

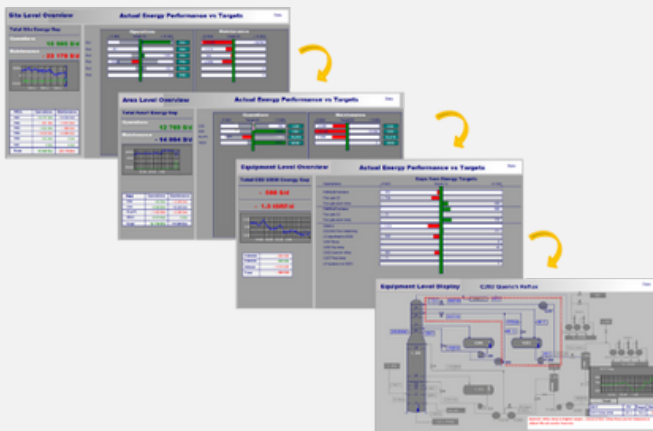
BEST PRACTICE SERIES

Carbon & Energy Management Information System (CEMIS)

Carbon and Energy Management Information System (CEMIS) is a comprehensive approach used by Shell to monitor, manage, and reduce the carbon emissions and energy consumption. This involves various key components which are: **a) Measurement and Monitoring, b) Analysis and Reporting, c) Optimization and Control and d) Compliance and Certification.**

CEMIS Structure and Visual Metrics

- CEMIS Information displays are designed to have at least 3 level of KPIs: site, unit and equipment, and a drill down mechanism.
- Displays provide online performance monitoring and actions to operations & maintenance staff to improve the energy performance.



Key Learnings

- What CEMIS is Not:
 - Not an automated control system – requires human intervention.
 - Not generate alarm – dashboard only flags priority gaps.
 - Not a replacement for advanced process control – compliments by quantifying gaps, degradation.
 - Not a stagnant system – continuous improvement processes should challenge targets & constraints.
 - Not a complete coverage of ISO-50001 EMS requirements (requires audits & other processes outside CEMIS).

Project Highlights

- CEMIS is a **package of work-processes and supporting tools** for target setting, reporting, analysis, and corrective action on energy variables at site.
- Intended to continuously **reduce energy costs and GHG emissions.**
- Linked to **real-time plant data.**
- LEAN dashboard to **“follow the money”.**
- Considers **operational & maintenance gaps.**

Benefits

- A wide range of **specific energy reduction** opportunities can be achieved on energy systems by implementation of CEMIS – and is usually throughput dependent.

Implementation

PA joint effort with site and specialists (Carbon and Energy Expert with Technology Subject Matter Experts) to identify energy drivers, quantify targets and gaps, and configure a fit for purpose system.

