A

ASHRAE (American Society of Heating, refrigerating, and air-conditioning engineers): a professional organization that provides standards and guidelines for HVAC systems and energy efficiency in buildings.

B

Benchmarking: the process of comparing a facility's energy performance against similar buildings or industry standards to identify areas for improvement. A process for describing the energy performance of a building at a point in time and for comparing that performance with similar buildings.

Building envelope: the physical separator between the interior and exterior of a building, including walls, roof, windows, and doors. The physical barrier between the interior and exterior of a building, including walls, roof, windows, and foundation.

C

Commissioning: a quality-focused process to ensure that building systems are designed, installed, tested, and operated according to the owner's project requirements. A quality assurance process that ensures building systems are designed, installed, and operate according to the owner's project requirements.

Condensing boiler: a high-efficiency boiler that recovers latent heat from the flue gases to increase efficiency, resulting in greater fuel savings.

D

Daylighting: the practice of using natural light from the sun to illuminate building interiors, reducing the need for artificial lighting and saving energy. A system that maximizes the use of natural light to reduce the need for artificial lighting.

DCV (demand control ventilation): a system that adjusts ventilation rates based on occupancy levels or air quality parameters, reducing energy consumption by supplying only the required amount of fresh air. An HVAC strategy that adjusts ventilation rates based on occupancy levels, reducing energy waste.

Deep retrofit: comprehensive building upgrades that aim to achieve significant energy savings, typically greater than standard retrofits.

Dedicated outdoor air system (DOAS): an HVAC system that delivers 100% outside air for ventilation, separately from space conditioning, improving energy efficiency and air quality.

Decarbonization: the process of reducing carbon emissions, typically through the transition from fossil fuels to renewable energy sources.

Designed retrofit: a comprehensive upgrade approach involving significant changes to a system design to optimize overall performance and energy efficiency.

Direct replacement retrofit: replacing existing equipment or components with more energy-efficient alternatives without significant changes to the overall design.

Domestic hot water (DHW): the supply of heated water for non-heating uses such as showering, washing dishes, etc.

E

EBCx (existing building commissioning): a commissioning process focused on optimizing the performance of existing building systems to achieve improved operational efficiency and energy savings. A systematic process for optimizing the performance of existing building systems. A process to optimize the performance of existing building systems through analysis, adjustments, and improvements, often focusing on O&M measures.

ECM (energy conservation measure): actions taken to reduce energy use, like improved insulation or more efficient appliances.

Energy audit: a systematic assessment of a building's energy consumption to identify areas of potential energy savings and recommend improvements. A detailed assessment of a facility's energy consumption patterns to identify opportunities for improvement. A systematic evaluation of a building's energy use that identifies potential opportunities for improvement.

EEM (energy efficiency measure): specific actions or technologies implemented to reduce energy consumption in a building or process.

Energy star: a government-backed symbol for energy efficiency.

ESCO (energy service company): a company that provides comprehensive energy efficiency solutions, often with performance-based contracts.

EUI (energy use intensity): a metric used to evaluate a building's energy performance, expressed as the energy consumed per square foot per year(e.g., kWh per square foot per year or kBtu per square foot per year).

H

Heat pump: a mechanical device that transfers heat from one place to another, used for both heating and cooling.

Heat transfer: the movement of thermal energy between objects or systems due to temperature differences via conduction, convection, or radiation.

HVAC (heating, ventilation, and air conditioning): systems that control the indoor environment, ensuring comfort and air quality. Heating, ventilation, and air conditioning systems, which consume a significant portion of energy in healthcare facilities. Systems that provide thermal comfort and indoor air quality in buildings. Systems used to control the indoor climate of buildings.

I

IPMVP (international performance measurement and verification protocol): a standard for determining and reporting energy savings.

L

LED (light emitting Diode): a highly energy-efficient lighting technology that uses semiconductors to convert electricity into light. Light-emitting diode, a highly efficient lighting technology that has become the standard for most applications.

Lighting efficacy: a measure of light output per unit power input, expressed in lumens per watt (lm/W).

M

M&V (measurement and verification): the process of determining the actual energy savings achieved by implementing energy conservation measures compared to baseline consumption. The process of quantifying and confirming the actual energy savings achieved by a project or efficiency measure. The process of measuring and verifying energy savings after the implementation of energy conservation measures.

Modulating boiler: a boiler that adjusts its output to match the heating load, optimizing efficiency.

MURB (multi-unit residential building): a building with multiple separate residential units, such as apartments or condominiums.

N

Net present value (NPV): the difference between the present value of cash inflows and the present value of cash outflows over a period of time. NPV is used in capital budgeting and investment planning to analyze the profitability of a projected investment or project. A financial metric used to evaluate the profitability of a project by calculating the present value of future cash flows, often used for choosing between various project options. A financial metric used to analyze the profitability of a project by calculating the difference between the present value of cash inflows and the present value of cash outflows.

O

O&M (operations and maintenance): routine activities and repairs to ensure equipment, systems, and buildings function optimally over time. Regular activities undertaken to ensure building systems are operating efficiently and reliably over the long term. Activities involved in the day-to-day operations and upkeep of building systems.

P

Passive survivability: a building's ability to maintain habitable conditions during extreme weather events without relying on mechanical heating, ventilation and cooling systems.

Performance contract: a financial arrangement where a company implements energy-saving measures and is paid based on the actual energy savings achieved, typically by an ESCO.

Rainscreen wall: a type of exterior wall designed to shed water and manage moisture through a layered system.

R

Renewable energy: energy that comes from sources that are naturally replenished, such as solar, wind, and geothermal.

Retrofit: the act of upgrading or modifying existing building systems or components to improve energy efficiency.

Rooftop unit (RTU): a self-contained heating and cooling unit installed on the roof of a building.

RSI-value: RSI-Value is the metric system unit of measurement (m2·K/W) of a material's thermal resistance. To convert an RSI-Value to an R-Value, multiply the RSI-Value by 5.678.

S

SHGC (solar heat gain coefficient): a measure of how much solar heat passes through a window or glazing material.

Simple payback period: the amount of time required for a project's cumulative cash savings to equal its initial cost.

Split incentive: a situation in landlord/tenant relationships where one party pays for upgrades and another reaps the rewards of the savings, potentially creating a barrier to energy efficiency.

Sub-metering: the process of measuring and billing individual units for their specific energy or water use.

T

Thermal autonomy: a measure of the fraction of time a building can maintain comfortable temperatures using passive design and without active HVAC systems.

Thermal Bridging: when a material conducts heat more easily than surrounding materials, creating heat loss or gain pathways.

U

U-factor (U-value): a measure of the rate of heat transfer through a window, door, or other building assembly. With lower U-factors indicating better insulation and reduced heat transfer.

V

Vapor barrier: a material that prevents moisture from moving through walls or ceilings, also known as an air barrier.

VAV (variable air volume): an HVAC system that varies the flow of supply air based on the needs of each zone based on heating and cooling demand, thus reducing fan energy.

VFD (variable frequency drive): an electronic device used to control the speed of electric motors, often used to optimize the operation of pumps and fans, reducing energy consumption.

VRF (variable refrigerant flow): an HVAC technology that uses refrigerant to provide heating or cooling to multiple zones independently.

W

Whole-building approach: a method of looking at building energy systems by evaluating all of the interconnected parts and focusing on maximizing overall performance and efficiency.

Window-to-wall ratio (WWR): the percentage of a building's exterior wall area that is comprised of windows.