

# **Energy Management System for Sustainable Energy Efficiency Improvement in the Industry**

By Abbas Mahmood

# Major Components

EnMS  
Introduction in  
Textile Mills

Energy Manager  
Training  
EMT

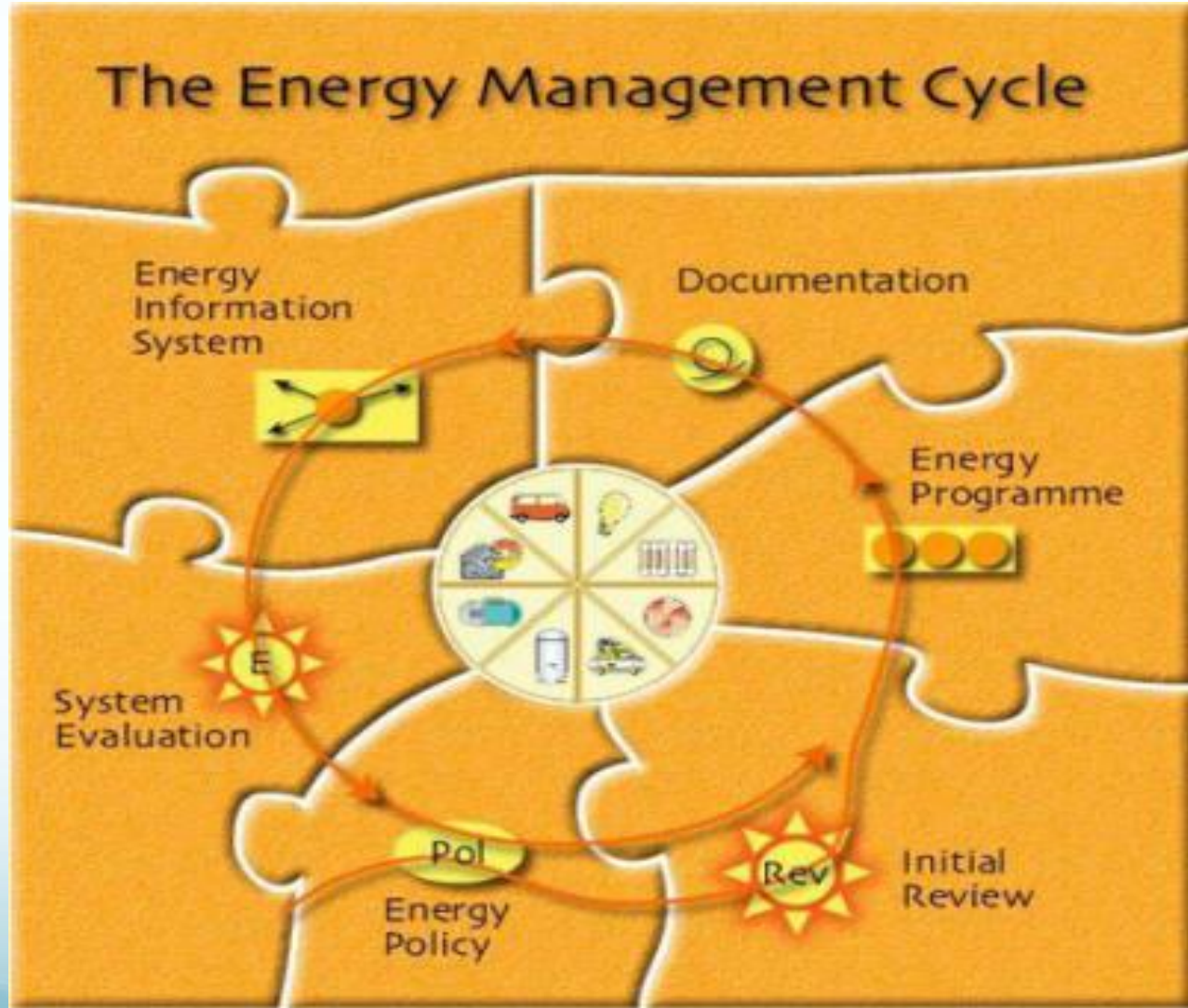
Development of  
Energy Service  
Companies  
ESCO

# **Energy Management System**

## **EnMS**

- systematic approach for continuous and sustainable energy efficiency improvement
- Integrates energy management into existing operational management system
- Method for continuous energy efficiency improvement
- includes active involvement of top management

# Elements of EnMS

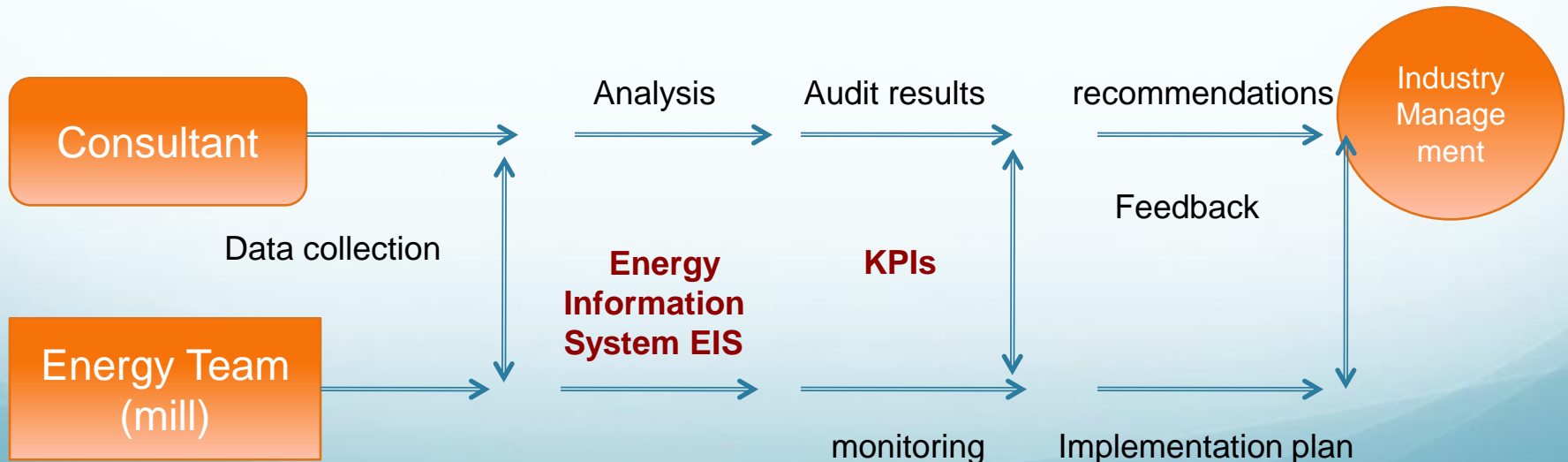


# EnMS vs Energy Auditing

- **Energy Auditing** - conventional approach



- **Energy Management System** - structured approach



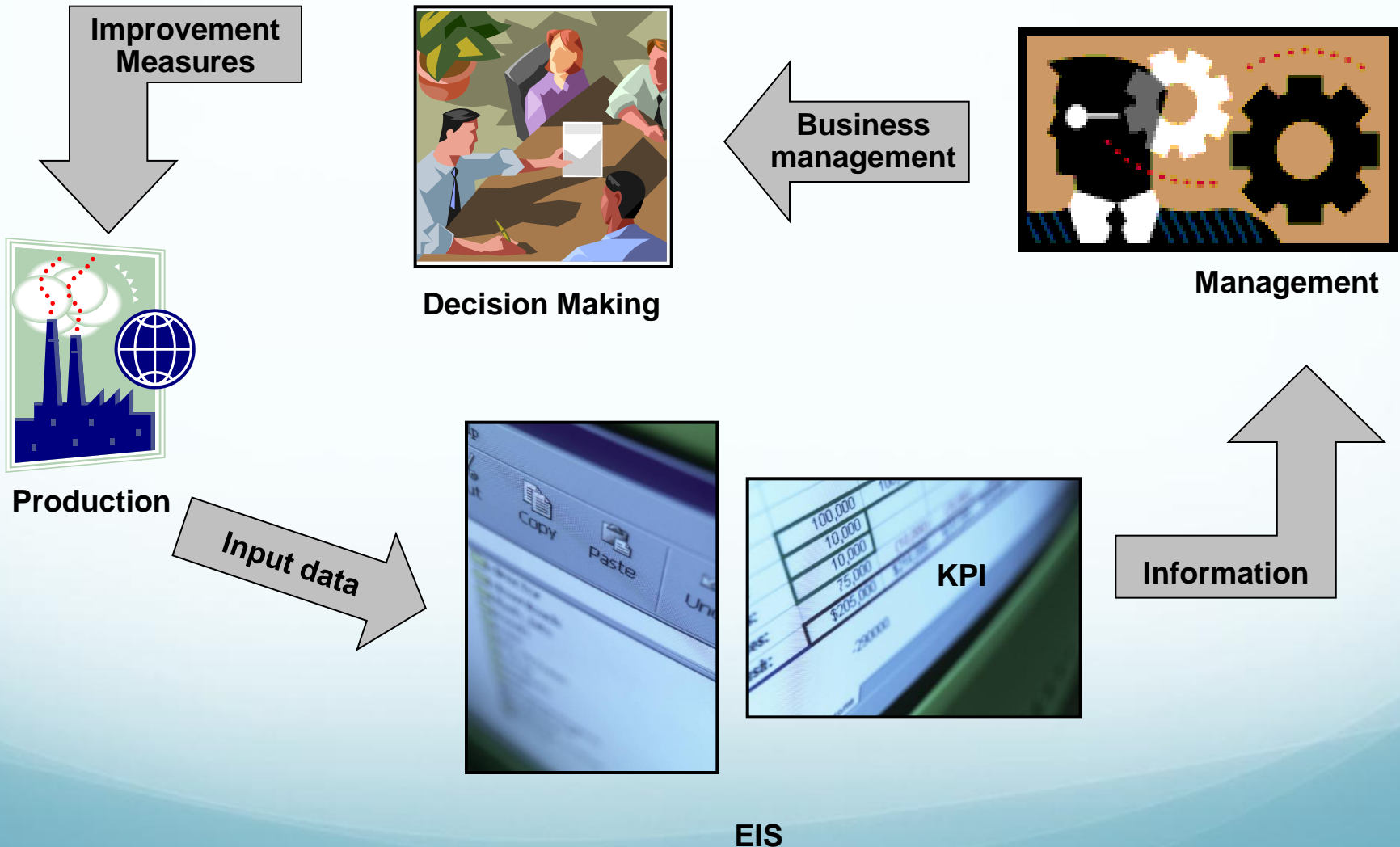
# EnMS a sustainable Solution



Follow Plan-Do-Check-Act  
PCDA Cycle

▪ STEP 1: Make Commitment	P
▪ STEP 2: Assess Performance	
▪ STEP 3: Set Goals	
▪ STEP 5: Implement Action Plan	D
▪ STEP 6: Evaluate Progress	C
▪ STEP 7: Recognize Achievements	A

# Energy Information System - EIS



# Impacts Achieved



# Benefits from pilot EnMS application in 19 textile mills

Implementation cost (Million Euro)	0.164
Achieved Energy Savings (Million Euro)	1.43
Achieved Energy Savings (TOE/yr)	5,300
Green-house gas reduction (TCO <sub>2</sub> )	28,700
Achieved energy savings (Mill. KWh/yr)	62
Reduced energy generation capacity (MW)	21

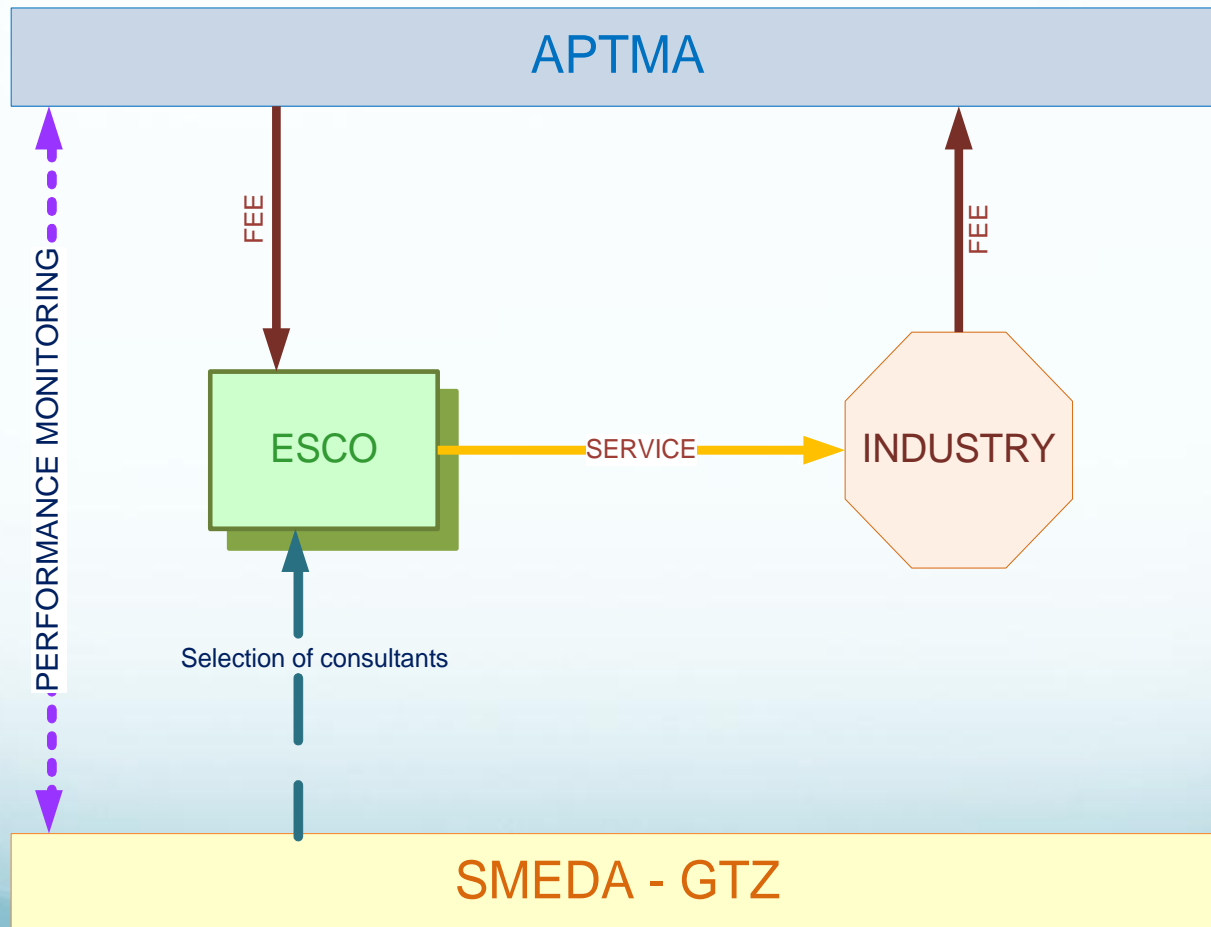
# Energy Manager Training

- Objective** to build in house energy management capacity of the industry
- All Energy Manager of EnMS pilot mills trained in identification and implementation of EE measures
  - APTMA promotes training programme to 400 member mills
  - training extended to association of 5 Textile subsectors and Chambers of Commerce of Punjab and Khyber Pakthunkhwa through SMEDA
  - SMEDA offers training on commercial basis to other industrial sectors

## **Energy Service Companies ESCO Development**

- **At the beginning**
  - no ESCOs available with professional background in EnMS application
- **At present**
- 5 ESCOs trained for pilot programme implementation in 25 APTMA member mills
- **Future target**
  - Development of additional 10 ESCOs to satisfy increasing demand for EnMS application in industry

# Sustainable promotion of EnMS *Performance Contracting*



**Thank You**