Rural Domestic Biogas near Giyani

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About Mpfuneko Community Support

- Established in 2007 by members of the community
- Non-profitable and Public Benefit Organisation
- Rural development through innovations
- Triple bottom-line projects: environmentally, socially and financially sustainable
History of MpfunekoCS

- 2009 – 2013 ICCO: Developing Ready-to-Cook Biogas concept
- 2012 Dutch Embassy in Pretoria: Education on Biogas Project
- April 2013 Working for Energy: Training of constructors
- July 2013 uThungulu District Municipality: Construction of pilot digesters
- July 2013 Energy and Environment Partnership programme: Making the Ready-to-Cook Biogas concept scalable and reproducible
Cross-section of a biogas digester
Construction of a biogas digester

Digging the pit

Digester under construction

Digester under construction

A completed biogas digester
<table>
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<th>Project Name</th>
<th>Mpfuneko Rural Domestic Biogas Project</th>
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<td>Project Description</td>
<td>Providing 55 households with Ready-to-Cook Biogas</td>
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<td>Implementing Agent</td>
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"Working for Energy"

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Working for Energy

• Milestone: first South African funding
• Top quality digesters
• Training of local constructors (construct independently)
• Use of locally available materials
• Large number of digesters (55)
• Making our own tools
Energy and Environment Partnership programme

- SA5006: Pilot Project on the Management of Biogas Digesters by Community Members in Giyani
- Making the Ready-to-Cook Biogas concept scalable and reproducible

Project financed by:
- the Ministry of Foreign Affairs of Finland;
- the Austrian Development Cooperation; and
- the UK Department for International Development (DFID).
What is Ready-to-Cook Biogas?

• A local organisation collects cow dung, fills the digester and does maintenance
• Households pay a monthly fee for biogas
• Advantages of Ready-to-Cook Biogas:
  – More job-creation;
  – Better management of biogas digesters;
  – Business opportunities;
  – More households qualify and enjoy benefits; and
  – Inclusion of poorest-of-the-poor.
Why Ready-to-Cook Biogas? (Economic Reasons)

• The traditional approach targets middle income households that have cattle
• Ready-to-Cook Biogas can include the poorest-of-poor and rich households
• Practice shows that some kind of contribution from the household is needed
Why Ready-to-Cook Biogas? (Other Reasons)

• Biogas as modern energy solutions: easy to use and in combination of electricity
• Combining the cooking characteristics of a wood fire with the cleanliness of electricity
• Include households without access to cow dung
• Operating a digester is not as easy as it seems
• Environmental benefits from proper operation of biogas digesters
How to replicate the RtCB concept?

- Dream: Community should be able to do its own biogas project
- Training of constructors (local materials)
- Training of partner organisations
  - Marketing
  - Collecting cow dung
  - Small maintenance
  - Collecting monthly fee
- Lease arrangement as monitoring tool
RtCB concept in practice: Ripfumelo Chabalala Sole Proprietorship

• Arrangement with cattle owners
• Waiting for written approval community
• 12 households agreed to sign RtCB contract
RtCB concept in practice: The challenges

- Biogas is new to the community. There is lot of interest, but reluctance to commit to biogas
- Not all materials are local
- Construction of digester requires many different skills, which takes time
- Centralised digesters are very difficult
- Economies-of-scale
- With one leg in advanced economy, with the other in a rural community
Summary

• We have been successful in constructing reliable biogas digesters with local labour
• We have been innovative in how the biogas digesters are managed
• There are very promising signs that local people can do a better than outsiders
• But that is definitely not without its challenges
• We have come a long way and still have a long way to go
End. Thank you!!!