coated with a metalized reflective surface, that are adhered to window glass to reflect heat rays from the sun.
window frame	Window frame - The sides, top, and sill of the window which forms a box around window sashes and other components.

WRT - “With reference to” used to show that the air pressures between two areas are being compared.

WRT

Worst-case depressurization test - A safety test, performed by specific procedures, designed to assess the probability of chimney backdrafting.

worst-case draft