

SADC Programme for Biomass Energy Conservation
in Southern Africa

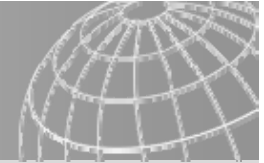
Institutional Stoves

based on the Rocket Stove principle

Malawi experience







Wasteful use of firewood in institutions in Malawi





Firewood needed to cook 100 l of Maize Pap (nsima)



**170 kg
on the
open fire**



**14 kg with the
new rocket
stove**



Other benefits of the Rocket stove



- Less smoke: less coughing and burning eyes
- Less danger for the cook to get burnt
- Less burning and waste of food
- Better quality of food



„Nsima“
prepared out of
the same flour:



traditional fire < > new stove



... compared to other improved stoves like the Bellerive stove (right):

- For the user: **Convenience**
 - No need to cut wood
 - Less time needed to prepare wood
 - No chimney to sweep, less maintenance
 - Less smoke even without a chimney
- For the owner: **Economy**
 - Less expensive to buy
 - No chimney to be passed through the wall or the roof



The draft system of the ‚bellerive‘ type of stove is designed to work with a **CLOSED** door to function well.

Reality: it is used with long and uncut pieces of wood with the door open



„Marketing chain“ demystified means to answer these questions:

- Who is involved to turn raw materials into a sellable product?
- Who is involved to make the product reach the user?

In other words: How can we ensure that we get ...

... the right stove ...

... to the target users ...

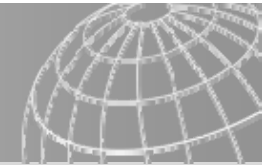
... in the right quantity, quality and price ...

... in the right place ...

... at the right time ...

... so that everybody involved gets a fair profit

... The right stove....



1 USD



8 USD



15 USD



20 USD



30 USD



50 USD



80 USD

50-100 USD



200 USD



300 USD





- **WFP'- model** special design for the needs of the first big customer
- Sized for a 110-l-half-drum
- Must be mobile, as WFP distributes the stoves to the schools
- Cheaper design with a lower skirt, for one metal sheet to yield two stoves, target price ca. 200 USD

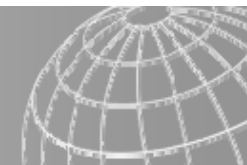
Today: average surtax free-prices, without pot

retail: 25,000 – 28,000 MK (ca.180 - 200 USD)

wholesale: 23,000 – 25,000 MK (ca.165 - 180 USD)



- Over 2,200 institutional stoves sold all over Malawi
Thereof about 1,400 WFP-models bought by donors supporting school-feeding programmes (WFP, UNICEF, Mary's Meals, GTZ Basic Education programme),
rest to other institutions like prisons, hospitals, private schools, orphanages, restaurants, company kitchens etc.



Branding: Logo development

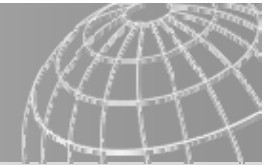

**Rocket
Stove**


Rocket Stove


R

- The name 'rocket stove' was inherited and stands worldwide for the rocket design principles developed at Aprovecho Institute, there was no indigenous name yet when we developed the logo
- In a quick survey the three flames were recognised, associated with the project and linked to high quality
- Logo simulating the L-shape of a rocket stove fire chamber
- First letter could stand on its own and would still be recognisable
- Stencil font chosen for easier spray painting





Branding, certification and quality control





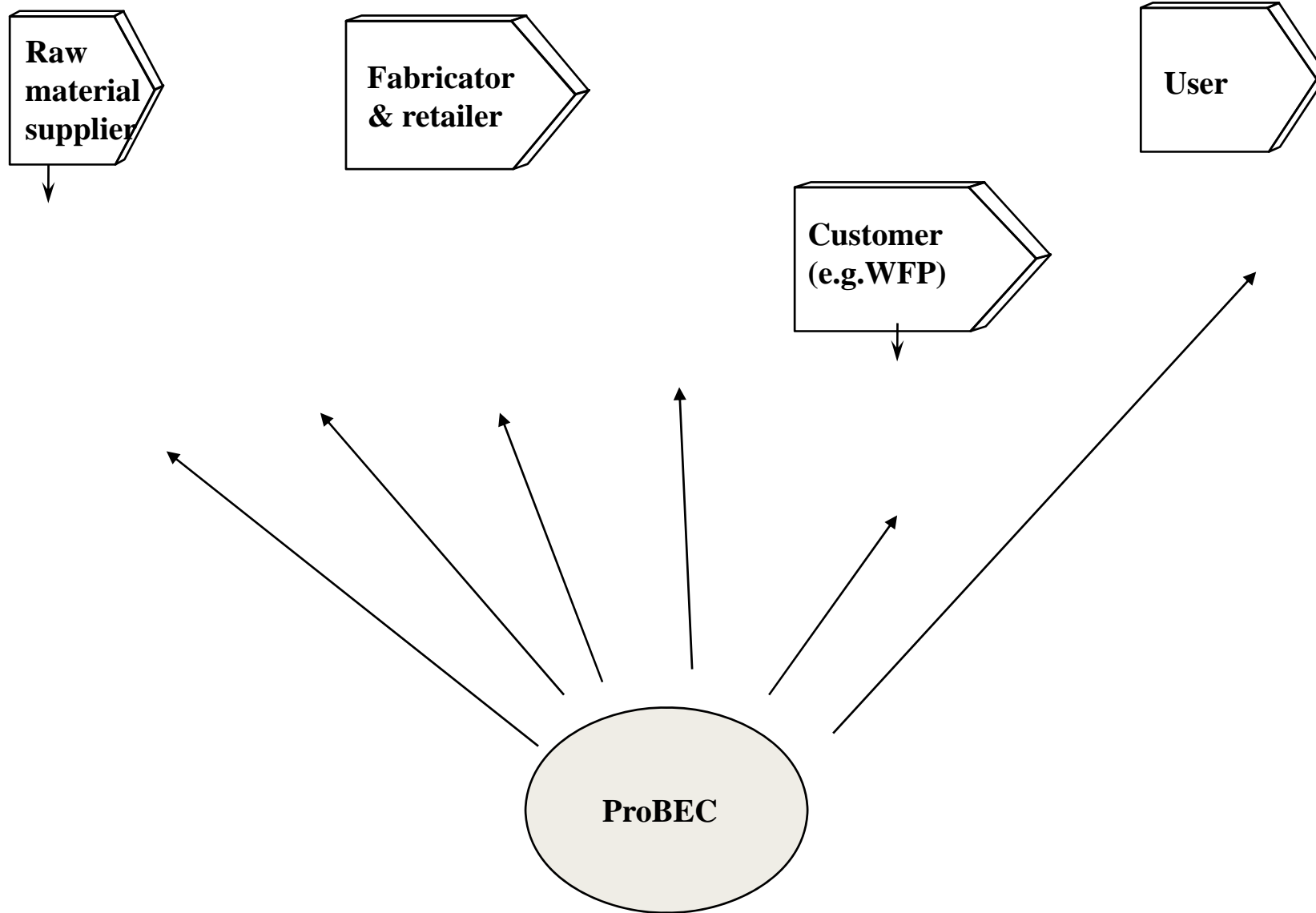
- High level of project effort necessary to maintain standards and reputation: min. first 100 stoves inspected by project staff before delivery and quality control sheet filled, later on spot checks only
- Each stove goes out with a serial number, a matching certificate and a user manual
- Certificate serves as warranty proof (granted by producer)
- Register of certificates = proof of stoves sold

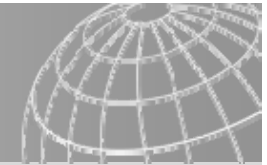


- First entrepreneur trained in 2004 in Mulanje
- In 2005, further 14 entrepreneurs selected for training (already in business, at least one successful product on the market)
- Only 4 became certified rocket stove producers
- They cover the 3 major regions of Malawi
- All retail directly from their workshops
- No middlemen (wholesaler, retailer) involved
- Ken Steel Engineering has an outlet in Blantyre and employs a sales person who at time goes all over the country with a pickup full of stoves targeting private schools etc.
- Delivery of bigger orders to the customer often offered as extra customer service



- Market research in 2003 showed a potential market of 600 institutions
- Over 2,200 stoves sold since 2004
- New market opened = school feeding programmes, scope ca. 4,500 primary schools in Malawi
- Lifespan ca. 3 years of the stoves (with maintenance)
- So far the current production capacity of 1,000 stoves per year seems sufficient, Ken Steel can respond to order of 500 stoves within 2 months. Stoves account for ca. 70 percent of his business
- Conclusion: Sustainable supply sounds possible



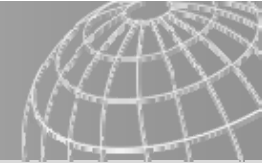


Create display platform: International Trade Fair etc.



Cost sharing





Demonstrations at schools, donors, meetings of networks like the Private Schools Association, Tea Association etc.,





- Producers know their costs
- Pricing is based on costs
- Producers know their yearly turnover
- Producers know the difference between turnover and profit
- Bookkeeping is done by professional people