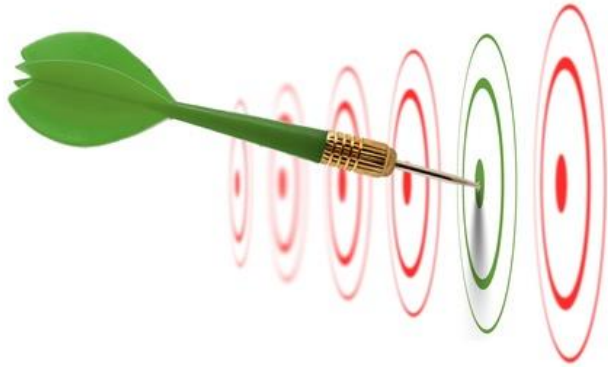


# Economically viable Smart Grids within Municipalities

AMEU November 2014



# Aims



- Explore the viability of smart grid technology implementation
- Find barriers to their widespread uptake
- Understand future of sustainable grids.
- Generate and disseminate knowledge for dissemination

# 2014 Project Focus Areas



- Sustainable Electricity Grids
- Embedded Generation
- Smart Metering

# Case Study Streams



- George
  - Embedded Gen and ToU tariff structures
- Stellenbosch
  - Embedded Generation Impact & Mitigation
- Matzikama
  - Sustainable Electricity Grids

# What is a Sustainable Grid?



Definitions of sustainable:

- Able to be maintained at a certain rate or level
- A system that maintains its on viability by using techniques that allow for continual reuse
- Able to be supported as with the basic necessities or sufficient funds

# Sustainable Grids



What is a sustainable grid?

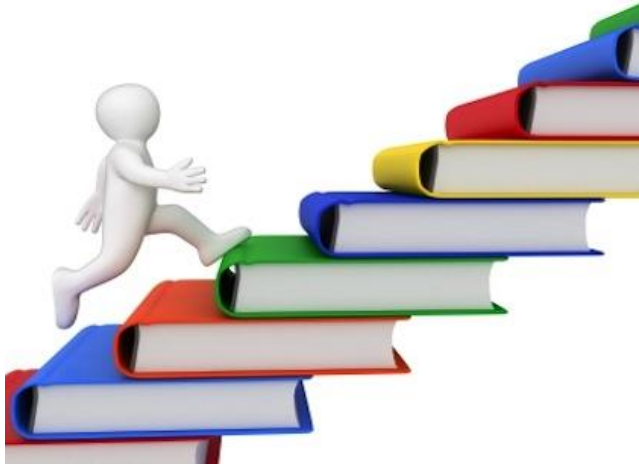
- More than just renewable energy
- Needs to be able to manage change
- Needs to provide for itself

# Smart Metering Standards



- Appointed technical lead on NRS 049-2 Standard
- Developed a list of minimum functional requirements
- Key focus:
  - Split-Prepaid Smart Metering
  - Interchangeable
  - Shared Coms

# Key Lessons Learnt



- Information
  - Critical for decision making
  - Critical for understanding cost of supply
- Tariffs
  - Correct tariffs are very important
    - Especially when ToU billing comes into play
  - Complex system with multiple feedback points
    - Need accurate load information
    - May even need to be dynamically controlled
- Communications
  - Choice of coms platform is vital
- Planning
  - Looking ahead is going to be important to prevent problems before they occur.