

# Energy Efficiency in Ugandan SME

## Barriers and Drivers of Investment Decisions

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- **Non-technical drivers and barriers** to energy management and energy saving?
- What **kind of thinking drives** people's decisions?
- Which **habits, norms, day-to-day practices** possibly impede energy efficiency diffusion?
- ➔ Behavioural science-based measures that could increase energy efficiency among SMEs



- Collaboration with GIZ Promotion of Renewable Energy and Energy Efficiency Programme/Ministry of Energy and Minerals Development
- 45 interviewees: 29 SMEs in Kampala and Eastern region, 16 experts/stakeholders in Kampala
- 2 groups of SMEs: participants of GIZ/MEMD energy training and SMEs without any energy training

# The food processing sector in Uganda



- Ca. 6000 food processing businesses in Uganda, employing about 60 000 people ( census 2010/11)
- 2700 grain mills, employing 4 people on average
- Annual turnover: 50% of grain millers < 1500€, 30% 1500-3000€, 20%>3000
- Most grain millers produce for local communities, selling directly to the end-user.



- Energy costs = 50 - 75 % of business expenses
- Electricity costs: 10-16 cents €/kwh for small commercial, 9-15 cents € for medium size
- Most energy intensive SMEs in Uganda are grain millers, metal fabricators and furniture/wood fabricators
  
- Bulk-metering system

# Grain millers: potential for energy saving



- Meter reading/energy records
- Adjust motor/huller size+speed
- CFLs and translucent sheets
- Avoid rewinding of motors
- Housekeeping/maintenance
- Belts/pulleys fitted
- Replace old equipment e.g. with single pass huller, more efficient motor





- Bank loans: 22-25% interest, MFI 4% per month
- Minimum energy performance standards for appliances and some motors recently developed
- Availability of and information about efficient equipment are challenges → most tech is 2nd hand
- Lack of working capital: „real“ lack and „perceived“ lack or perceived affordability



- **Short-term thinking and self-control problems**
- **Status quo bias** – „my machines work fine, have done so for years“
- **Trust/mistrust** – utility provider, technology, vendors
- **Habits**
  
- Poor management skills/book keeping, some think it's a hassle to keep books





- Direct, **hands-on experience** → concrete cognitive processing, instigation of perceived ownership (endowment effect)
- **Feedback with social comparisons**
- Peer learning and **peer effects**
- **Communication that stresses losses** more strongly than gains: „You lose 500Shs a week if you don't have the full number of belts on your machine“



- Awareness raising: **make it easy, make it social, make it attractive!**
- Allow for local **hands-on experience** what efficiency is  
→ local demonstration and information centres, pilot SMEs
- **Reminders with clear, up to date information:** eg text messages every week



- **Trigger commitment:** eg small, affordable fees for training
- Trigger **implementation intention** at workshops to support long-term change: eg „When I’m back in my business, I will control and record my consumption every morning“
- **Trust-building mechanisms** are important
- You can’t control what you can’t measure!

# Thank you for your attention!

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