Promoting commercial improved cook stoves: the need for solid financing mechanisms

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Ouagadougou

Nadia Mrabit
Promoting energy efficient cook stoves for beer brewers (dolotières) in Burkina Faso
The local beer sector has needs and potential for increased efficiency

<table>
<thead>
<tr>
<th>KEY FACTS</th>
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<tbody>
<tr>
<td><strong>Design</strong></td>
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<td><strong>Capacity</strong></td>
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<td><strong>Process duration</strong></td>
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| **Wood costs** | • CFA 250,000 to 500,000/month (EUR 380-760)  
  • 3 to 4 tons/stove/month |
| **Cost of Pots** | • Ceramic (CFA 2,000 –EUR 3)  
  • Aluminum (CFA 25,000 – EUR 38) |

**EFFICIENCY IMPROVEMENT POTENTIAL**

| **Energy Efficiency factor impacting wood consumption and costs** | • Ceramic: **45 to 50%**  
  • Aluminium: **60 to 65%**  
  40.65 t CO₂ e carbon emission reduction/ cook stove |
| **Payback period** | Starting 6 weeks |
The brewing of the dolo is a traditional fuelwood-consuming women activity

- Traditional industry and processes
- 100% Female brewers (dolotières)
- Mass concentrations of at least 3,000 brewers in Ouagadougou alone
- 20% of the country’s firewood consumption – strong pressure on deforestation & GHG emissions
Today the introduction of energy efficient cook stoves encompasses various challenges...

**Challenges**

- **Know-how**
  - Training, quality assurance and uniform performance of stoves

- **Financing**
  - Availability of financing

- **Dissemination**
  - Rapid & large-scale adoption of improved cook stoves

- **Resistance**
  - Reluctance of the operators to change practices

- **Awareness**
  - Lack of information on reduced fuel consumption/cost, time savings
...to be overcome by our project

**Dolo Project**

1. **Technology Introduction**
2. **Market demand stimulation**
3. **Facilitation of access to finance**
4. **Replication via Carbon Finance**
5. **Extension to other countries**

4 intervention zones for 2 years
Training, support & advice enables the dissemination of energy efficient cook stoves

- Training 100 cook stove artisans/manufacturers on improved designs and construction
- Training of beer brewers on cook stove maintenance & operations
- Enforcing quality and standards to ensure performance

Close collaboration with national research institute: IRSAT, GIZ and SNV
Dolotières are clustered to stimulate demand for improved cook stove and generate synergies.

1. Determine zones of high concentration of beer brewers
2. Raise awareness on potentials and synergies for cluster members
3. Foster collective efficiency
4. Establish vertical linkages between the cluster and the distribution & supply chains for improved cook stoves
5. Generate demand for improved cook stoves and improve livelihoods of women beer brewers and their families
Access to finance via a four-pillar approach facilitates the dissemination of EE cook stoves

I. Project Beneficiaries

Dolo value chain players especially:
- Dolotières
- Masons

Borrowers

Beneficiaries willing and retained to become a loan

II. Project Finance

Support for Business Plan

Technical Assistance

Value chain training

III. Guarantee Fund

- Built by each cluster
- Members are the borrowers/microenterprises
- Incl. Credit/Guarantee Committee

If no payback, reimbursement

IV. No subsidies / self-financing

Loan application after analysis

Loan application

Guarantee Letter

Membership through share/pro rata of wished credit
A national cadre for developing and implementing cook stove projects will be established.

### National Carbon Finance Capacity Building

**Project Developers**
- Training (theory & practice/PDD. Best practices)
- One-to-one coaching & mentoring

**Project Operators**
- Training (simplified on carbon credit and practical use)

**Monitoring Entity**
- Support to develop appropriate methodology for cook stoves
- Training on practical use of methodology
- Remote support

### Interactive platform
- Knowledge sharing between key cook stove carbon finance stakeholders
- Online exchange platform monitoring the PDDs
Carbon finance will be further accelerated through strategic collaboration.

- **Existing POA**
  - International Partners
  - Local NGOs

- **POA under registration**
  - International Partners
  - Local NGOs

- **Creation of PDD**
  - National Developers

**Cash generated through carbon credits**

- **Sustainability of existing energy efficient stoves**
- **Potential for additional energy efficient stoves**

- **40,654 t CO₂e**
carbon emission reduction for 1,000 cook stoves
  e.g. income of **USD 203k¹**
Replication and up-scaling potential within Africa
A large variety of traditional food processing technologies have EE potential in Africa.

- Bakeries
- Beer brewing & Meat grilling
- Injera Cooking

Projects in the Pipeline
THANK YOU

NADIA MRABIT
N.MRABIT@UNIDO.ORG
BACK-UP
Access to finance via a three-pillar approach facilitates the dissemination of EE cook stoves

No subsidies / self-financing

Providing loan guarantees via Women Association

Providing training & support on beer brewing value chain & selection of loan beneficiaries

Supporting and pre-selecting potential loan beneficiaries

Financing

Bundling Groups of Microenterprises/Clusters

Technical assistance

Project support

Dolotière 2

Dolotière 1

Dolotière 3

International Credit line provider

Local Financial Institution

Ecobank

AFREXIMBANK
Thanks to carbon markets energy efficient cook stoves can be further promoted and used

- Train 20 master project developers on Gold Standard project identification and development
- Establish a monitoring methodology
- Train 50 project operators on registration and monitoring requirements
- Establish a platform for interaction between project developers, project operators, DOE, CME, DNA and other relevant stakeholders
Leveraging the voluntary carbon market supports the financing of women brewers

Feasibility study of VCM Projects on dolo cook stoves

For this project with an implementation of 1,000 improved cook stoves

- 40,654 t CO$_2$ e emission reductions per annum with an energy efficiency of 35 %
- Based on an average Gold Standard carbon price of EUR 6/t, earnings before taxes would be about EUR 176,000/year
Each project component has clear outcomes to ensure the adoption of energy efficient stoves

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<tr>
<th>Step</th>
<th>Description</th>
<th>Outcomes</th>
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<tr>
<td>1</td>
<td>Technology Introduction</td>
<td>• 100 cook stove manufacturers trained</td>
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<tr>
<td></td>
<td></td>
<td>• 1,000+ improved stoves implemented</td>
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<tr>
<td></td>
<td></td>
<td>• 40,654t CO₂ e emission reduction</td>
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<tr>
<td>2</td>
<td>Facilitation of access to finance</td>
<td>• Financial support mechanism implemented</td>
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<tr>
<td></td>
<td></td>
<td>• Loans to beneficiaries granted</td>
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<td>3</td>
<td>Market Demand Stimulation</td>
<td>• 2 clusters developed and working</td>
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<tr>
<td></td>
<td></td>
<td>• Improved integration into value chain</td>
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<tr>
<td>4</td>
<td>Replication via Carbon Finance</td>
<td>• 20 project developers trained</td>
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<tr>
<td></td>
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<td>• 50 project operators trained</td>
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<td>• National monitoring entity upgraded</td>
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The project contributes to reduced impact on climate change and improved livelihoods

Reduced impact on Climate Change

- Reduced deforestation in a country where wood is a scarce resource and reforestation efforts are limited
- Reduced GHG emissions/smoke

Improved livelihoods of women & households

- Improved women health (limited acute respiratory infections)
- Reduced cost and improved production processes leading to increased income generation for women
- Employment opportunities/security for masons and women brewers