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 Institut für Energiewirtschaft und Rationelle Energieanwendung


Energy as a Key Element of an Integrated Climate Protection Concept for the City Region of Gauteng, - EnerKey -


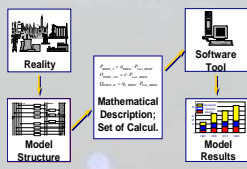
Dr. Ludger Eltrop, University of Stuttgart





Berlin, Sept. 08



Dr. Ludger Eltrop
EnerKey
Sept. 2008

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Background and Work Challenge

South Africa's Economy and Energy System

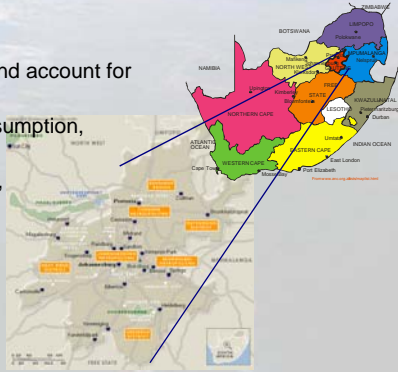
- is based on coal and electricity, (highly flammable paraffin for cooking, heating and lighting in low income households) as main energy source, has lowest electricity prices worldwide
- CO₂-emissions are per capita (9,2 t/a) as high as in Germany (9,74 t/a) 2004 and per GDP (2,07 kg/\$₂₀₀₀) fivefold compared with Germany (0,41 kg/\$)
- Black empowerment and poverty alleviation are high strategic political goals

The JET Cities in the City Region of Gauteng

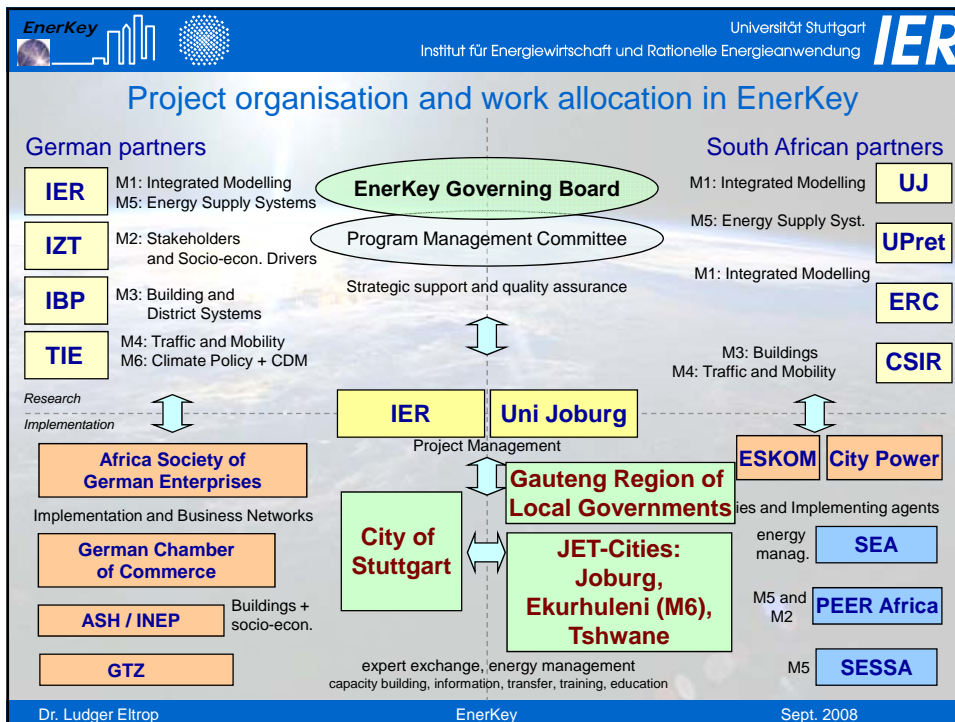
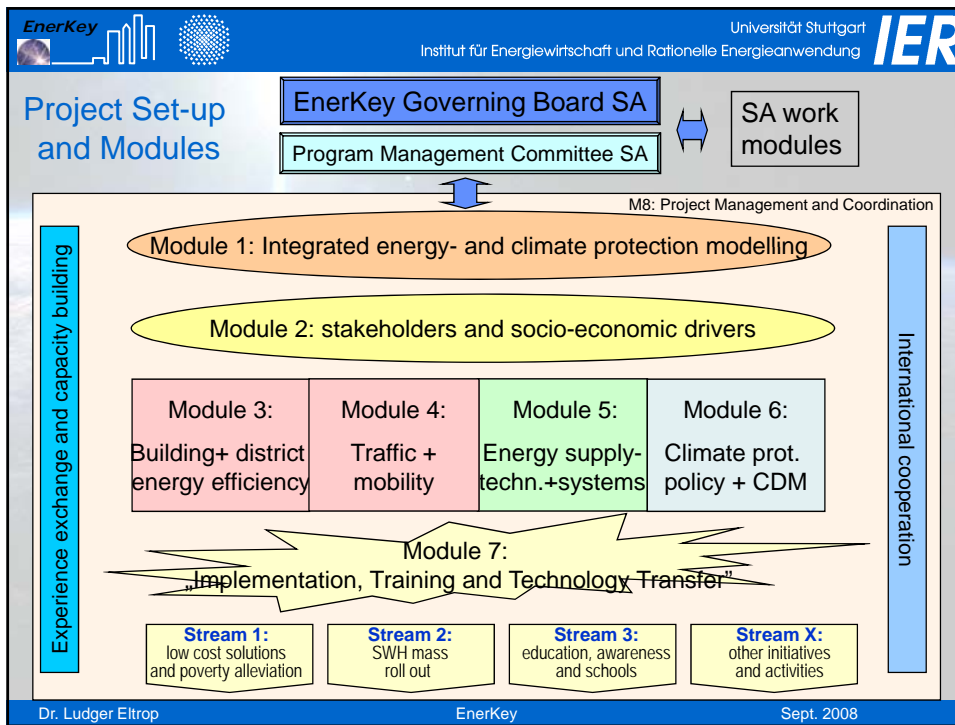
- show an enormous population growth (~ 11 %/a) and account for 17 % of national population
- exhibit 14 % of energy use, 15 % of electricity consumption, 14 % of CO₂ emissions, but also 30 % of GDP
- show a lack in energy supply reliability (blackouts!), public transport systems and planning concepts
- grow together as one large urban agglomeration

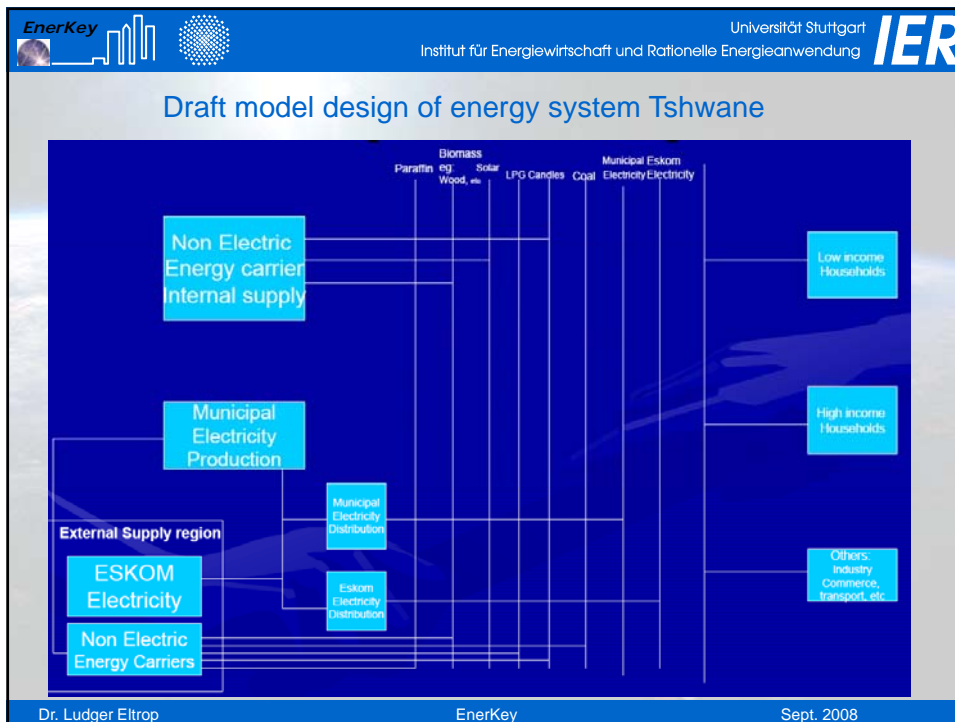
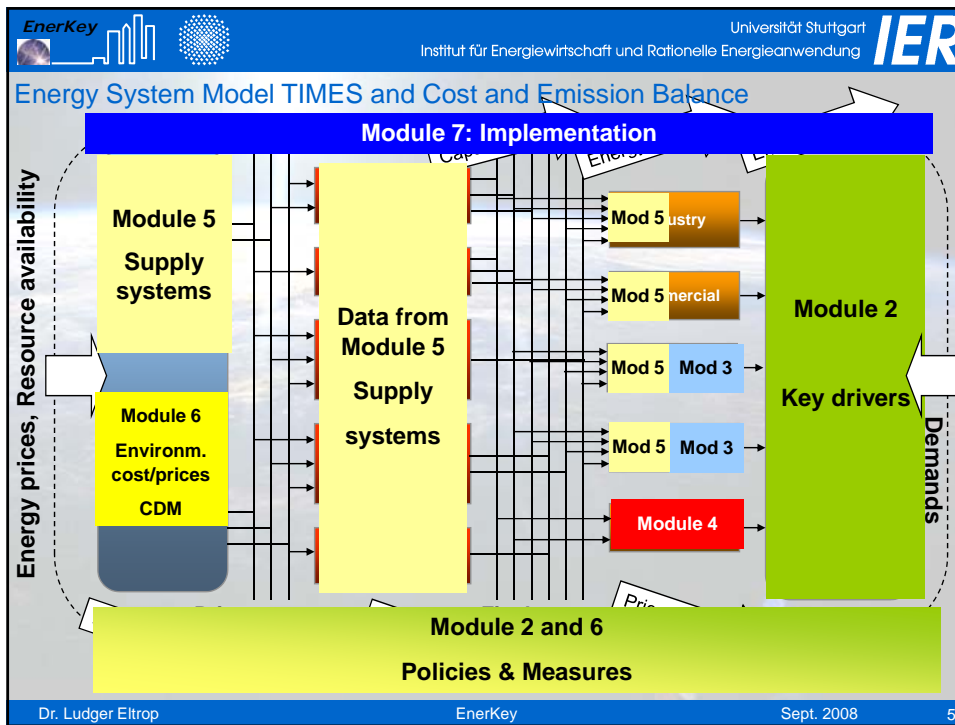
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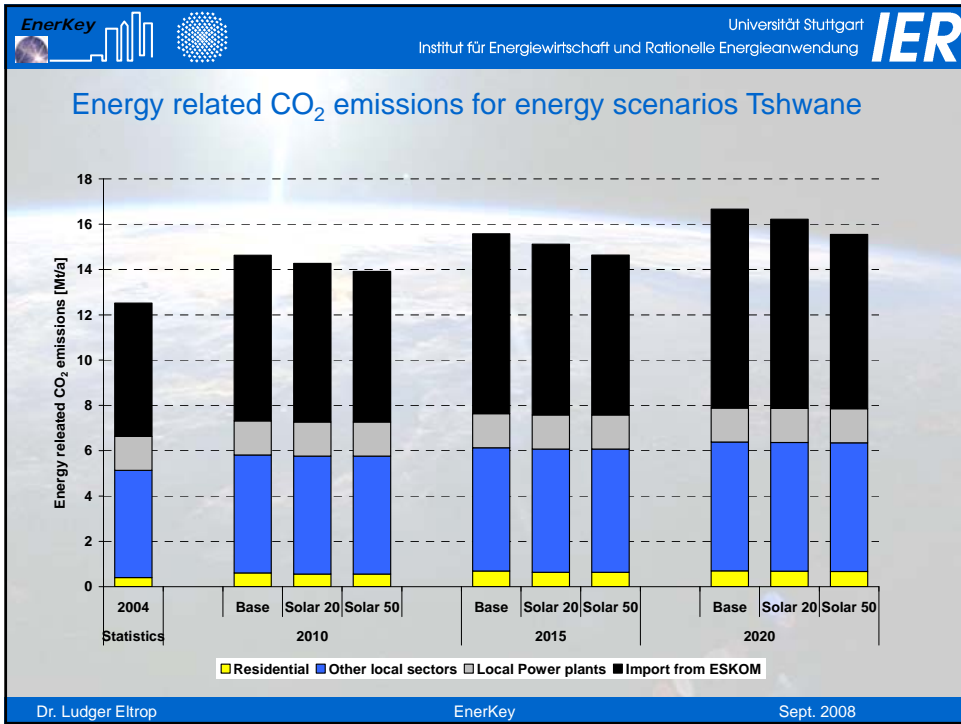
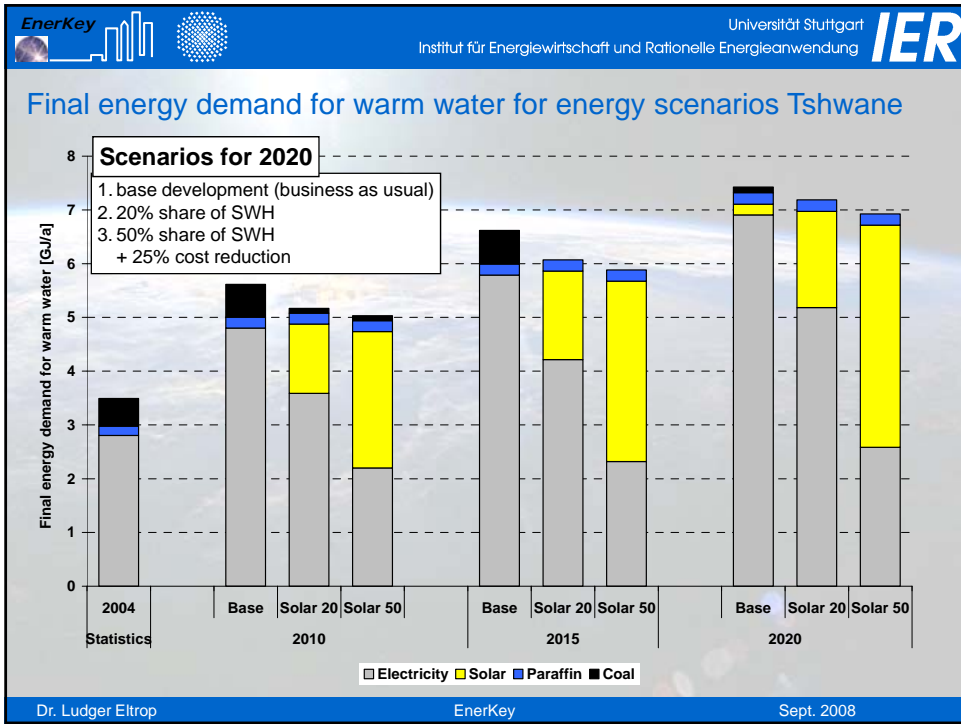
Urgent need for efficiency gains, climate protection and integrative urban energy planning





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Cost of energy scenarios for Tshwane

Cost (Million Rand)	Solar 20	6540	Solar 50	6337.364
	Solar 20 - Base	2718	Solar 50 - Base	2514.806

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Emission reduction for energy scenarios Tshwane

	Base	2020- 20% share	2020- 50% share
Residential (t)	5,573,227	5,116,328	4,433,076
Total (t)	16,663,879	16,218,336	15,554,392
Household Share %	33.00	31.5	28.5

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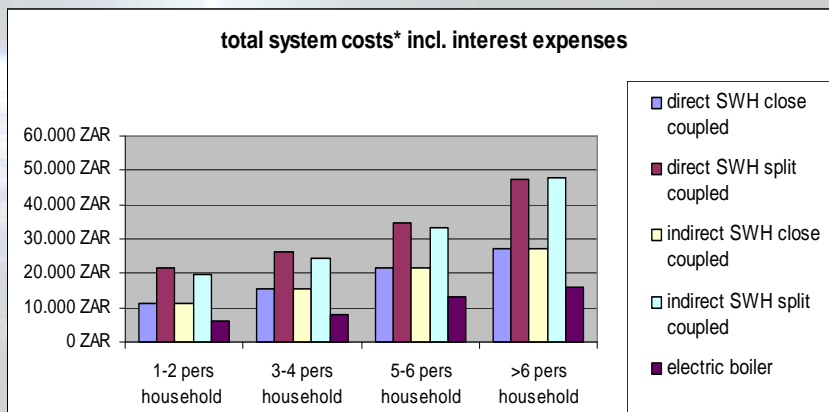


City Strategy Targets

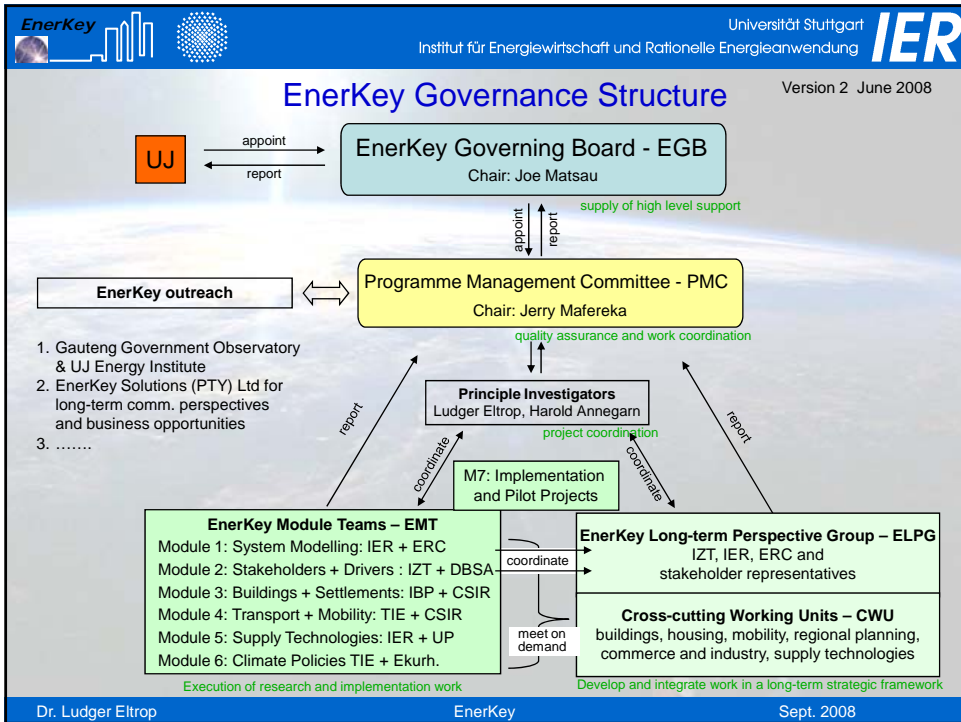
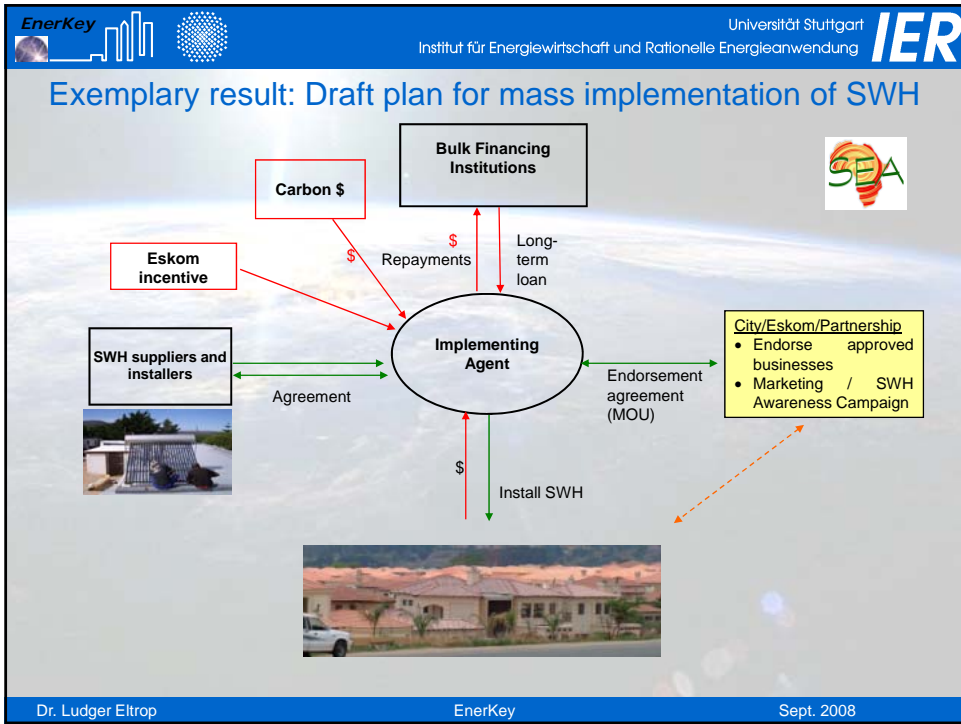
- CoT Strategy
 - 10% of all households to have SWHs by 2010 (62000 households), 50% by 2020
- EMM Strategy
 - 10% of all households to have SWHs by 2010 (75000 households), 50% by 2020
 - SWH Bylaw by 2008
- CoJ
 - No formal SWH targets but generally supported (10% = 80000 households)

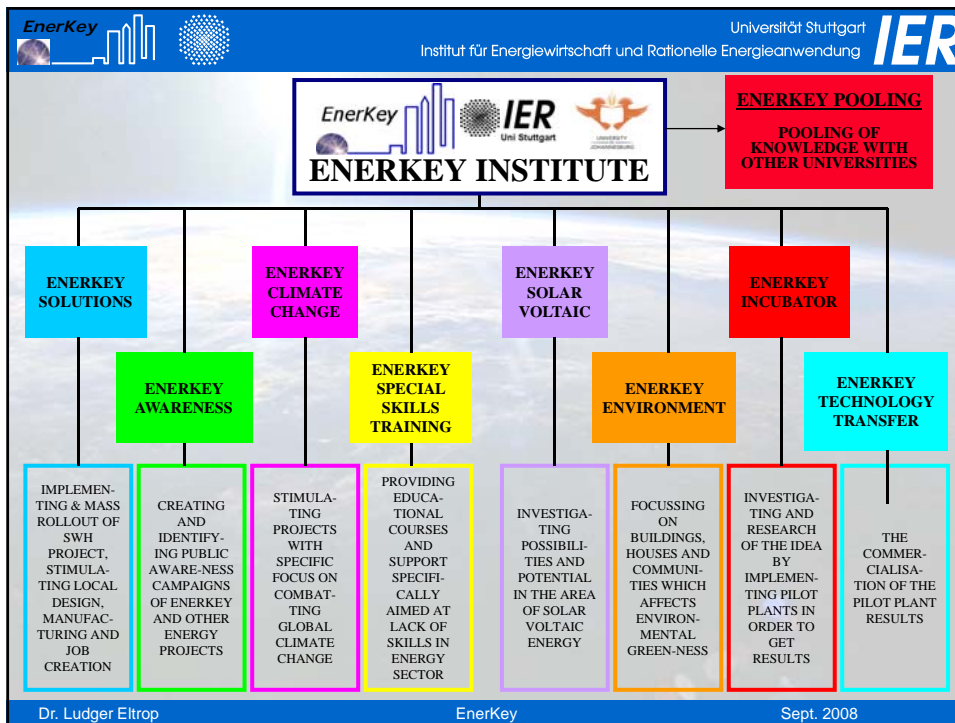


Cumulated investment costs over 5 years



*Calculated with data from SUTANK and SOLARDOME





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EnerKey Solutions (Pty.) Ltd

Presentation to EGB (June 2008)
EnerKey Solutions (Pty) Ltd

Main purpose

- To **develop, design and implement** energy efficiency products and services, as an **implementing** agent, including but not limited to solar water heaters
- Service/product offered must go way beyond SWH's-what about ripple control? Could be a significant part of solution
- **Implement** Free Basic Alternative Energy solutions
- **Implement** energy efficiency solutions in support of Eskom, NERSA and DME
- To **develop** financial models and mechanisms to **facilitate** the above objectives
- **Main deliverable-**
- Kwh's removed from the grid, totally or partially, especially during peak hours, measured in tonnes of emissions reduced

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*Thank you for your
attention*

For more information and contact ...

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