

The Role of Energy Efficiency and Carbon Foot Printing

in Climate Change Mitigation

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Presentation Outline

- **Climate Change Mitigation in Context**
- **International context and SA realities**
- **Industry obligations and options**
- **Government Response / Support**
 - **NT**
 - **ICCRP and NIPF**
 - **IEE (IEM) project**
- **Conclusion**



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INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC)

IPCC & Al Gore shared Nobel 2007 Scientific findings:

- **Climate change is man-made.**
- **Significant sustainability impacts**
- **Quantified Greenhouse gas (GHG) reductions 'Required by Science'**
- **Investment delayed now will cost much more later**
- **Prevent irreversible compromise of climate stability**

KYOTO PROTOCOL

A Protocol of the UN Framework Convention on Climate Change (UNFCCC):

- ❑ **Annex I : Quantified and Binding reduction targets**
- ❑ **Non-Annex I: Voluntary targets**
- ❑ **Financial Mechanism:**
 - ❑ **Clean Development Mechanism (CDM)**

AGREED INTERNATIONAL RESPONSE

Adaptation

- Pro-active Financial ACTION

Mitigation

- MEASURABLE AND REPORTABLE
Reduction of Carbon Footprint
 - ◆ ENERGY EFFICIENCY – 5 levels
 - ◆ Energy from RENEWABLE RESOURCES

NATIONAL CONTEXT

SA ratified the UNFCCC 1997, acceded to Kyoto Protocol 2002

❖ SA: National Departments involved

- **National Treasury**

- Tax incentives – published for comment

- **Department of Energy**

- EE Strategy and regulations (about 2011)
- DNA administers Clean Development Mechanism (CDM)

- **Department of Water and Environmental Affairs**

- National Climate Change Response Strategy (NCCRS)
- Long Term Mitigation Scenarios (LTMS) – ‘what if’ analysis

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- ICCRP responds to NCCRS and LTMS

- **NCPC – EE audits and options to minimise carbon footprint**



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FOOTPRINTING = TRADE ISSUE

Carbon Footprint Measures GHG emissions

Express all GHG as CO₂ equivalent

TBT - Creates pressure to mitigate CO₂

- ❑ CO₂ emissions / unit produced or consumed**
- ❑ Electricity consumption / unit**
- ❑ Kilometers traveled / unit from point of manufacturing to consumer markets and technology levels of such travel**
- ❑ Same as food miles / product miles**



Citizens



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NATIONAL CLEANER PRODUCTION CENTRE (NCPC)

- **Energy, water & materials efficiency audits**
- **Options for savings, market access**
- **Company Options:**
 - **Behavioural: Cleaner housekeeping**
 - **Investment :**
 - **Cleaner technologies**
 - **Design for waste minimisation**
 - **Less harmful chemicals**
 - **Recycling**



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INDUSTRIAL ENERGY EFFICIENCY (IEE) PROJECT

Aspects :

- DoE: EE strategy and regulations
- SANS 879 - Energy Management Standard
- ISO 50001 by 2010
- NCPC: Guideline for System Optimisation
- NCPC: Facilitate training
- Energy practitioners : Audit, certificate

Industry : participate in project design, attend training, implement standard and regulations



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IEE OUTCOMES

- **Energy practitioners capacity to**
 - **Accredit certifiers**
 - **Audit and assist companies**
 - **SANS 879, ISO 50001**
- **Industry-wide reduced energy demand**
- **Electricity peak demand levelled out**
- **Sectors have capacity to achieve LTMS targets**
- **Energy savings provide capacity for continued economic development**
- **Market access – minimise carbon footprint**



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INDUSTRY OPTIONS

“Developing economies have a huge opportunity to strengthen their economic prospects by boosting their energy productivity (efficiency).”

Diana Farrell & Jaana Remes, Mc Kinsey Quarterly, Feb 2009

CDM offers revenue from RE and EE
Negative cost: EE savings > investment



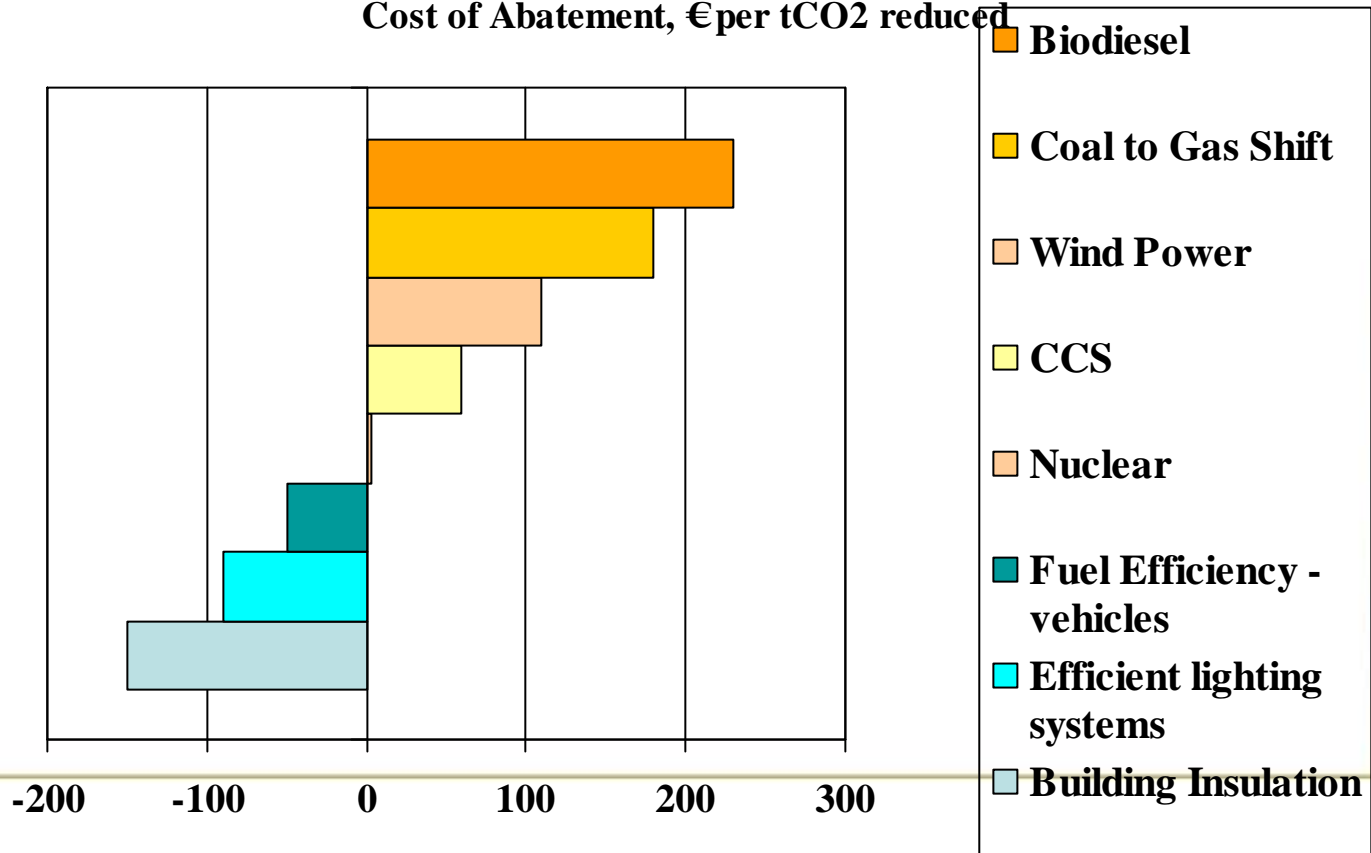
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GHG ABATEMENT OPTIONS – Relative cost

From: Mc Kinsey GHG Reduction Cost Curve

Cost of Abatement, € per tCO₂ reduced



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➤ Audience Input

➤ Thank you

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