



COLLOQUIUM ON ENERGY FOR THE GAUTENG MEGACITY REGION: RETROSPECTIVE AND PROSPECTIVE

Witsand: Retrospective Look at a Disruptive iEEECO™ Human Settlement Program; Where to From Here?

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Close Part 1

- The time to lead often comes when you least expect it...need more time to study the problem...
- It shows up at your door when you don't want to answer! **Because the problem does not directly affect you...or your work**
- It makes you fearful that you may not be the right one to take the baton and you need more practice first...

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- It makes you feel like your exposed to criticism and the one to blame if the plan fails...You'll be targeted by the "gatekeepers" of the status quo...
- It separates the team and forces you in the front, when you didn't ask for the role...
- Its time for organized planned social economic **correction** with demonstrable on the ground scalable and programmable results ...(not just disruption)...if not now when? If not here...where? If not you then who?

Key Points of Discussion

- Background - Big Picture
- Evolution/Acceptance/Awards
- Post COP 17 Period
- Current work/Future trends- Alarms going off
- Future Prospects

Foundation Up Sustainable Development



Background

- iEEECO™ is an ORGANIC evolving SUSTAINABLE DEVELOPMENT METHODOLOGY concept driven from the foundation of the economic pyramid...
 - an attempt to describe self-help pro-poor human settlement development methodology which aims to use energy, environment and empowerment as the main catalysts to enable programmable and verifiable social economic change and impact.
- We started on this path in 1995 Kutlwanong, Galeshewe, Kimberley
- We ended up as a German partner within EnerKey supported by Eskom

OVERVIEW- United Nations Millennium Development Goals

- The Government of the Republic of South Africa is party to the **United Nations Millennium Development Goals**, which provide for the significant improvement in the lives of at least 100 million slum dwellers by 2020. In addition to these conventions, South Africa adheres to the following declarations under the **UN Habitat programme: the Vancouver Declaration on Human Settlements (1976), the Istanbul Declaration on Cities and Other Human Settlements (1996) and the Habitat Agenda (1996),**

OVERVIEW- United Nations Millennium Development Goals

- the focus of which is to address the plight of persons without adequate housing.
- The **Upgrading of Informal Settlements Programme** is consistent with the above conventions with its primary objective being to cater for the special development requirements of informal settlements.

2012 Pre-COP 17 Focus

- Household energy safety
- Empowerment oriented ->Self-help model development (SMME, job creation)
- Rapid prototype basic integrated energy and environmentally friendly human settlement solutions
- Developing embedded performance based M&V
- Impacting policy development- Pro-poor basic energy service
- Collaborative and partnership oriented- mainly government, NGOs, Universities and single communities/limited private sector engagement
- Learning how to value the outcome when great ideas fall apart on the ground

Evolution/Acceptance/Awards

- Eskom EScO nearly 20 years we learned more about the greater SADC regional power program and challenges.
- Working with international NGOs i.e. GIZ, IIEC, SDI and others we were able to provide a platform for rapid prototyping a number of well intended pro-poor energisation interventions.
- Kutlwanong EECO™ (AIJ and JI) recognition, Earth Summit Benoni Mina Nawe/Soweto/Wits Gauteng Regional EECO ECO™ house solutions
- Cape Town, Gugulethu and Witsand disruptive self-help EECO™ projects up to 2000.

SA UNFCCC COP 17 SA Near Term Flagship Program 2012

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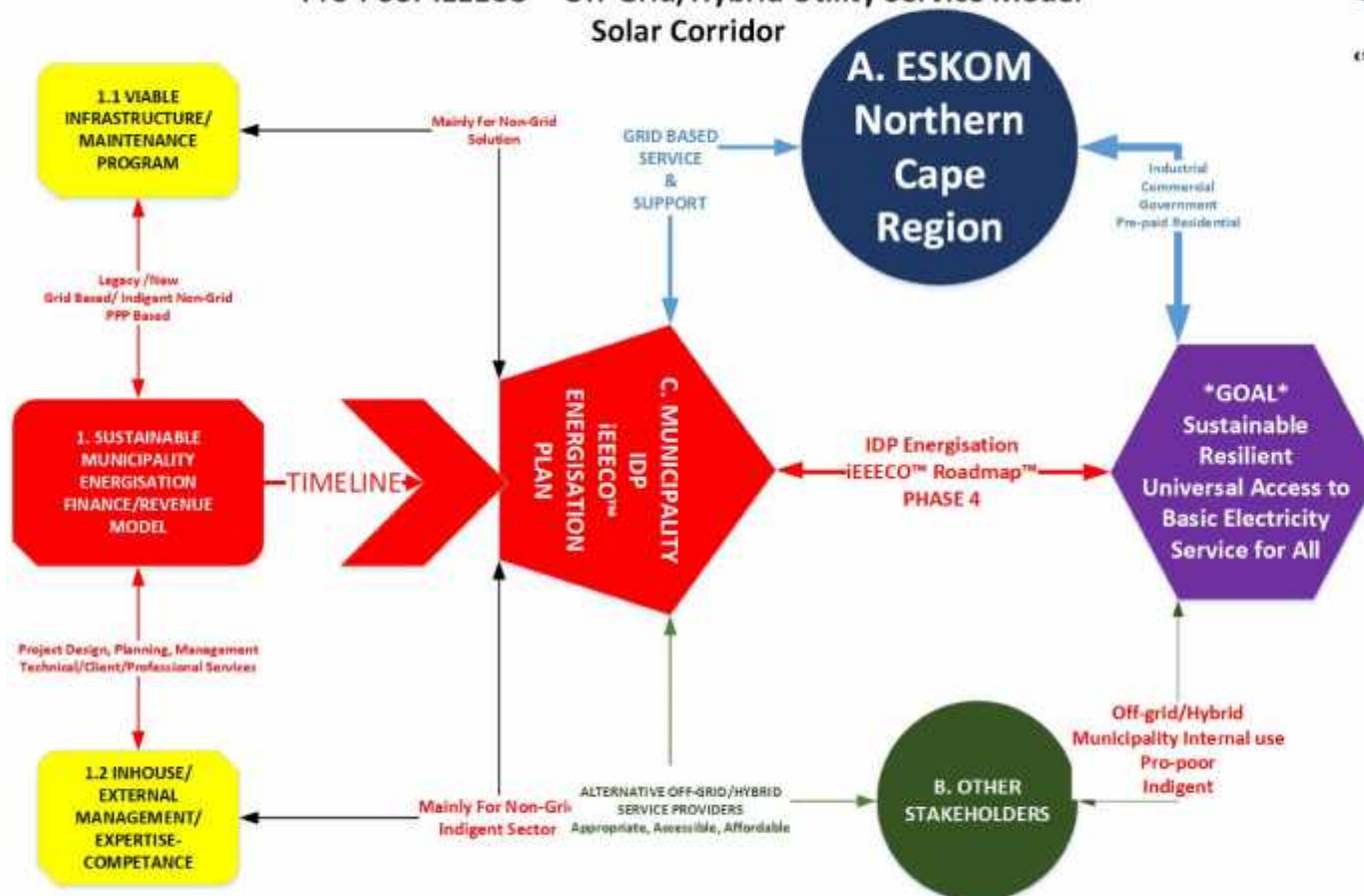
Post COP 17 Period



- Publications and documentaries
- Focus on benchmarking Witsand and the introduction of !Kheis Local Municipality iRoadmap™ Program
- UNISA, SDI, IPP and private sector collaboration
- **Reflection on 25 years of efforts given SA Gini Coefficient rating /barriers to scalable impact**



Post UNFCCC COP17 RURAL MUNICIPALITY FLAGSHIP PROGRAM
Pro-Poor iEEECO™ Off-Grid/Hybrid Utility Service Model
Solar Corridor



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!Kheis LM Rural Solar Corridor as a Post COP17 Benchmark



!Kheis LM Roof top Solar PV/Cool Coating



MICRO ECONOMIC iEEECO™ SOLUTIONS





Hybrid Solar PV, Battery storage, micro-hybrid water pumping and energy management system



COOL AND REFLECTIVE COATING PILOT



100% Off Grid Indigent Roof Top Solar PV

- Deep rural village +-200 families
- Local crews
- International exchanges
- Solar streetlights vs High Mass lighting
- **NO COOKING SOLUTION**
- **STRUCTURES MADE OF REED AND ZINC**
- **EXTREME TEMPERATURE**



Impact: Uitkoms by Solar PV Night



UNISA ECD - COOL COATING/SOLAR PV



WHY ARE WE DOING ALL OF THIS?



UNISA ECD - BASELINE







UNISA ECD BASELINE



WITSAND –P4 UNFCCC COP Recognised Flagship Projects



Witsand iEEECO™ Village

Atlantis, Cape Town





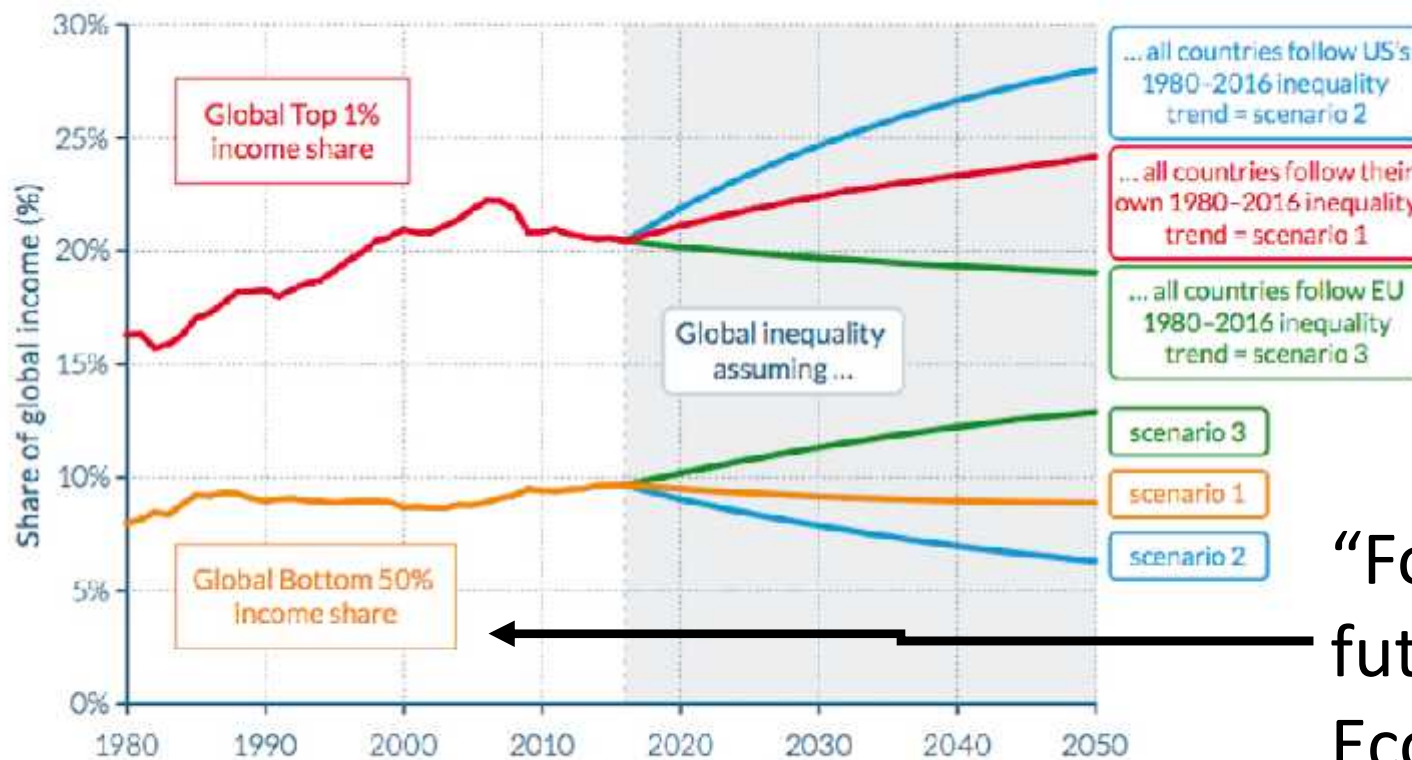
Value added Informal settlement growth and evolution

Witsand Phase 4- Community Drive Multi-Story Units

- NEW iEEECO™ Multi Family Structures
- iEEECO™ Ablution
- Service Centers
- iEEECO™ Energisation
- Collaboration
- iEEECO™ Finance
- SME- level construction
- Passive Solar



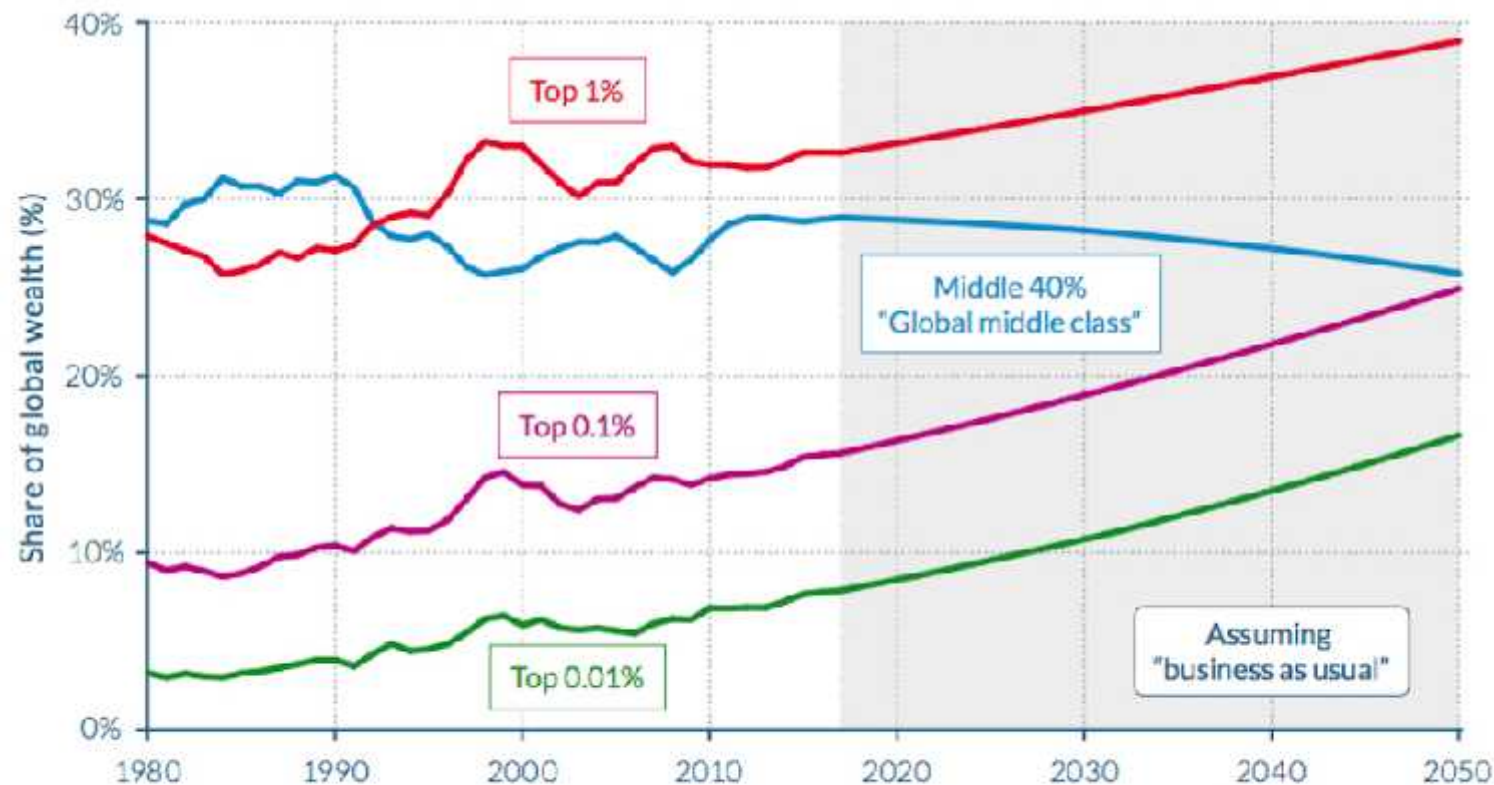
Reflection-Future for Low Income Settlements



“Foundation” of the future “Global Economic Pyramid”

Three scenarios of inequalities evolution up to 2050 © World inequality report 2018

Reflection -Future for Low Income Settlements



© World inequality report 2018

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Here are the top 10 countries, with their percentages of total global personal wealth.

1. United States — 41.6%
2. China — 10.5%
3. Japan — 8.9%
4. U.K. — 5.6%
5. Germany — 3.9%
6. France — 3.5%
7. Canada — 3.0%
8. Italy — 2.9%
9. Australia — 2.0%
10. South Korea — 1.6%

Interesting, hey?

Sustainable Development Goals ↓

 **South Africa**

Sub-Saharan Africa

Search country...

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Current Assessment – SDG Dashboard



Current Work/Future Trends

- Looking for real macro level international pro-poor energisation leadership
- Refining methods to enable programmability, scalability, collaboration with non-technical sector i.e. SDI
- Looking at ways of proper valuation of social capital and formalised social capital credits with a fair market value based on avoided externality factors mainly avoided health and safety externalities-not just carbon credits
- Why?

OUR BASELINE- SUSTAINABLE DISRUPTION

- More than half of the extreme poor live in Sub-Saharan Africa. In fact, the number of poor in the region increased by 9 million, with 413 million people **living on less than US\$1.90 a day in 2015**, more than all the other regions combined. **If the trend continues, by 2030, nearly 9 out of 10 extreme poor will be in Sub-Saharan Africa.**
- **The majority of the global poor live in rural areas, are poorly educated, employed in the agricultural sector, and under 18 years of age.**
- <http://www.worldbank.org/en/topic/poverty/overview>

Discussion

- Do these graphs suggest that our current approach to empowerment are working?
- What impact does energy have on changing the trend lines?
- Do we need more technology to solve this problem?
- What role does international leadership and proper valuation of the FoEP as a focus; play as a catalyst to disruptive change?
- **Will we reach a tipping point with the better half says #stop and restart with a more viable and inclusive global energy model**

Opportunities

- **Macro/Micro Economic Positioning:** Social work is seen as “soft profession” whose main mission is to fill the gaps and ***clean up the mess created by “development and progress”...Not lead “development and progress” ...the wealthy are not listening/don’t really value the contribution...***
- **Proper valuation of social capital :** inclusive of “externality costs benefits”; current methods of valuation limit investment; ***and now radical social /economic disorder/disruption will force the change in your lifetime...***
- **Leadership Policy Vacuum:** Who is leading the next generation of radical disruptive integrated social economic ***inclusion*** policy?
- **Tipping Point:** No doubt the world is heading for a collision between the rich and poor. ***#Stop- Lets shut it down! -is coming as a consequence in your lifetime...***

Challenges/Opportunities

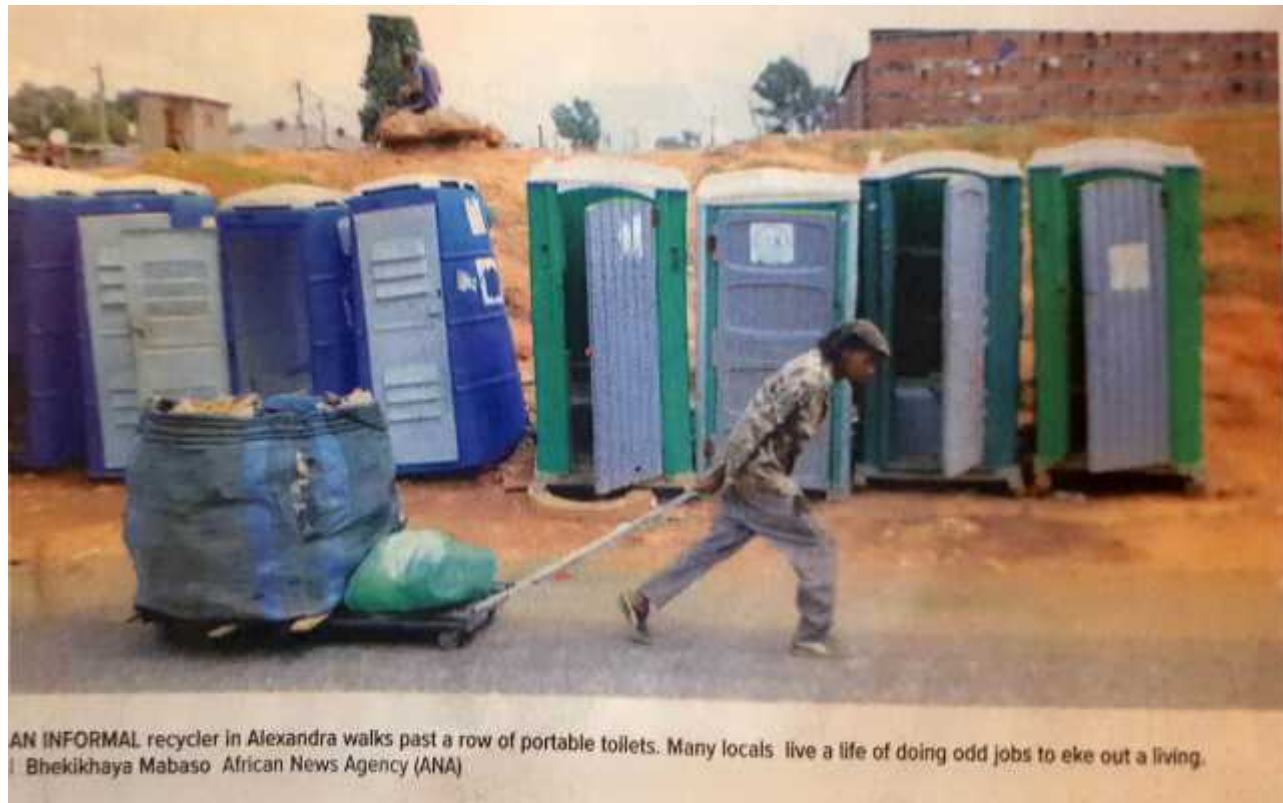
- The world economic leaders are **not paying attention**; which means most of the efforts at the end of the economic lifecycle are *“fingers in a dike”. Hello....Its not working stupid!*
- There is no effective macro scale leadership leading the way to close the gap between rich and poor; even though we have means and knowhow to develop inclusive solutions. ***Therefore leadership will be spontaneous and high risk...***
- The effectiveness of legacy designed unequal global social economic infrastructures continues to out pace/out perform current society’s social economic program effectiveness and solutions. ***Creating increased year on year misery index for the foundation of the future economic pyramid.***
- Who is developing the “play book” or “roadmap” for **#Stop... Lets shut it down** and more importantly what is the plan of action after we get their attention?

How do we change the status quo?



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Is this the best we can do?



#Shut it down ...African Megacities are at the tipping point



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Nkosi! Dankie! Ngiyabonga!

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