



What is RECP

A Case Study Demonstration

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In this programme, companies are assisted to identify opportunities to lower production costs by means of reduced energy, water and materials usage, and more efficient waste management.

Service offering includes RECP assessments

- Energy, water and material assessments to gauge the current level of consumption and identify opportunities for reduction.
- Waste assessments to understand the company or plant's current waste generation profile and identify opportunities for reduction.
- Production efficiency and competitiveness: Optimisation of production equipment.
- Environmental management: Minimisation of impacts on the environment and nature through reduction of wastes and emissions.



RECP which aims to assist manufacturing companies:

- **Competitive** manufacturing industries.
- Company **bottom line returns**.
- Resource efficient and productive companies contributing to **low carbon economy**.
- Business **growth & sustainability**.
- **Market access**.
- **Job retention or job creation**.



VAMCOSA – Case Study

The Valve and Actuator Manufacturers Cluster of South Africa (VAMCOSA) was formed in July 2011 and works within **the dti's** designated cluster parameters.

The aim is to bring local valve and actuator manufacturers together in order to create a common focus and goal for their respective industries.



Project Objectives

- The objective of these assessments was to identify opportunities to increase resource-use efficiency, environmental sustainability and overall profitability of the participating companies.
- The key activities of the assessment included resource consumption trending, tariff structure analysis, baseline development, resource management maturity surveys, in-plant observations and data logging.
- In all the assessed companies, energy efficiency was the biggest concern and the focus of these assessments.



Efficiency Opportunities

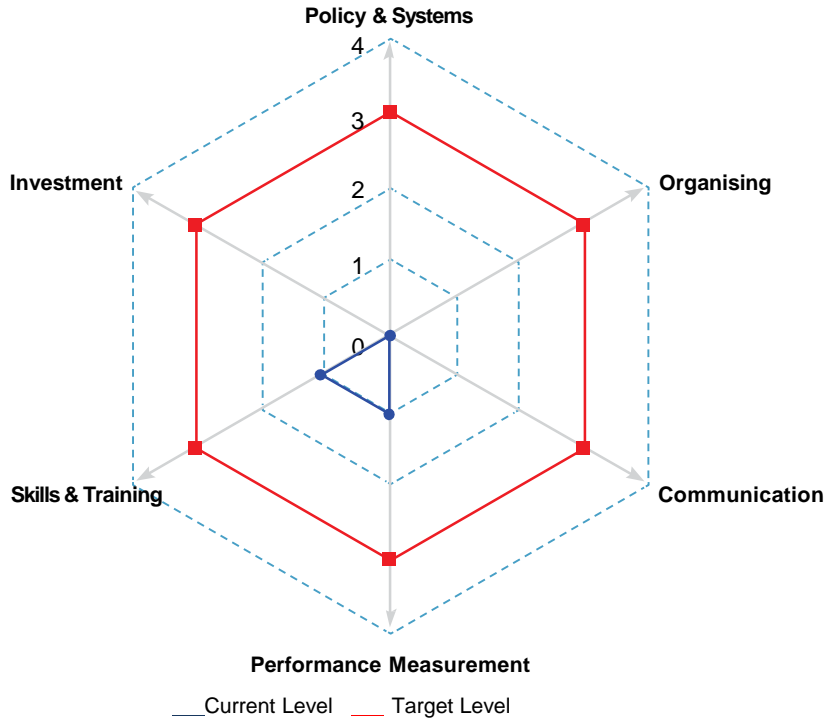


Figure 1: Example of the RECP Management Maturity Assessment with current status and target levels

RECP Area	Current Level	Proposed Target Level
Policy & Systems	Level 0: No explicit energy management policy.	Level 3: Formal energy management policy with active commitment from top management. No formal energy management system.
Organising	Level 0: No energy manager or formal delegation of responsibility for energy use.	Level 3: Energy manager accountable to energy committee, chaired by a member of the management board.
Communication/Motivation	Level 1: Informal contacts between engineer and a few users.	Level 3: Energy committee used as main channel together with direct contact with major users. Regular staff briefings, performance reporting & EE promotion.
Performance Measurement	Level 2: Cost reporting based on supply meter/measurement data and invoices. Env./energy staff have ad-hoc involvement in budget setting.	Level 4: Comprehensive performance measurements against targets with effective management reporting.
Skills & Training	Level 2: Some ad-hoc staff awareness and training. Planned Programme of staff awareness and training.	Level 4: Marketing the value of material and energy efficiency and the performance of energy/environmental management.
Investment	Level 0/1: Some low cost measures taken – skylights.	Level 2/3: Use short payback criteria and start applying same payback criteria as for all other investments.



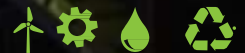


Low resource efficiency awareness levels of the staff at the assessed companies.

Efficient Lighting Solutions



- Varying levels of energy efficient lighting practices were noted at the assessed facilities.
- Companies should endeavour to harvest daylight through the implementation of skylights and large windows in their manufacturing facilities.
- Utilise task lighting for work requiring high lux-levels. Install lux-level sensors to ensure compliance with minimum lighting requirements on cloudy days.
- Install energy efficient lighting technology to replace old inefficient light systems.



Reviewing Tariff Structure



- Tariff structures are reviewed and updated annually by Eskom and the municipalities.
- Review your facility's tariff structure annually to coincide with the publication of the annual electricity tariffs by the authorities.
- Compare your current tariff with applicable alternatives using the previous year's data as a basis.
- Move to a more cost-efficient tariff structure if necessary.



Implement Compressed Air Leak Reduction Programme



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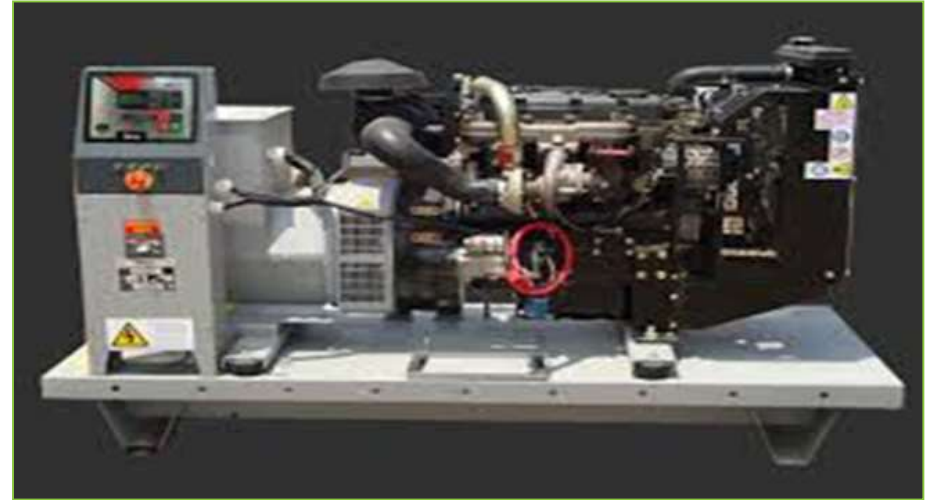




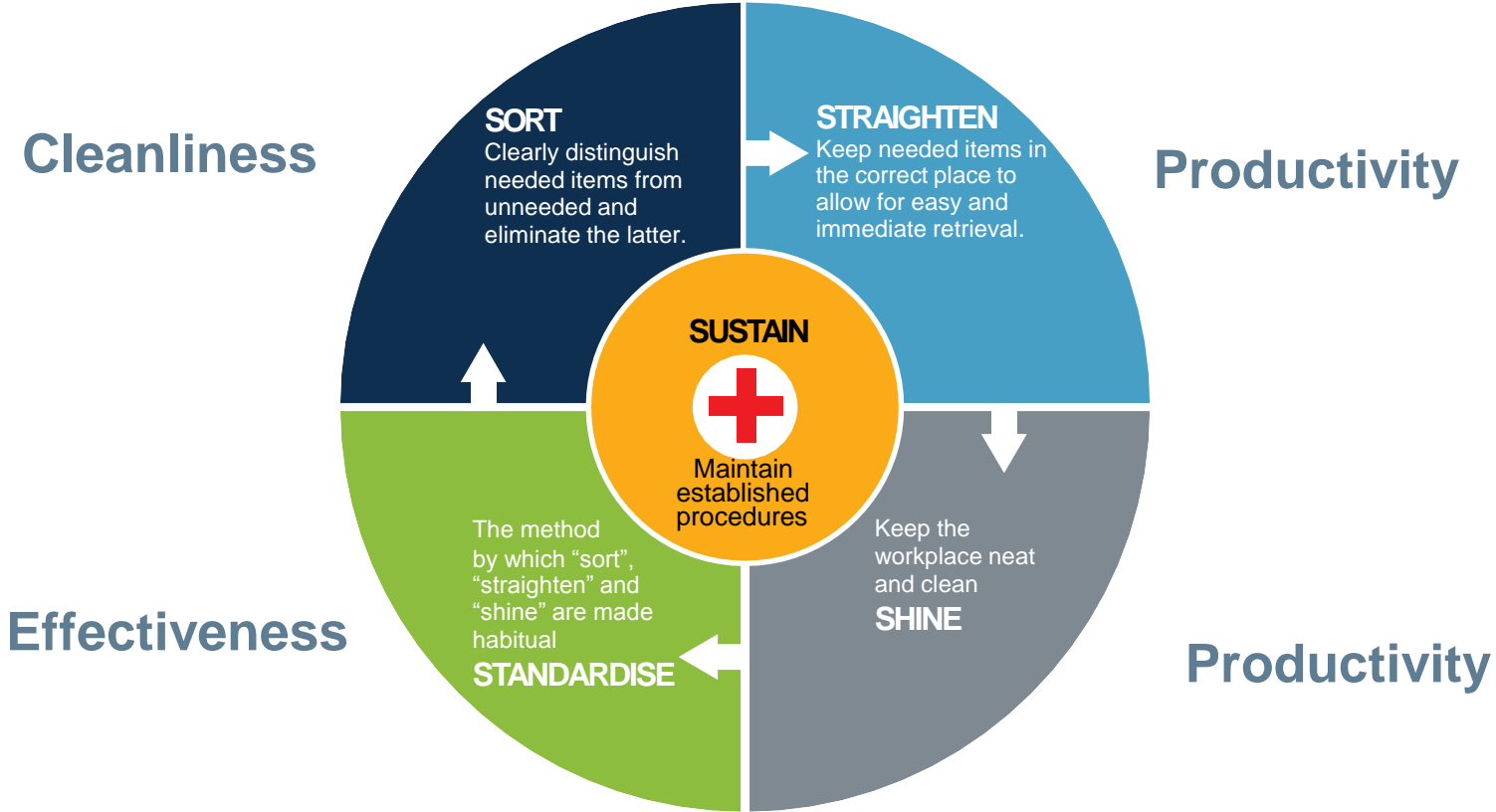
Harvest & recycle rainwater for valve pressure tests



Backup generators



Increasing interest to install a backup generator to help alleviate the impacts of load shedding.



Sustainable housekeeping structure

Figure 2: The 5S Process of Workplace Cleanliness



Average Cost Saving Opportunities



RECP savings of
R494 000

Required investment of
R294 700

Simple payback period =
7 months

Total energy saving	166 175/kWh/year
Equivalent GHG emissions reduction	166 tonne CO ₂ e
Total energy bill savings	R494 000/year
Combined baseline energy bill	R1 420 100/year
Total Fraction of Energy Bill Saving	35%
Range of savings fraction of total bill	17% – 54%





RESOURCE EFFICIENCY AND CLEANER PRODUCTION BEST PRACTICE GUIDELINE FOR THE SOUTH AFRICAN VALVE MANUFACTURING INDUSTRY



Thank you



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