



Industrial Energy Management Project  
South Africa  
2009 - 2012

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# Background of the Project

- Formulation started in 2007 by the DME/UNIDO as a response to achieve the Energy Efficiency Strategy of the DME
- In 2008 The energy crisis placed the productivity and income of industrial sector at risk - it becomes part of the DTI's role to facilitate support to secure the national growth
- The project is a joint national effort aiming at
  - achieving National EE
  - building the national capacity for sustainable implementation



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# Objective

*“South African industrial energy consumption improves with 15% efficiency by 2015 contributing to sustain the targeted national GDP growth and carbon emission reduction”*



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# Methodology

- Introduction of Energy Management Standard - ISO
- Introduction of System Optimization approach



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

***Pumping Systems  
( Motor + Pump + Valve )***

More than 40 psig drop across the throttle valve



$$\begin{aligned} \text{Package efficiency} &= \\ \text{Hydraulic output / Motor input} &= \\ 2.7 / 14.9 &= 0.18, \text{ or } 18\% \end{aligned}$$



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1966 2006  
UNIDO  
UNITED NATIONS  
INDUSTRIAL DEVELOPMENT  
ORGANIZATION

# Four interlinked components

## Component 1: Enabling environment & Regional Cooperation

An effective national policy framework for implementing and monitoring industrial energy efficiency management in South Africa in place

## Component 2: Standards and systems

Supportive standards and capacity in place (compatible with ISO energy management standard)



# Four interlinked components

## Component 3: Training and audits (compliance and energy use)

A cadre of qualified industrial energy management and system optimisation experts from the public, academic and private sector are available

## Component 4: Information and demonstration

Demonstration projects, information and cases on system optimisation with industrial energy efficiency management standard are



**Project Management Team:**  
CTA: (International)  
National Project Manager  
(NCPC)

**Component 1:**  
Enabling environment. Policy,  
legislation, funds and  
monitoring.  
  
DME, National Treasury,  
Banks, DTI A.O.

**Component 2:**  
Standards and Systems  
  
SABS, SANAS,  
DME, Business,  
SAQA, Training Inst.  
A.O.

**Component 3 and 4:**  
Training, Demo projects, show cases,  
information.  
  
Executed through regional centers  
and private sector on a gradual fully  
commercial basis.

IEE  
Technical and Training  
Centre (TTC)  
Pretoria (NCPC)

IEE – TTC  
Durban.

IEE – TTC  
Cape Town.



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# Training and Energy Audit; a few details

- Training includes the full value chain inside and surrounding the companies.
- Inside the companies there is
  - Short strategic sessions for top management
  - Energy Management training
  - System optimisation training
  - Operators training and short training for floor workers to ensure all participate in the process



- Outside the companies
  - The assessors who can assess compliance with ISO as and where relevant (companies that follow the ISO energy management standard)
  - the Consultants who performs energy management audits and system optimisation will be trained against approved educational unit standard (part of qualification)
  - Product suppliers
  - Specialist trainers



- Training is part of the audit.

An audit process includes 4 main steps

It takes place on commercial basis from consulting companies to the industry:

- Record the energy consumption
- Analyse the energy consumption
- Optimise the energy consumption and
- Manage the energy consumption (repeat recording and analysis all the time)



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# Project highlights

- Rand 94 millions over 4 years
  - Rand 20 millions from DME
  - Rand 27 millions from SECO
  - Rand 27 millions from DFID  
through Economic Cluster Fund
  - Rand 20 million from the DTI  
in kind through NCPC



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# Project status

- Project ready to run

Please contact

National Cleaner Production Centre  
(NCPC)

[www.ncpc.co.za](http://www.ncpc.co.za)

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