



Econsave Streamline Energy Consumption

FORWARD



宜康省

Econsave began with a wooden sundry shop in Port Klang more than 50 years ago. Now, they are one of the largest grocery retailers in Malaysia, having grown to span across 60

outlets. As part of their ambitious plans for further growth, they have the objective of minimising energy consumption and the associated costs.

THE SOLUTION

To help Eonsave minimise energy consumption and the associated costs, Resource Data Management (RDM) Asia proposed a variety of solutions, which have successfully reduced energy consumption for a number of companies worldwide. These solutions were then deployed across seven supermarket sites as the first stage of a phased roll-out.

1. Energy Management System (EMS)

Intuitive TDB controllers were installed to provide full networking, monitor and control of all equipment from a central location on and off-site. This unprohibited access enabled real-time monitoring of assets which offered the opportunity to optimise their performance.

2. Air Conditioning Controls

RDM Asia utilised proven in-house air conditioning control strategies using relative humidity, indoor and outdoor temperature and CO₂

sensors installed at critical areas. These strategies minimised energy consumption while maintaining end-user comfort levels.

3. Inverter Installation & Control

Inverters were installed on the Air Handling Units (AHU) which linked with the installed temperature sensors, and allowed the AHU to be controlled based on the heat load. This improved control further streamlined Eonsave's energy consumption, and thus enabled greater energy savings.

4. Maximum Demand (MD) Control

MD is measured in Kilowatt (kW). MD is the peak load imposed by TNB (The National Utility Provider in Malaysia) to the customer at any point of time. As electricity cannot be stored, there must be sufficient generation, transmission and distribution capacity to meet the highest demand. For these reasons most

tariffs for larger users are designed to encourage customers to control their electricity demand at daytime peaks. The MD charge is being practiced by almost all utilities in the world and the amount charged to customers is based on the recorded MD in kW multiplied by the respective MD rate. For example, the amount payable by a Tariff C2 customer registering 100kW of MD for a particular month is RM4,510 (100kW x RM45.10/kW).

5. RDM AHU Controls Design with relevance to Maximum Demand

The AHU's were set to operate within the limits of the total system power, and the improved Maximum Demand control prevented expensive penalties, which arise from exceeding the maximum peaks of the KW range. These savings ranged between 0-10% subject to operations and equipment performance.

BENEFITS

By improving the performance and lifespan of the air conditioning units, RDM solutions reduced energy demand and subsequently released less CO₂ into the atmosphere.

Improved performance also resulted in less servicing of equipment, giving the following indirect benefits:

- Fewer call-outs, reducing the carbon footprint.

- Reduced chemical usage.
- Minimised cleaning of filters.
- Reduced dust flow.

ENERGY & COST SAVINGS

Eonsave benefited from greater control of their assets, with improved visibility and monitoring capabilities, which in turn gave the maintenance team the ability to troubleshoot

problems relating to their equipment and quickly find a solution.

The implementation of RDM Asia's strategies and subsequent solutions

streamlined energy consumption, and reduced costs across all of the sites. With one site achieving a payback in as little as seven months.

RDM PRODUCTS AND SOLUTIONS

- DMTouch (PR0510)
- The Data Builder (TDB) (PR0485)
- Secondary Network Adaptor (PR0486)
- Intuitive IO Expansion Module (PR0661)
- USB to RS485 Modbus Interface (PR0623)
- Inverters HLI software Modbus (PR0470)
- RS485 to IP Modbus (PR0020 DIN MOD)
- RDM Energy Meter (PR0670 - 3PH)
- RDM Air Temperature Sensors (PR0170)
- Air Duct and Pipe Pocket Probe (PR0196-10K2)



SITE	ROI IN MONTHS
Seri Iskandar	10
Klebang	8
Kampar	7
Bakri	14
Pasir Puteh	24
Triang	16

