

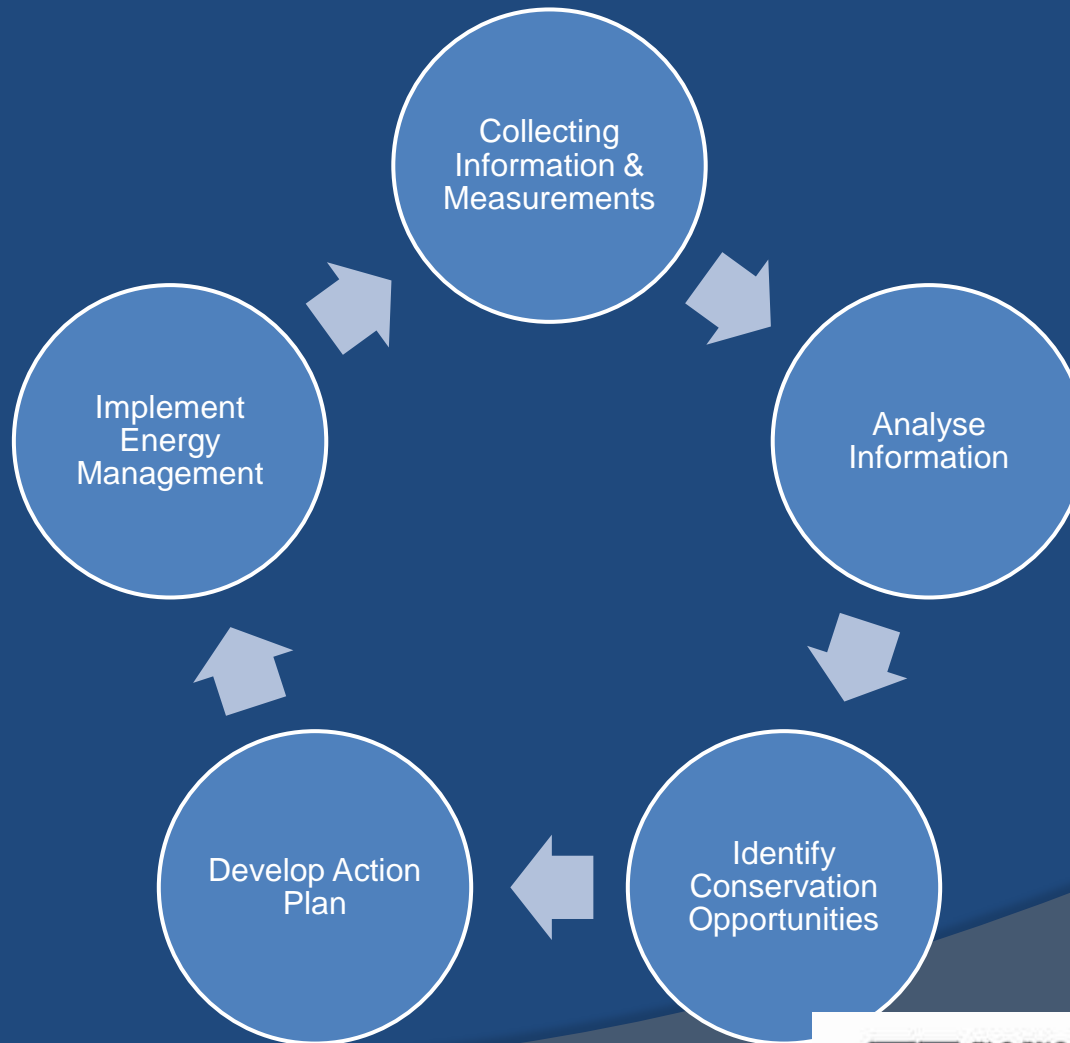
Information from TLC Engineering Solutions (PTY) Ltd

# ELECTRICAL LOAD MANAGEMENT AND CONTROL

# Introduction

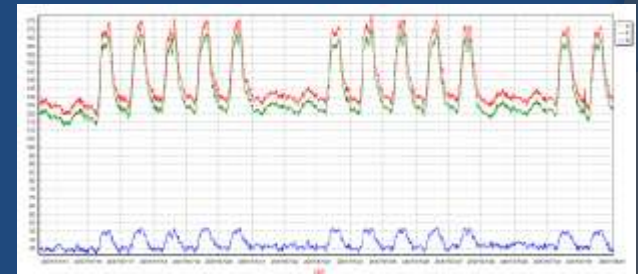
- Most commercial and industrial sites are using at least 20% or more power than necessary
- It is possible to provide cost effective equipment for monitoring and managing loads to reduce power consumption
- Savings go directly to the bottom line
- Historically with the low cost of electricity the business case was often marginal
- New 2 cents / kwh levy for companies who do not save at least 10% and large future increase in tariffs has changed the economics

# Energy Reduction Process



# Collecting Information & Monitoring

- Collect Information about Facilities Operation
- Past records of Utility Bills
- Measure the Baseline Loads
- Need to measure individual loads not just total power to the site



# Analyse Information

- ⦿ Measurements are examined to determine
  - Average loads
  - Magnitude and duration of peak loads
  - Time of day / time of week when peaks occur
- ⦿ Audit of site
  - Age and operating efficiency of equipment
  - Operational issues

# Identify Energy Conservation Opportunities (ECO)

- ⦿ Examine how the facility uses (or wastes) electricity
- ⦿ Measurements are analysed to determine ECO's
- ⦿ Evaluate each ECO's to determine costs & benefits

# Develop an Action Plan

- ◎ ECO's will be implemented in a number of phases
- ◎ Items to consider:
  - electrical supply security
  - ease of implementation
  - costs & benefits,
  - available staff
  - available equipment (delivery times)

# Implement Action Plan

- ⦿ Action plan will contain the following elements:
  - Improving efficiency
    - Maintenance
    - Replacing inefficient equipment
    - Improved equipment operation
  - Managing loads
    - Manual
    - Automatic (Energy Management)



# Energy Management Control Systems

- ⦿ Manages demand (need for energy at a specific time)
- ⦿ Manages length of time a device consumes electricity
- ⦿ Sets Alarms when a device fails or malfunctions
- ⦿ Monitors HVAC and other building systems
- ⦿ Provides information for timeous equipment maintenance
- ⦿ Provides building owners and managers with data for making future decisions and plans

# Follow Up

- As the energy management plan is implemented the results must be measured and monitored to ensure savings are achieved.

# PORTABLE REMOTE ENERGY MONITORING SYSTEM

PRMS is the perfect tool for utilities, consultants and facilities who need to perform energy audits. The PMRS software can adapt to changes in local and international standards. Several configurations are available to suit user applications.



# SPECIFICATIONS

- Electrical Power (1, 2 and 3 wattmeter)
- Maximum Demand and Energy
- Disturbance and Power Quality
- Remote data collection from site with a GSM or LAN connection
- Up to 32 input channels
- Signal isolators for 230V AC and 5A AC
- Clamp-on or split core CT's
- Temperature probes for internal and external building temperature
- Enclosure with back-up supply
- Installation and commissioning included

# Contact Details

For more information how you can reduce the power used in your facilities contact:

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