



Sustainable Energy Policy and Research 'Knowledge Network' on cost effective, ecologically sound and healthy energy

alternatives for low-income rural households
Sparknet

OBJECTIVES, STRATEGY AND ACTIVITIES

Joint workshop : CARENSA, SPARKNET, LAMNET,
Durban 19-21 August 2002

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Focus and Objectives

- Geographical focus: East and Southern
- Policy dialogue between relevant stakeholders within and between countries.
- knowledge bank on key actors, (research) activities, and projects within each country in four areas: health, gender, forestry, and policy issues.
- Develop 'rapid-prototype' scenario analyses for household energy in each country
- Policy document for decision-makers



What is available now and by end September

- Database on members and associates
- Macro and micro data for seven countries
- Position papers on 3 key themes : Household energy and health, HH and gender, HH and forestry. Second series by end September
- Comprehensive bibliography
- Glossary



SPARKNET Work packages : Deliveries

- Record and review the present situation - Country reports
- Centres of excellence and best practice - knowledge bank on key actors
- Scenarios for the future
- Policy options and analysis



STRUCTURE

Household energy Micro enterprise Governance Case studies Sources of information

Household energy demand and use

Household energy demand and use

Cooking Space heating Hot water Lighting refrigeration
space cooling Com and entertainment Appliances

Market Comparison

| Model/ Manufacturer/ Country | ITDG/Peru | Air/Southwest Windpower/ USA | Rutland 913/Marlec/UK | FM 910/Marlec/UK | A6/Aerogen/ UK |
|------------------------------------|-----------|------------------------------------|--------------------------|---------------------|-------------------|
| Rated Output | 200W | 300W | 90W | 250W | 120W |
| Rated Windspeed | 6.5 m/s | 12.5m/s | 10m/s | 9.5m/s | 12m/s |
| Rotor diameter | 2m | 1.1m | 0.9m | 1.8m | 1.55m |
| Price (£) | 300 | 580 | 380 | 1620 | 975 |



Manufacturing and Local Design (output 3)

- Wind systems designed in Peru, Sri Lanka and Scotland



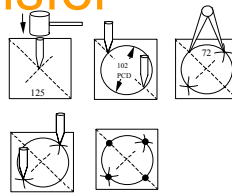
Demonstration units

- Test sites in Peru, Sri Lanka, UK



Dissemination/technology transfer

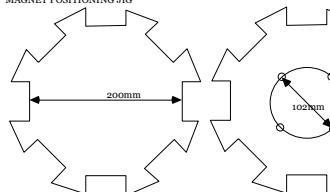
- PMG and Aerodynamic manuals
- Manufacturers training



Magnet positioning jig

This jig is for putting the magnet blocks into the correct places on the steel disks. Only one jig is needed. Make the jig from plywood or aluminium sheet. The magnet blocks are equally spaced around a circle.

MAGNET POSITIONING JIG



Impact: poverty

- Demonstration project: longer period to assess the impact on poverty.
 - The pilot in Sri Lanka has benefited a very poor family.
 - Previous sources of lighting (mostly kerosene) replaced by electric lighting. financial savings and a reduction in the risk associated with kerosene
 - Modest income from the charging of neighbour's batteries.
 - Unexpected impacts improved safety, due to the protection offered by improved lighting, from wild predators.
-
- Operators understand the basics of wind energy are able to carry out simple maintenance.
 - The two entrepreneurs able to manufacture PMG.: indicator of technology transfer



Impact: Gender

- Still marginal
- more comfort in carrying out domestic activities
- Reduction in wood collection : fire camps (Sri Lanka)



Impact: Sustainability

- Key component : market study and cost comparisons
- Close involvement of manufacturers, training of operators
- Manuals for practitioners: PMG and aerodynamic



Impact: Environment

POSITIVE

- Renewable source of energy
- Battery charging from fossil fuels

NEGATIVE

- Other negative: visual, noise



Knowledge and Lessons

- Wind energy is another environmentally sound and cost effective source of energy for poor households.
- The project has already proved that there is a market
- manufacturing can be undertaken locally.
- Wind energy a new technology option for ITDG
- More systematic monitoring of economic and social impact



What next:

- Follow-up project submitted
- Strategy for dissemination (Website, CD Rom, booklet).
- Other schemes

