

# Promotion of energy efficiency in Industries

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## Experiences from Kenya

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# A Case for Energy Efficiency



- Ever rising energy costs
- Cost reduction and increased profitability
- Acute shortage of commercial energy.
- Dependence on imported petroleum products for Industry and Transport.
- Energy Insecurity

# A Case for Energy Efficiency

- ❑ Low levels of electrification due to cost and insufficient supply – **1200MW Installed Capacity**
- ❑ Energy wastage of up to **30%** of primary energy input in manufacturing
- ❑ Increased thermal electricity generation with increased GHG emissions



# Promotion of Energy Efficiency

## Successful Energy Efficiency programme

**Awareness/  
Sensitization**

**Capacity  
Building**

**Implementation  
and Financing**

**Policy and  
Legal  
framework**

# 1<sup>ST</sup> PILLAR - ENERGY EFFICIENCY PROMOTION

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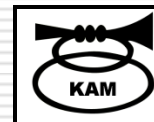
- ❑ Constant awareness raising among all stakeholders
- ❑ Market development for energy efficiency services
- ❑ Build confidence among industry
- ❑ Industrial Energy Efficiency Network (IEEN) to help share energy efficiency information and introduce a spirit of healthy competition.



# Annual Energy Management Awards

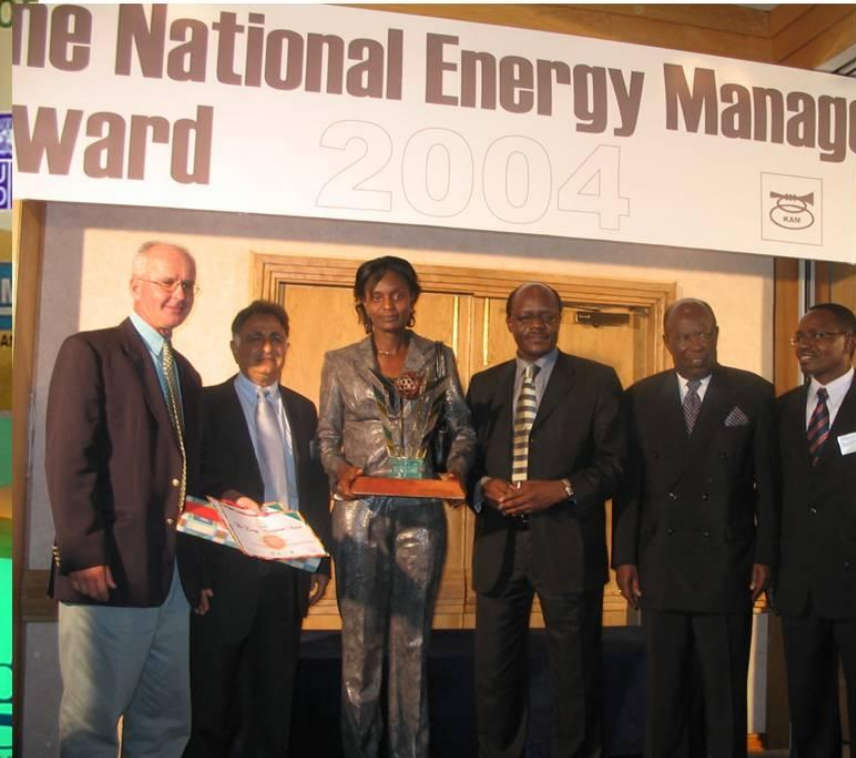


*Energy Efficiency in Kenya*

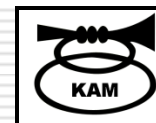




# AWARDS



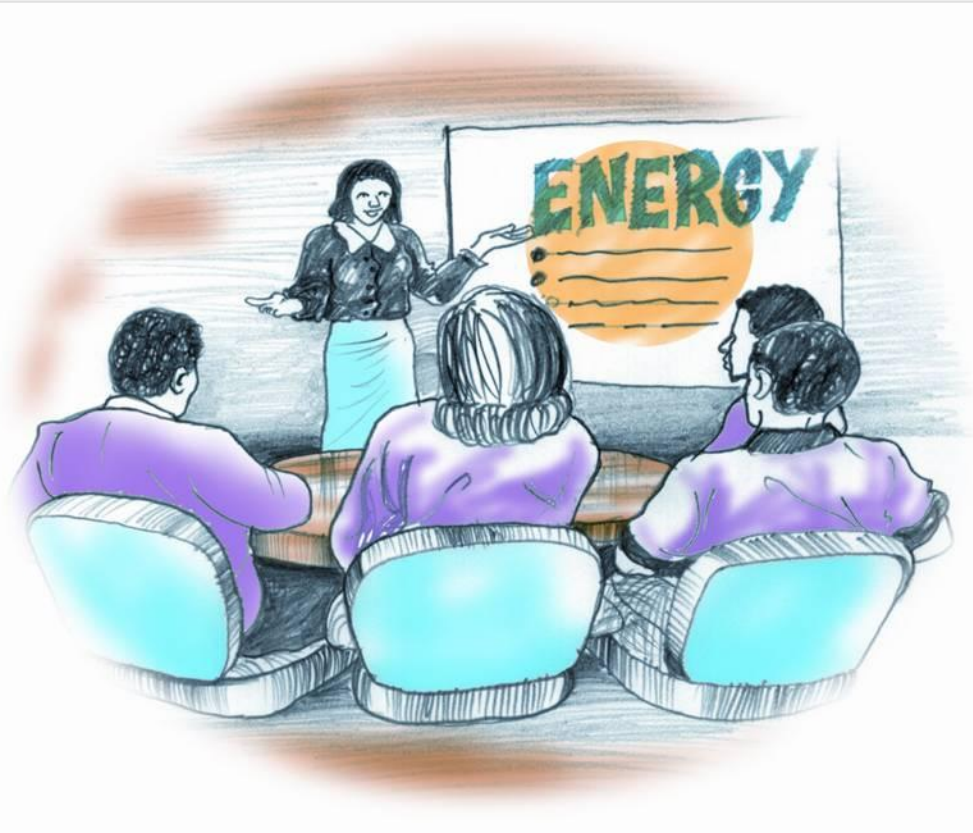
*Energy Efficiency in Kenya*



# 2<sup>nd</sup> Pillar - Capacity Building



Continuous training is necessary to develop adequate capacity at all levels.





# Capacity Building Activities

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- Short courses for engineers and consultants in numerous locations.
- Develop curriculum for undergraduate and postgraduate courses in Nairobi University and Kenya Polytechnic .
- Strengthen the industrial–learning Institutions links
- Develop Guide for Energy Efficiency and Conservation for industry

# Capacity Building efforts

- ❑ Over personnel trained in specialized courses & Energy audit training and financial engineering– .
- ❑ Senior consultants attained Certified Energy Manager (CEM) certification:
- ❑ Over 300 enterprises involved

Year	No of participants
2001	229
2002	119
2003	459
2004	195
2005	20
<b>Total</b>	<b>1022</b>



# 3<sup>rd</sup> Pillar: Implementation at Facility Level

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- ❑ To translate knowledge into energy cost savings at enterprise and national level,
- ❑ Need for Qualified consultants and a well functioning private sector
- ❑ Strong Energy Service Companies (**ESCOs**)



# 4th Pillar: Institutions and Policy

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- ❑ Activities to incorporate energy efficiency considerations into the energy policy
- ❑ Development of legal framework for promoting energy efficiency
- ❑ EE fully recognized in new government energy policy
- ❑ Energy Act of 2006 has specific chapter on Energy Efficiency
- ❑ Utilities and energy regulator now fully embrace energy efficiency



# Institutional support

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- ❑ Centre for Energy Efficiency and Conservation (CEEC) at Kenya Association on Manufacturers
- ❑ Integration of energy efficiency with the Government's Private Sector Development strategy
- ❑ Getting Government funds to support energy efficiency



# Partnerships

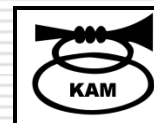
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- Dynamic and vibrant partnerships
  - Ministry of Trade and Industry
  - Ministry of Energy
  - Kenya Association of manufacturers
  - United Nations development Programme
  - Global Environment Facility
  - United Nations Office for Project Services
  - UNIDO
  - Industry, Utilities, University,

# Engagement of all stakeholders



Energy Efficiency in Kenya  
**public-private partnership**



# Results of Energy efficiency Promotion in Kenya - 2001-2006

## ☐ Energy savings

- Toe 155,400
- GWh 1,808 - Equivalent to **140MW power** plant operating for 1 Yr
- Value in USD – 36million

## ☐ Co2 Emission Reduction

- 580,000 tons @ USD 5.50 per ton

☐ The savings continue to accrue

☐ Good for Energy Security



# Challenges

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1. Continuous promotion and learning
2. Financing Mechanisms not established
  - ❑ Financial sector not fully involved
  - ❑ ESCO concept still slow and ESCO still weak
3. Energy Standards and Labels not widely applied
4. Absence of incentive mechanisms

# Thank

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# You

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