

Smarter Sustainable Energy for the Rural Poor

A GRA Proposal for Delivering Real Change

Steve Szewczuk (CSIR South Africa), Max Schreuder (TNO) , Adam Berry (CSIRO),
Stephanie von Gavel (GRA)

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Our Goal

- To create a smarter sustainable energy programme for the remote and rural poor that:
 - Delivers localised generation, storage and distribution systems
 - Features energy efficiency and intelligent demand management at the forefront
 - Offers modularity, community-specificity and flexibility
 - Enables rapid deployment
 - Provides robustness
 - Integrates contemporary smart-grid concepts
 - Enables a sustainable, long-term and green solution to energy access

A Phased Approach

- **Phase 0: Project Scoping**
- Phase 1: Development of a Simulation-Based Pilot Collaborative Project
- Phase 2: Real-world Trialling of Developed Technologies and Methodologies
- Phase 3: Development of Modular Solutions Suitable for Commercialisation and Large-Scale Deployment

A Phased Approach - 0

- Phase 0: Project Scoping in June & July
- June
 - Identifying relevant stakeholders
 - Identifying other relevant (project) initiatives and developments
 - Test and fine-tune criteria for selection of project site
- July
 - Intensive workshop with the Eastern Cape Provincial Government and targeted stakeholders, including in-situ engagement
 - Develop a formal plan for collaborative research, with targeted stakeholders
 - Seek formal funding arrangements

A Phased Approach - 1

- Phase 1: Development of a Simulation-Based Pilot Collaborative Project
 - Produce a comprehensive social and technological review of energy requirements, trends, drivers and barriers for powering the rural poor
 - Develop models and simulations that capture energy requirements and resource availability for a specific region
 - Leverage, adapt and enhance existing smart-grid, minigrid and load management technologies to match energy, societal, cost and environmental requirements for the target region
 - Assess performance and potential based on modelling and simulation

A Phased Approach - 2

- Phase 2: Real-world Trialling of Developed Technologies and Methodologies
 - Working closely with the targeted stakeholders, adapt technological solutions to match unique energy and societal requirements
 - Develop prototype devices based on lessons learned in Phase 1
 - Integrate, test and analyse performance over an extended trial of technologies and methodologies with targeted stakeholders
 - Ensure long-term stability and performance of trial technology at the host site

A Phased Approach - 3

- Phase 3: Development of Modular Solutions Suitable for Commercialisation and Large-Scale Deployment
 - Use lessons from Phase Two to refine prototype devices, with a focus on driving down cost, improving reliability and maximising modularity for use in diverse settings
 - Expand trials and analysis in the field
 - Determine the best model for commercialisation and large-scale integration of devices, with a focus on ownership, management and empowerment
 - Licence technologies to appropriate social entrepreneurship or developing world energy services company
 - Use the lessons learnt to support the development of national roll-out plans

Discussion

- Criteria for site selection
 - Ease of access; from project execution level, decision making level, and ability to inform policy makers
 - Maximize use of lessons learnt and use deliverables of previous projects e.g. access to wind/solar data (e.g. WASA)
- Stakeholder involvement is essential
 - strong institutional capacity, industry, service delivery, ownership, operations, maintaining, retailing, consumers, funding agencies,....
- Relevant (project) developments

THANK YOU

Stephanie van Gavel (CSIRO Australia), Steve Szewczuk (CSIR South Africa)
Adam Berry (CSIRO Australia), Max Schreuder (TNO The Netherlands)

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