What is an Energy Audit?

An energy audit is a systematic evaluation of a residential property's energy consumption and efficiency. It involves analysing how energy is used, identifying areas of energy loss, and recommending measures to improve energy performance. The process typically includes an inspection of the building envelope, heating and cooling systems, insulation, lighting, and appliances.

Energy audits are critical in the UK house building, residential retrofit, and home renovation sectors, as they help homeowners and builders comply with Building Regulations, particularly Part L (Conservation of Fuel and Power). The audit provides actionable insights to reduce energy bills, enhance comfort, and lower carbon emissions.

Synonym(s): Home Energy Assessment, Energy Performance Evaluation

Practical Examples:

1. **Retrofit Projects:** In a Victorian terrace house, an energy audit might reveal poor loft insulation and draughty windows. Recommendations could include upgrading insulation and installing double-glazed windows to meet modern energy standards.
2. **New Builds:** For a new housing development, an energy audit ensures compliance with Part L1A of the Building Regulations, focusing on airtightness and efficient heating systems.
3. **Extensions:** When adding a conservatory, an audit might suggest using energy-efficient glazing and integrating it with the home's heating system to avoid energy wastage.

Related Terms:

1. **Building Envelope:** The physical separator between the conditioned and unconditioned environment of a building, including walls, roofs, and windows.
2. **Airtightness:** The measure of how well a building prevents uncontrolled air leakage, critical for energy efficiency.
3. **U-Value:** A measure of heat transfer through a building element, with lower values indicating better insulation.
4. **EPC (Energy Performance Certificate):** A document that rates a property's energy efficiency on a scale from A to G.
5. **Retrofit:** The process of upgrading existing buildings to improve energy efficiency and performance.
6. **Part L (Building Regulations):** UK regulations governing the conservation of fuel and power in buildings.
7. **Renewable Energy Systems:** Technologies like solar panels or heat pumps that generate energy from renewable sources.