



S4i Energy Audit Overview

Initially, we conduct a free pre-evaluation, and generally evaluate whether the facility requires our services. After analysis, a full and comprehensive assessment would follow where we will have the following:

1. *Complete Building and Facility Mapping*
 - a. 3D modeling and simulation (from AutoCAD)
 - b. Identification of stagnant air and recirculating areas
 - c. Optimization of building orientation, façade design and window opening/closing strategy
 - d. Facility Heat distribution and air movements
 - e. Dynamic thermal, solar shading, bulk airflow, daylight and CFD simulation
 - f. Daylight analysis and solar shading
2. *Lighting*
 - a. Measure all light levels and optimize for efficient usage by area and rooms
 - b. Lighting system retrofits and replacements
 - c. Identify areas of opportunity
3. *Heating Ventilation and Cooling (HVAC)*
 - a. Measure effectiveness of HVAC equipment and systems
 - b. Identify areas of opportunity
4. *Electrical Systems*
 - a. Conduct complete thermal imaging on major electrical equipment, connections, and systems for correction and preventive measures
 - b. Audit and report on all major equipment, motors, and electrical systems for the facility
 - c. Optimize HILLO recharge for optimum rate charge and operation
 - d. Chiller operation optimization
5. *Other*
 - a. Electric billing verification
 - b. Air compression and leak detection

The above assessment will include cost benefit analyses and payback calculations for each proposal. Upon Completion of the assessment, MAREC will provide two copies of technical documents on each facility. These are:

- Executive summary
- Facility Building Details
- Lighting
- Electrical Systems and Thermal Imaging
- Other Technical and Operational Improvement