



Energy Management System (EnMS) Implementation in Limketkai Manufacturing Corporation

Marionel Peralta

UNIDO/DOE National Expert on EnMS

Presentation for the Asia Clean Energy Forum
June 15, 2015 at Asian Development Bank

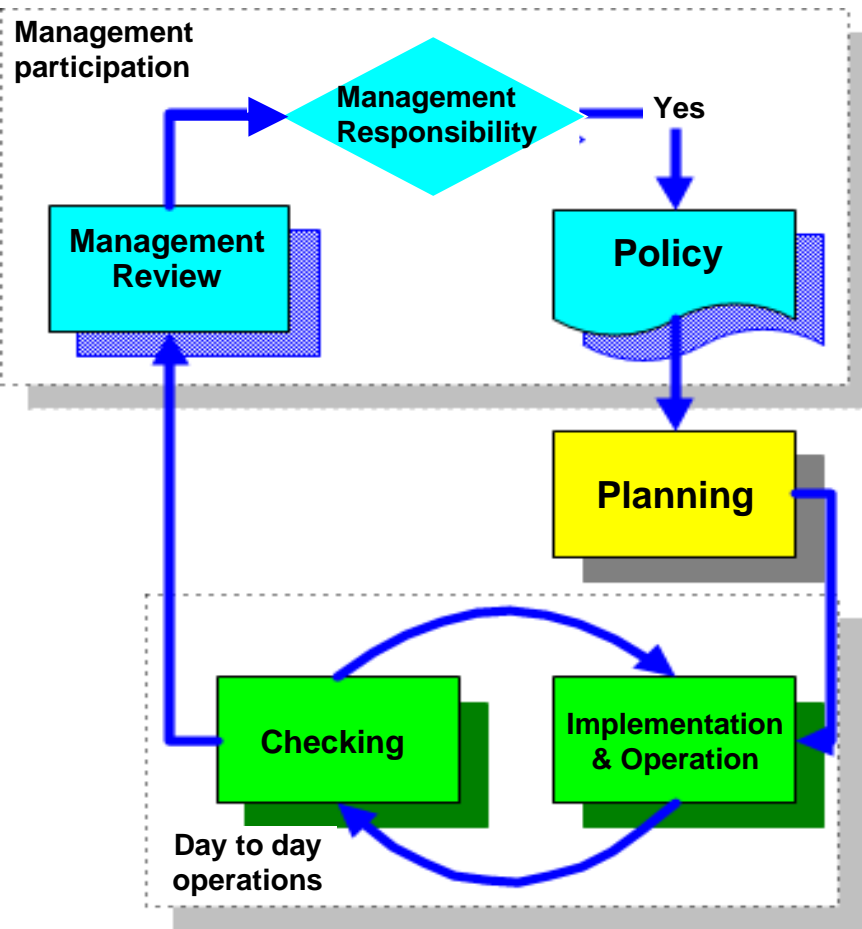


Company Introduction

- **Limketkai Manufacturing Corporation** is based in Cagayan de Oro city, Northern Mindanao Island, Philippines
- The company is engaged in the manufacture of corn grits for food and feeds applications, and cooking oils
- The factory compound has 4 plants:
 - Corn Milling production and silo operation
 - Coconut oil production
 - Corn oil production
 - PE bottles production
- The Corn Mill annual electricity bill is P18.8 million



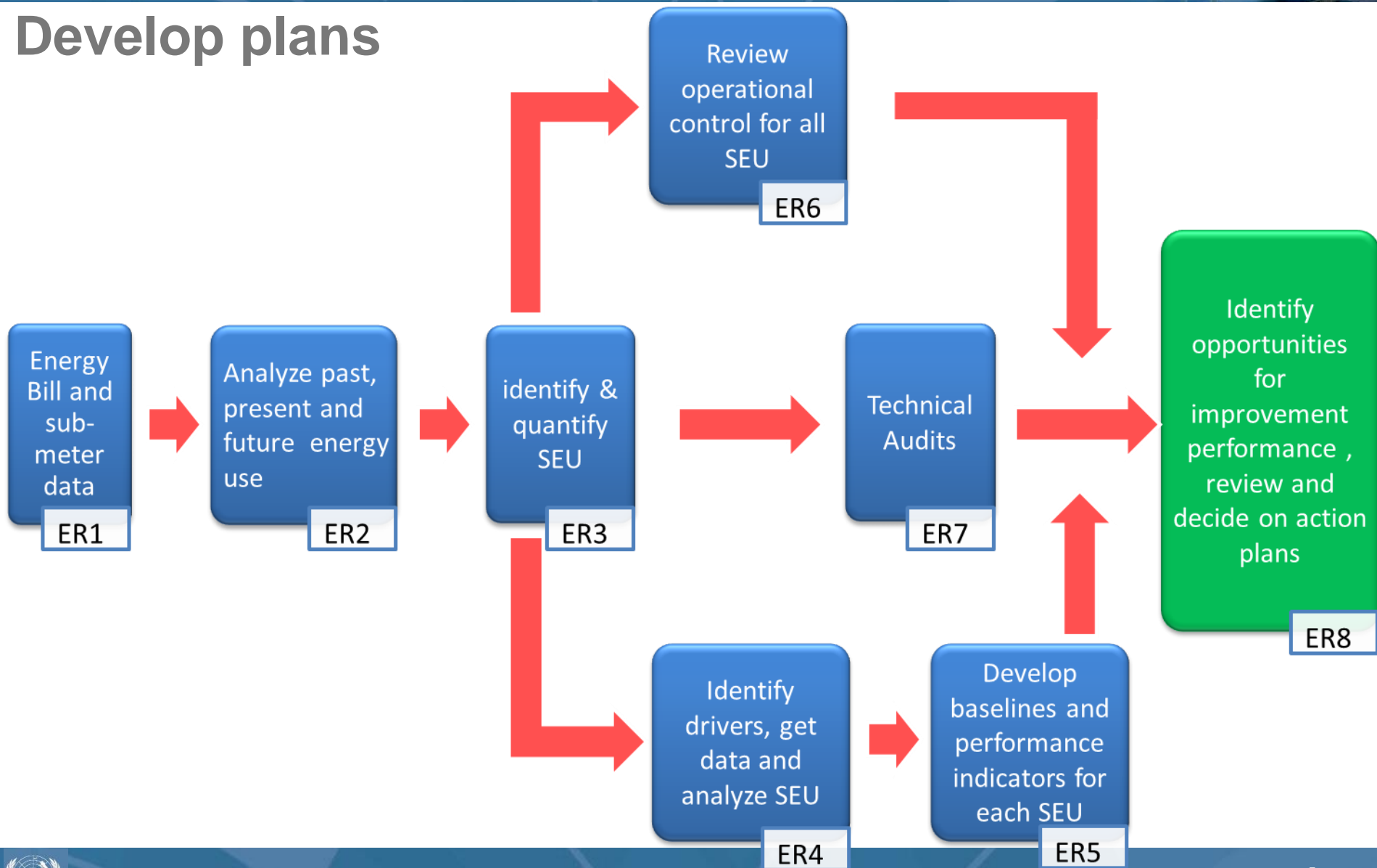
Implementation Steps



1. Scope (focus)
 - Corn Milling
2. Significant Energy Users (SEUs)
3. Energy Performance Indicators (EnPIs)
4. Opportunities List
5. Operational Control
6. Review



Develop plans



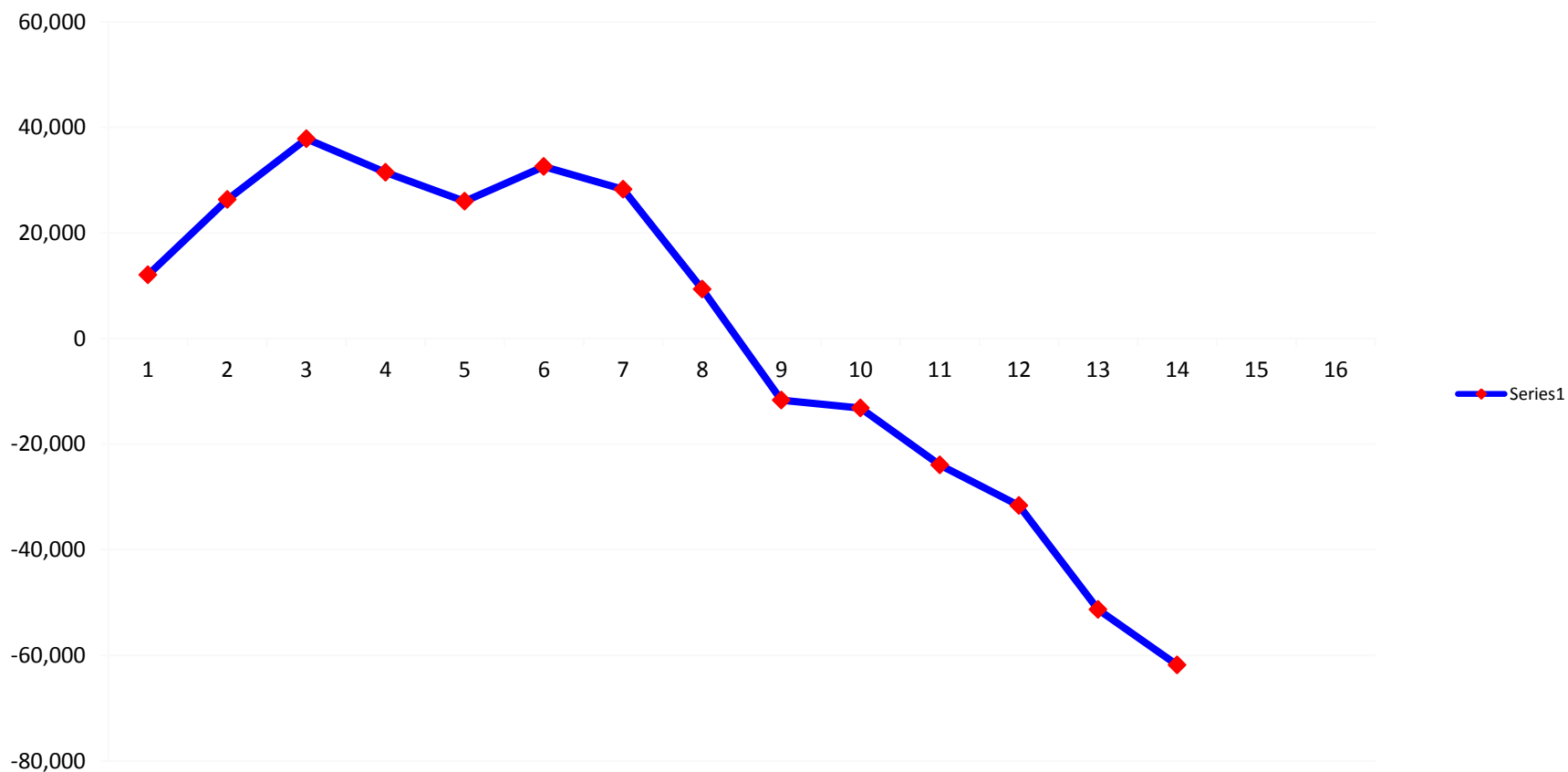


Projects (July – December 2014)

- Rehab of capacitors in the corn mill production to reduce line losses
- Rehab of SEU motors in the corn mill that contribute to 50% of KW total capacity
- Replacement of old motors in silo operation to improve efficiency
- Implemented a simple system of coordination and control for demand management



Cumulative Sum of Difference between Expected and Actual KWH consumption





Initial Savings from EnMS Implementation

- CUSUM electricity consumption savings:
 - Accumulated savings P 2,472,000 July – Dec'14
 - Less: Rehab expenses P 610,000 (one time)
 - Net savings to-date P 1,862,000
- Savings on demand charges
 - Accumulated savings P161,000 Jan – May'15
- Initial savings from projects on steam and compressed air



Success Factors

- Full commitment and support of Top Management
- Good Technical Engineers in the Energy Team
- Guided implementation of the EnMS
 - Training
 - Tools and techniques
 - System approach