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# SANERI/SANEDI

*Energy Efficiency Technology  
Development  
in  
South Africa*



*Energy Innovation For Life*

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# Introduction: SANEDI's role in transforming energy research



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- SANERI was created by Ministerial Directive in 2004 to assist government in developing an energy R&D agenda to promote innovation and support public interest energy R&D
- SANEDI has been created for the sole purpose of assisting the State to achieve its strategic objectives as set out in the National Energy Act, 2008 (No. 34 of 2008), i.e.
  - 🔥 Promote diversification of energy supply
  - 🔥 Ensure emerging energy technologies are incubated and commercialised
  - 🔥 Ensure appropriate human capital is developed to support new industries
  - 🔥 Stimulate innovation in energy R&D, introduce next wave of generation capacity in SA
- SANEDI has been listed as of the 1<sup>st</sup> April 2010 as a new Schedule 3A Public Entity, and will see the merger of SANERI and the National Energy Efficiency Agency (NEEA)
- SANEDI was operationalised by the State President and the Minister of Energy on 18 March 2011

# SANEDI's Role includes....



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- 🔥 Supporting the ***New Growth Plan*** through the creation of sustainable green jobs in the energy sector
- 🔥 Supporting the implementation of cleaner energy technologies as part of SA's commitment to lower carbon future
- 🔥 Ensuring diversification of energy supply through implementation of programmes targeting decentralised energy systems

# In short....



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- 🔥 Mitigating technological and financial risk
- 🔥 Incubating new technologies (demonstration and pilots)
- 🔥 Capacity building
- 🔥 Fast tracking market access for pre-commercial technologies

# Technology Overview



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- **South Africa is a nett importer of technology**
- **Quality is a major concern**
- **Appliance Labelling on the cards (for some time already)**
- **EE technology development relies on critical mass of research and manufacturing capacity**
- **Consumer awareness of energy pricing has increased dramatically over past 2-3 years – incentive for localisation of EE technologies?**
- **Measures to remove inefficient products from the market are inadequate**

# Barriers



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- 🔥 **Limited penetration of Appliance Labelling to date**
- 🔥 **Incentive schemes to remove inefficient products from the market not available – could have built on taxi recapitalisation programme**
- 🔥 **Research capacity to develop new technology is limited**
- 🔥 **Technology roadmaps still under development but do not address efficiency explicitly (e.g. Solar, clean coal, CCS, etc)**
- 🔥 **Other measures to supplement the Section 12I and 12L tax incentives are required (energy savings promoted but not technology development)**
- 🔥 **Incentives like DSM and Sections 12I and 12L address product uptake but not product development**

# Funding



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- 🔥 Limited research funding from SANEDI – general trend is decline in expenditure on R&D for clean energy technology development
- 🔥 Innovation Fund and Technology Innovation Agency are good instruments but are not aligned to a common strategy supporting development of a critical mass of R&D and manufacturing capacity
- 🔥 Eskom R&D also covers limited areas – no specific focus on EE technology
  - 🔥 Market for LED lighting but no incentives yet to promote local assembly
  - 🔥 No coordinated programme to improve efficiency of SWHs
  - 🔥 Apart from Optimal Energy Joule – no additional measures to promote more energy efficient vehicle options

# A Technology Alternative for SA: Low Cost Energy 'Sufficient' Housing



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## 🔥 Concept involves..

### 🔥 Manufactured NOT constructed housing

- Skills taught are easily applied to other products
- Quality of finishing better
- Duration of erection of houses shorter

### 🔥 Nationally replicable model

- Some 200 factories proposed country-wide
- SME and community owned
- Latest energy efficient building materials to be used
- Applies to middle-income as well as low-income housing

### 🔥 Sustainable energy supply

- Solar water heating
- Solar PV for basic electricity provision
- Biogas digester, supplemented by LPG provision

- Rainwater collection and filtration



# Another Example: *Solar Home Project*



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Produces 4kW of  
power to meet  
standard modern  
household  
energy needs



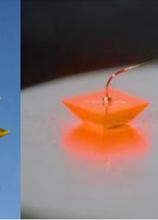
- 🔥 Public Sector EE
- 🔥 NEED (Database)
- 🔥 Monitoring and Evaluation Programme
- 🔥 Appliance Labelling
- 🔥 Technical Advisory role
- 🔥 Section 12I of Income Tax Act (Tax Incentive for Industry)

# Conclusion



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- 🔥 **Technology Development to achieve EE-targets is essential!**
- 🔥 **Manufacturing is a key priority for the SA-government.**
- 🔥 **Job creation and EE-technology deployment go hand-in-hand!**
- 🔥 **If we can combine all of these initiatives through collaborative relationships, then SA will benefit immensely!**



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# Thank You