

ENERGY AUDIT QUICK CHECKLIST

Answers to these questions should be found or asked for quick assessment of the status of energy efficiency

a) Lighting:-

- ◆ Is your facility using the most energy efficient lighting options (fluorescent mercury vapor, etc.)?
- ◆ Are there areas that have excessive or unneeded lighting?
- ◆ Are you making effective use of available lighting, such as natural sunlight?
- ◆ Have you installed lighting management equipment such as dimmers, timers and sensors?

b) Building Envelope:-

- ◆ Is the building well insulated?
- ◆ Does weather stripping around doors and windows need to be replaced?
- ◆ Are cracks around doors, windows and foundations properly sealed?
- ◆ Are there open doors around loading docks or other frequently accessed areas?

c) Heating and Cooling:-

- ◆ Are furnaces, boilers and air conditioning systems operating efficiently?
- ◆ Is there a regular maintenance and update schedule for these systems?
- ◆ Are filters replaced regularly?
- ◆ Is the building properly ventilated?

d) Motors and Equipment:-

- ◆ Is your equipment maintained so that it is operating at maximum efficiency?
- ◆ Is equipment load compatible with manufacturer specifications?
- ◆ Are machines shut down when not in use?
- ◆ Are fan belts at the proper tension and in good condition?

e) Energy Behavior:-

- ◆ Are lights, fans and equipment (computer, printers, etc.) turned off when not in use?
- ◆ Are building temperatures set back when not in use?
- ◆ Are thermostats set to higher or Lower than necessary in summer and winter?
- ◆ After finding answers to the check list and identifying areas of improvement, following possibilities maybe explored as energy conservation measures.

Lighting:-

- ◆ Reduce Hours of Operation.
 - Occupancy Sensors, Photocells, Central Control.
- ◆ Reduce Capacity of Equipment.
 - Delamping, Reflectors.
- ◆ Reduce Load or Equipment Capacity Requirements.
 - Day lighting.
- ◆ Reduce Energy Cost.
 - Base demand load reduction.
- ◆ Increase Efficiency
 - T-12 to T-8
 - Incandescent to Fluorescent
 - Reflectors
 - Dimmers

Building envelope:-

- ◆ Insulation
 - Insulation of roof & walls.
- ◆ Glass modifications:-
 - Use of permanent/movable shading on glass
 - Changing to low solar heat gain glass, insulating (low U-value) glass
- ◆ Reduce air Leakage:-
 - air lock entry
 - plugging all leakages

Heating:-

- ◆ Reduce Hours of Operation:-
 - Automated Controls.
- ◆ Reduce Capacity of Equipment:-
 - Size to meet actual load
- ◆ Reduce Load or Equipment Capacity:- Requirements
 - Insulation
 - Infiltration reduction
- ◆ Reduce Energy Cost:-
 - Fuel Switch
 - Rate Switch
 - Direct Purchase Gas
- ◆ Increase Efficiency:-
 - High Efficiency Boilers

- High Efficiency Furnaces

Air Conditioning

- ◆ Reduce Hours of Operation:-
 - Automated Controls
 - Economizer
- ◆ Reduce Capacity of Equipment:-
 - Size to meet actual load
 - Chiller Loop
- ◆ Reduce Load or Equipment Capacity:-
Requirements.
 - Insulation.
 - Infiltration reduction.
- ◆ Reduce Energy Cost:-
 - Rate Switch.
 - Thermal Storage.
- ◆ Increase Efficiency:-
 - High Efficiency Chillers.
 - Variable speed tower fans.
 - Geothermal Heat pumps.

Fans and Pumps:-

- ◆ Reduce Hours of Operation:-
 - Automated Controls.
- ◆ Reduce Capacity of Equipment:-
 - Size to meet actual load requirements.
- ◆ Reduce Load or Equipment Capacity:-
Requirements.
 - Insulation.
 - Infiltration reduction.
- ◆ Reduce Energy Cost:-
 - Reduce base demand load through right sizing fans and pumps.
- ◆ Increase Efficiency:-
 - CAV to VAV conversion.
 - CP to VP conversion.