

Innovative Consumer Financing for Cooking Energy Access



28 February 2018
9:00-10:00 AM EST



WEBINAR

LOGISTICS

- 1 This is an audio broadcast. Attendee microphones will remain muted during the entire webinar session.
- 2 To ask questions during the webinar, please use the Chat box on the right-hand side of the Webex session. You may submit your question at any time during the webinar presentation.
- 3 To ensure your question is seen by the moderator, select “**All Participants**” from the drop down menu when sending the question.
- 4 The webinar recording will be emailed to all attendees and registrants.



Introduction

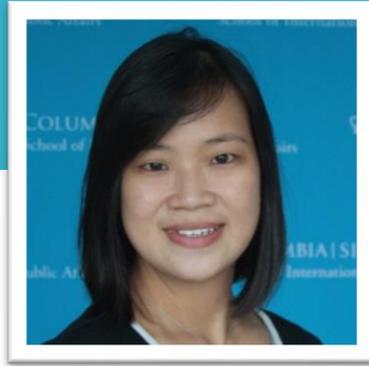
Richenda Van Leeuwen, The Global LPG Partnership

Speakers



Richenda Van Leeuwen

The Global LPG Partnership



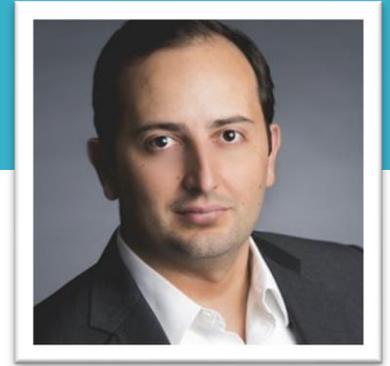
Meixi Gan

The Global LPG Partnership



Sebastian Rodriguez

KopaGas



Alexander Sotiriou

CGAP

Agenda



Richenda Van Leeuwen

9:00	Welcome: FinDev Gateway
9:05	Introduction: Richenda Van Leeuwen
9:10	Meixi Gan, GLPGP
9:20	Sebastian Rodriguez, KopaGas
9:30	Alexander Sotiriou, CGAP
9:40	Q&A

LPG is a solution that can start helping 1+ billion of the 3 billion people requiring clean cooking energy now

- A clean, portable, safe gas for cooking
- A low carbon, plentiful and environmentally friendly fuel, mainly produced as a by-product of oil and natural gas refining. BioLPG production increasing.



Cooking With LPG Can Help Support Healthier Families and Forests



Richenda Van Leeuwen

1. Switching to LPG use helps prevent the more than one million annual premature deaths in India and over 500,000 across sub-Saharan Africa from household air pollution.
2. LPG has a lower emissions profile than firewood, charcoal and kerosene. Reduced particulates (eliminating smoke inhalation) means better respiratory, cardiovascular and other outcomes.
3. Benefits for pregnant women and children, leading to better birth weight, stillbirth prevention and less incidence of pneumonia in children under five years old.
4. Less pressure on forests from reduction or elimination of gathering of wood fuel or charcoal production.
5. Meets WHO emissions reductions guidelines for health.
6. Does not exacerbate climate change: in fact modeling shows slight net climate cooling impacts from switching from wood and charcoal to LPG for cooking.

Common Reasons for Lack of LPG Usage for Residential Cooking in Developing Countries



Richenda Van Leeuwen

- National governments have not established adequate policies, regulations, market structures, and regulatory enforcement to stimulate and sustain market development.
- LPG, while plentiful globally, is often scarce locally due to supply chain constraints, often as a result of policy issues.
- Local companies often lack the money or knowledge of essential practices to build needed infrastructure and distribution systems to reach consumers effectively and efficiently.
- **Consumers want and like LPG for cooking, but lower income consumers often can't afford the cash required for upfront switching equipment purchase - the LPG stove, burner, hose, and cylinder. This is where innovative consumer financing solutions are needed.**



Bottled Gas for Better Life

Access to Clean Cooking with LPG through Microfinance

Meixi Gan, The Global LPG Partnership

The Global LPG Partnership Supports Large-scale Clean Cooking Transitions in Developing Countries



Meixi Gan

- Launched in 2012, GLPGP is the boutique non-profit **public-private partnership established by the United Nations** to focus on LPG for clean cooking, working among host and donor governments, UN agencies, NGOs, DFIs and impact investors, and leading international LPG companies.
- It **helps countries** build up and coordinate national LPG ecosystems — support development of national plans, policies, regulation, supply, infrastructure and distribution.
- It **helps consumers** switch to LPG via education, consumer financing innovations (microfinance and Pay As You Go) and other support.
- It **helps academic researchers** pursue evidence-based research around LPG for climate, health and the environment.

Innovative Consumer Financing to Help Lower-Income Households Switch to Clean Cooking with LPG Sustainably



Meixi Gan

Program:

- Six-month commercial microloans offered to low-income families in Cameroon and Kenya for LPG equipment purchase
- Community sensitization/education on safe LPG use
- Capacity building through close collaboration with local microfinance institutions (MFIs) and LPG marketers
- Target: New LPG users; a small number of loans given to existing LPG users wishing to change suppliers/equipment

Goals:

- Accelerate adoption of LPG by poorer households as the national LPG supply chain is expanded
- Proof of concept for African MFIs to incorporate LPG household lending in their regular portfolios, significantly scaling up household LPG access over time



**ADOPTÉZ LE GAZ EN BOUTEILLE POUR L'AMÉLIORATION
DE LA QUALITÉ DE VOTRE VIE**
**Une Bouteille de Gaz pleine (12.5kg), un réchaud
double bruleurs **pour seulement 51,600FCFA !****

Un plan de remboursement qui s'étale
sur six (06) mois pour ceux qui s'inscri-
ront au prochain évènement.



Cameroon

Bottled Gas For Better Life in Cameroon

>700 households served in 11 communities across 5 regions since Feb 2017 in two phases

Loan Offer:

- Partners: MUFFA and MC2 (MFIs); Tradex and Glocalgaz (LPG marketers)
- Loan: 50,000 CFA (about US\$86) – 11,600 CFA (US\$20) refundable deposit followed by 6 monthly payments with commercial interest rates (excluding for initial pilot)
- LPG equipment offered: Filled 12.5kg Cylinder + Double Burner Cookstove + accessories

Community Sensitization & Education:

- LPG cooking demonstration
- Leaflets on LPG use and benefits
- Calendars with safety instructions
- Door to door canvassing in rural areas



Meixi Gan



Bottled Gas For Better Life in Cameroon

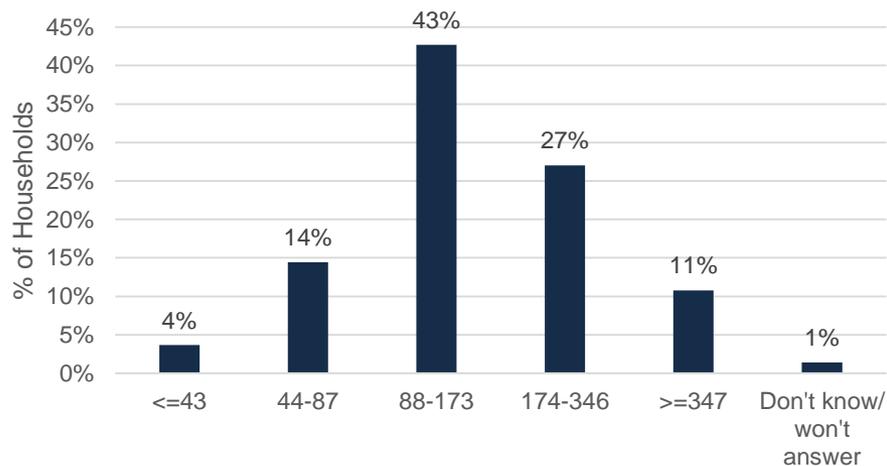


Meixi Gan

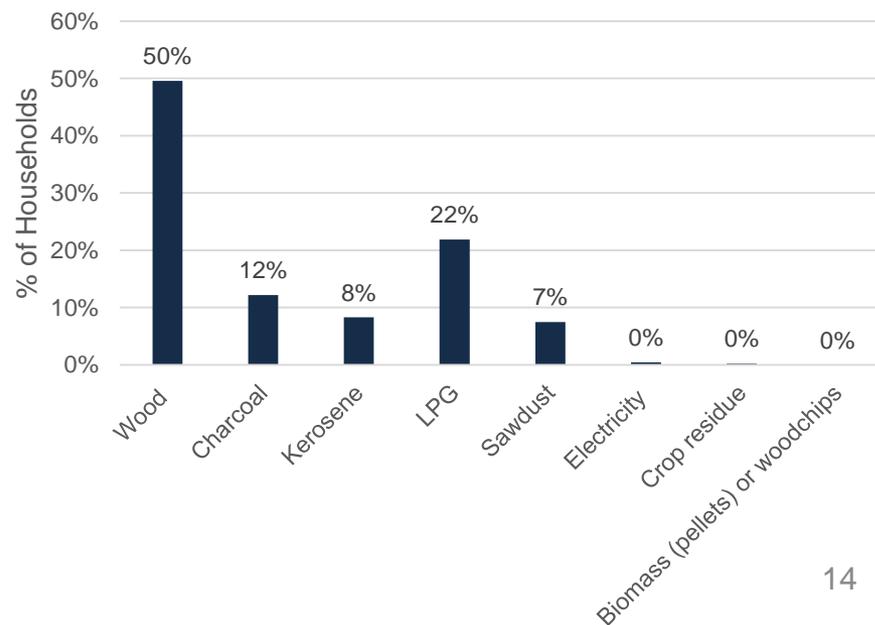
Participant data for Phase II (April 2018-present):

- 509 households to date (data available for 492); average household size of 5.3
- Existing and new customers of the MFIs; all are screened for credit risk
- Average monthly household income: US\$88-173, or about US\$0.60-US\$1 per capita per day (Cameroon's average: US\$4 per day)
- Most common primary fuel at baseline: Wood – 73% in rural areas, 54% in peri-urban areas, 32% in urban areas

Monthly Household Income (US\$) (n=492)

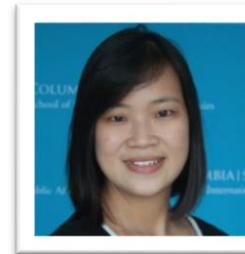


Primary Cooking Fuel Used (n=492)



Bottled Gas For Better Life in Cameroon

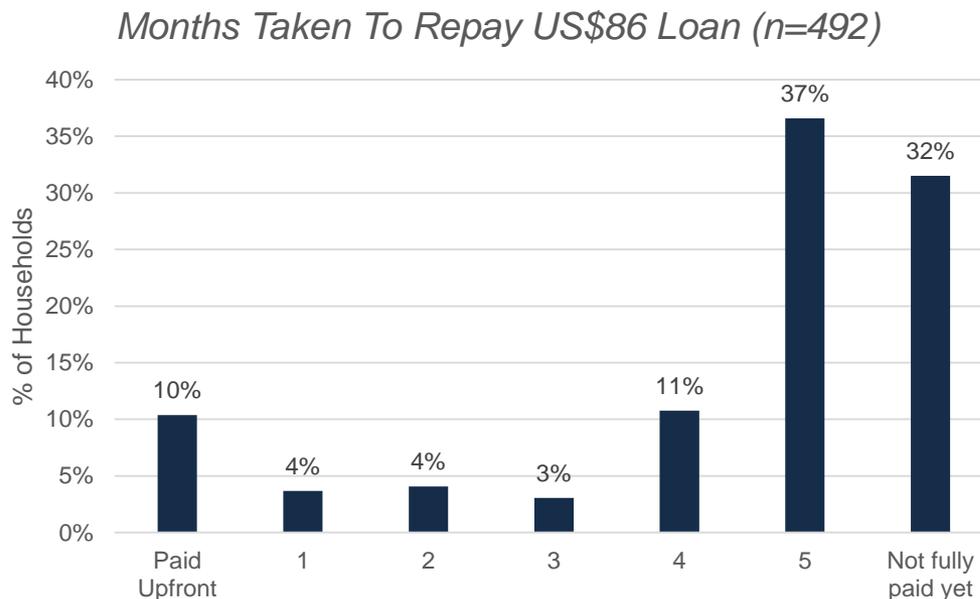
Phase II preliminary findings after 6-month loan period:



Meixi Gan

Loan repayment (available data for 492 households)

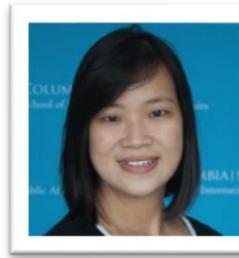
- Repayments ongoing through March 2019; 89% of loaned capital repaid to date (vs. 95% repayment after full 6 months in Phase I, 200 households)
- 68% of households have fully re-paid in under 6 months
- Civil disruption in Anglophone regions from mid-2018 affected loan registration and early loan collections



Bottled Gas For Better Life in Cameroon

Phase II preliminary findings after 6-month loan period:

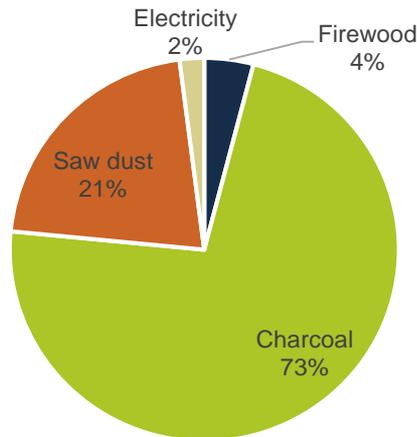
Data from Briquetrie-Yaounde, peri-urban community (n=100)



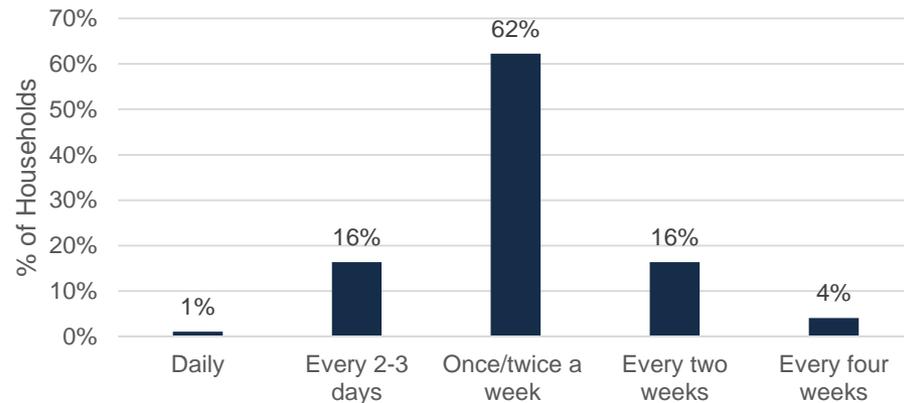
Meixi Gan

- 99% still using LPG after 6 months, but 98% reported some stacking with other fuels

Other Fuels Used (n=98)



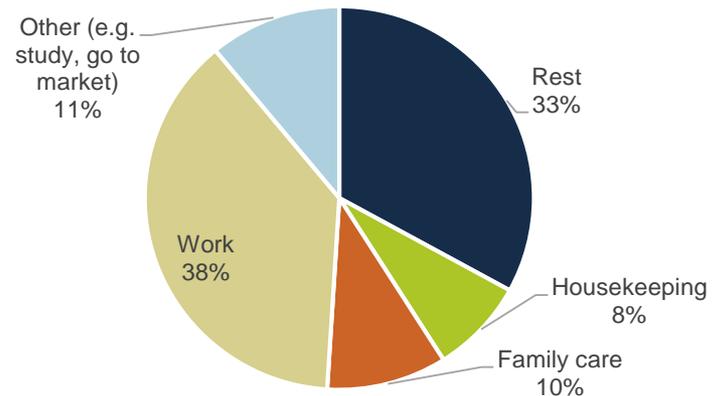
Frequency of Secondary Fuel Use (n=98)



- LPG usage: 15.7 kg/capita/year vs. 18-19kg/capita/year in Phase I

- 98% reported time savings from LPG; 38% used extra time for work and 33% for rest

Use of Time Saved (n=98)

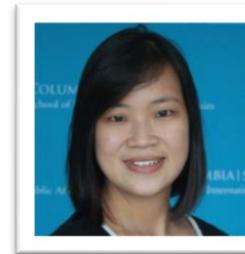




Kenya

Bottled Gas For Better Life Pilot in Kenya

69 households served since August 2018



Meixi Gan

Loan Offer:

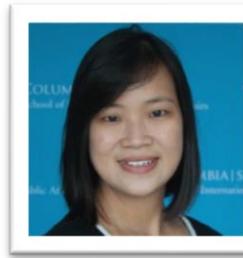
- Partners: Equity Bank, National Oil Corporation of Kenya (NOCK)
- Loan: 9,900 kshs (about US\$99) – 2,000 kshs (US\$20) refundable deposit followed by 6 monthly payments with commercial interest rates
 - Loans fully funded by Equity Bank with partial loss guarantee by GLPGP (unlike in Cameroon, where GLPGP funded loans)
- LPG equipment offered: Filled 13kg LPG Cylinder + Double Burner Cookstove and accessories

Community Sensitization & Education:

- LPG cooking and safety demonstration in July 2018 attended by 70 people
- Briefings at community group meetings by GLPGP/ NOCK/ Equity Bank



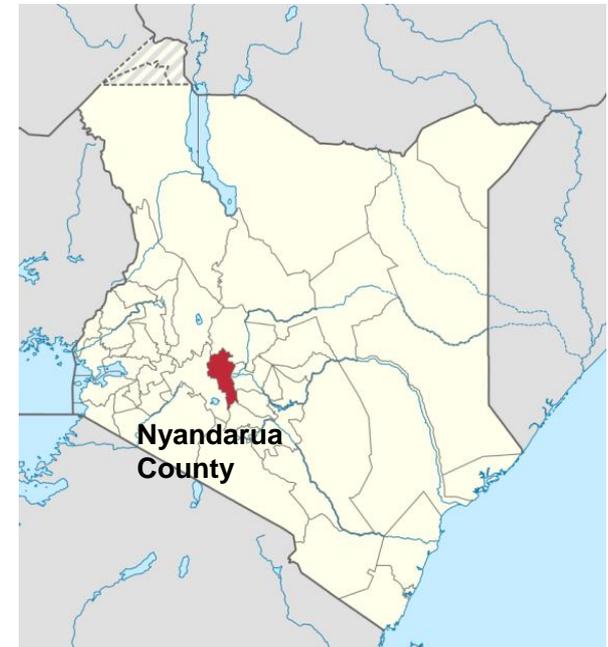
Bottled Gas For Better Life Pilot in Kenya



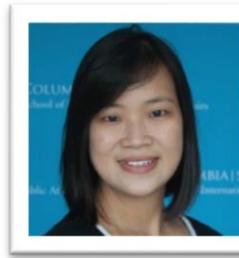
Meixi Gan

Participant characteristics at baseline:

- Participants are from a rural village in Nyandarua County and environs
- All screened for credit risk
- Charcoal is widely used as a primary fuel
- Participant surveys led by the University of California, Berkeley are beginning in March 2019 to investigate:
 - Role of microloans in encouraging LPG adoption and change in cooking practices
 - Effects of LPG adoption on health and time use
 - Commercial viability (based on loan repayment patterns)
 - Perceptions of the loan and what population segment is the best target



Bottled Gas For Better Life pilot in Kenya

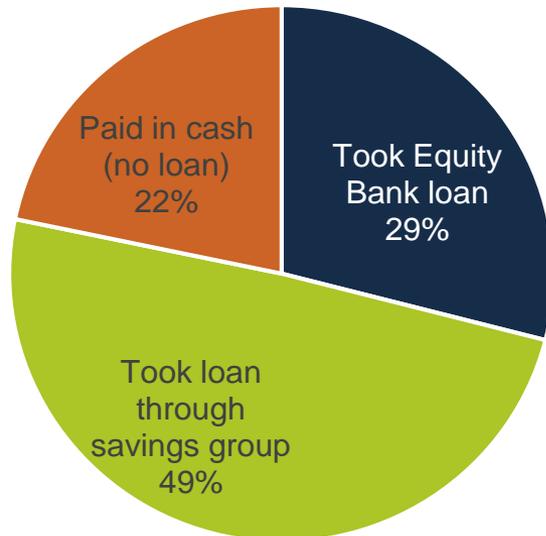


Meixi Gan

Initial observations:

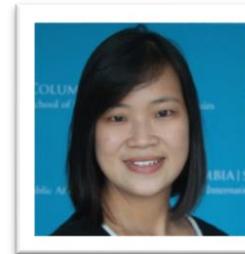
- Equity Bank loan offer was less well-received; higher take-up through informal “table-banking” savings group (SEMA) with simpler approval process

Program Registration (n=69)



- Factors affecting loan registrations:
 - Loan approval processes
 - Income seasonality (for agriculture-dependent households)
 - Prior experience with bank loans
- 100% repayment rate to date in Equity Bank group, likely attributed to:
 - Thorough credit screening before loan approval
 - Ease of paying through Equity Bank’s mobile banking platform
 - Option for members of savings groups to help one another with payments if needed

Lessons & considerations for future phases



Meixi Gan

- 1 The six-month loan term is appropriate for LPG equipment, and can be re-paid at commercial interest rates as long as proper upfront credit screening takes place
- 2 Community sensitization/education, on LPG safety and health/economic benefits, is needed in conjunction with loan offer
- 3 Coordinating registration and equipment delivery (no long delays) is important to maintain confidence in program
- 4 Digital finance tools can simplify data collection and encourage better loan repayment practices
- 5 Demand for LPG exists beyond current program scope: LPG for businesses, heating, and bundled with other energy services e.g. solar



"You don't feel anything when you cook using gas. But when you cook with firewood, smoke enters your eyes. My children cough because of the smoke."

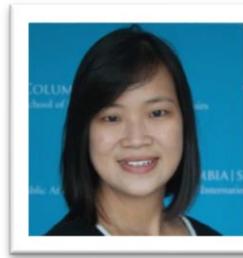
"It is clean to use gas to cook. It does not dirty your room, pot or kitchen. It also cooks faster because you are using two or three burners at the same time."

"I can use a bottle of gas for one month and a half. I will not regret it, because if I calculate the charcoal or the firewood I'd use, it will be more expensive than the gas I'm using."

"I am in favor of the use of domestic gas because it has less effect on my health and the environment."

Quotes from *Bottled Gas For Better Life* participants

Thank you!



Meixi Gan

THE GLOBAL LPG PARTNERSHIP

Email us: info@glpgp.org

Follow us on Twitter: [@globalLPG](https://twitter.com/globalLPG)

We are grateful to the following donors for their support to *Bottled Gas For Better Life*:



KFW



**CLEAN
COOKING
CHANGES
LIVES**



Pay As You Go LPG

Sebastian Rodriguez, KopaGas™

About Us



Sebastian Rodriguez

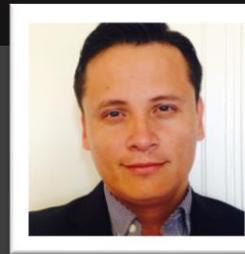
We are a tech company with the mission to accelerate access to clean, safer and affordable cooking solutions in developing countries using cutting edge software and hardware

Our Focus

- In Dar Es Salaam ~ 2 million households will switch to LPG
- It is the 3rd fastest-growing city in Africa and 9th in the world – growing at 5.84% - biggest in East Africa

It is going to be about ongoing service, not a stand-alone product





Sebastian Rodriguez

Problem



Solution



Availability
Nearby



Quality
Reliable Supply



Affordability
Pay as you Go

KopaMeter™



Sebastian Rodriguez

Our technology enables Customers pre-pay as little as \$0.3 per day for all their cooking needs via mobile money

Commercialized the first consumer-grade IoT meter for LPG in 2015



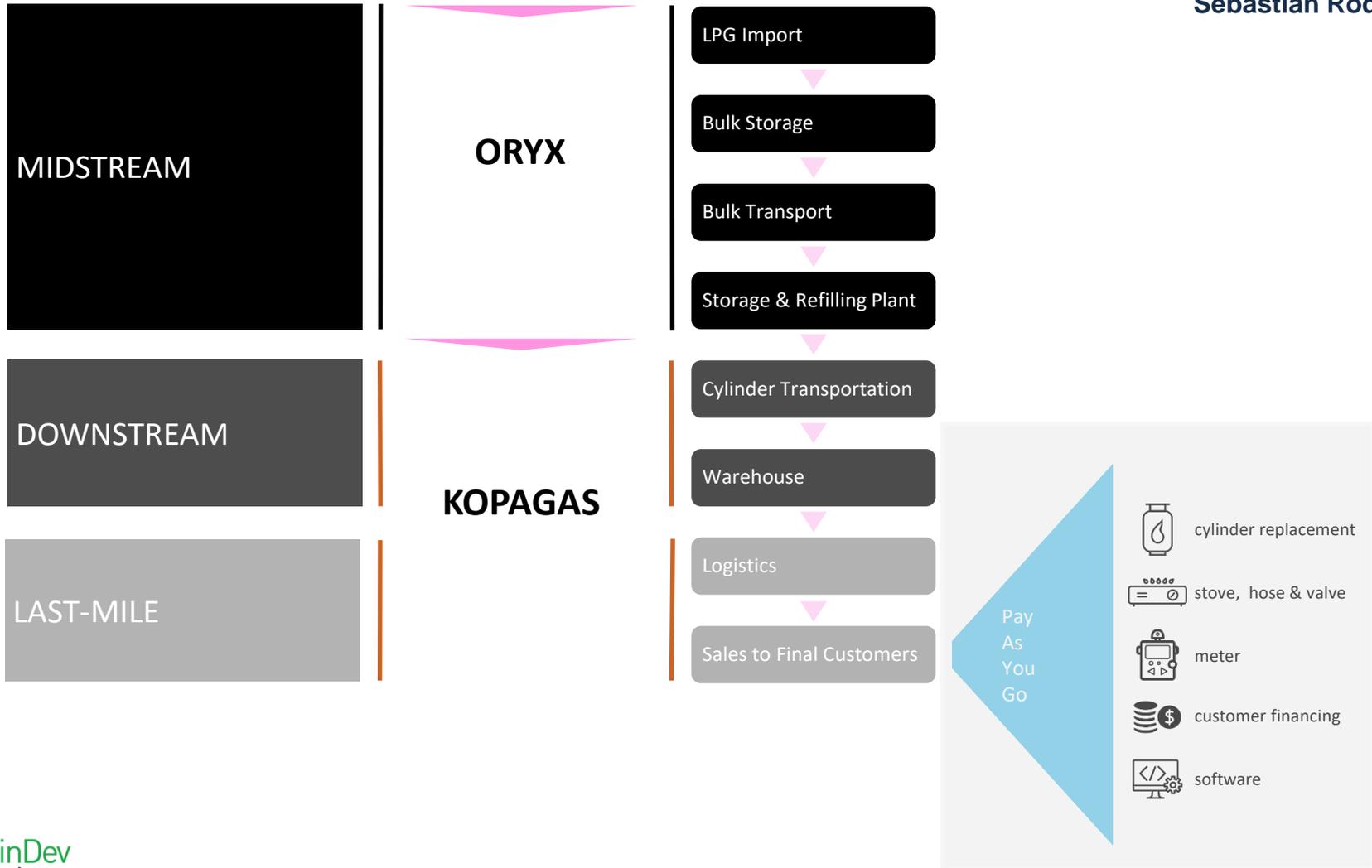
Business Model





Sebastian Rodriguez

Operations



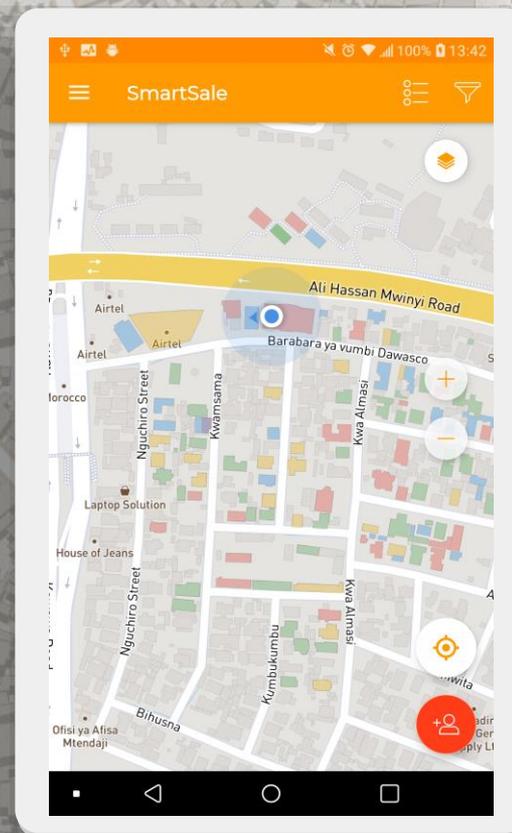


Sebastian Rodriguez

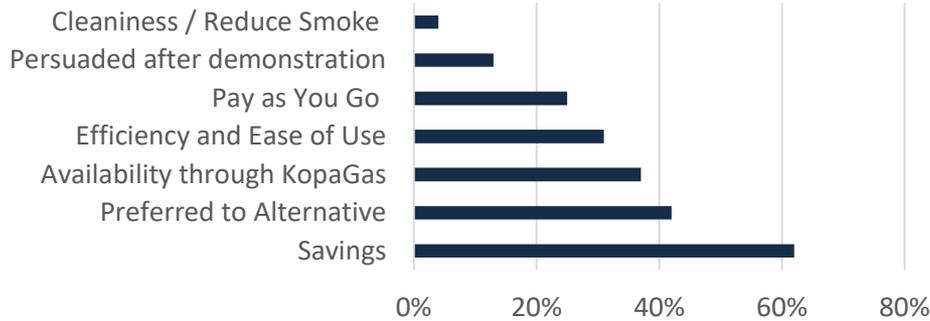
Software

Our cloud-based software allows control of thousands of transactions, meter logs and just in time delivery of cylinders for 20K customers a month.

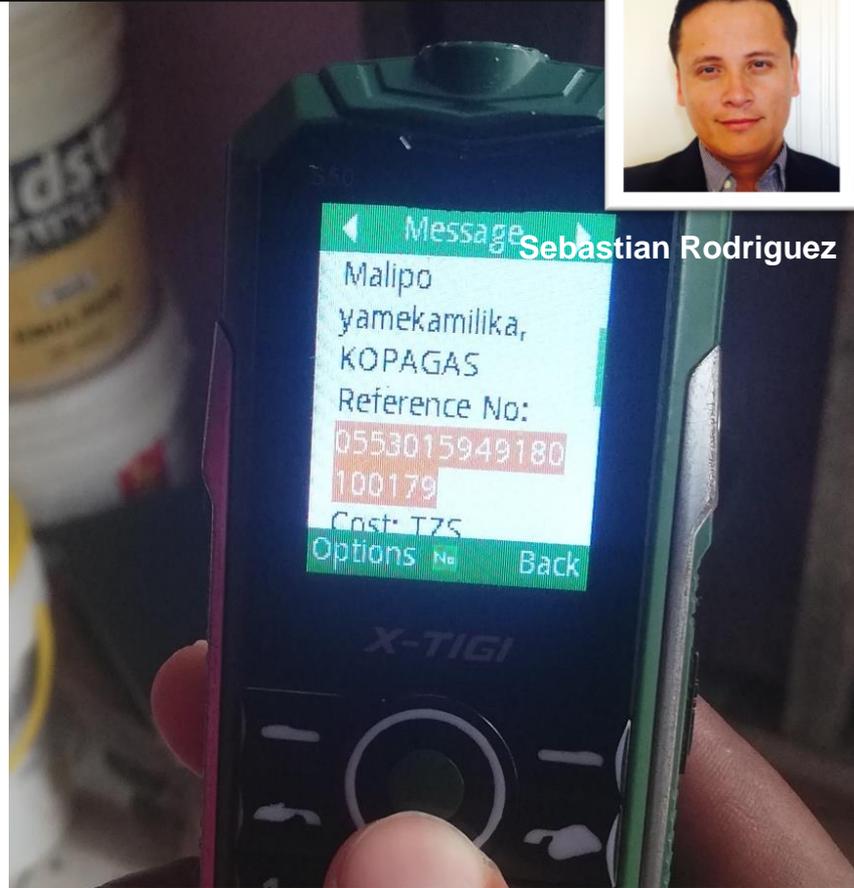
Our tools have helped us to maintain growth and bring unique visibility to our LPG distribution network of 600+ retail points.



Reasons to switch to LPG



Sebastian Rodriguez



48%



of households live below the USD 3.10 per person per day poverty line

96%



of KopaGas customers are saving an average of USD 2.92 per week on cooking fuel

65%



of customers are new to LPG cooking

86%



of customers do all or most of their cooking with KopaGas

98%



of KopaGas customers are women

GSM Technology is an enabler in Tanzania

- 60% of population has used mobile money in last 12 months
- KopaGas is integrated to MNOs in TZ



Benefits



Sebastian Rodriguez

LPG CUSTOMERS



Value



Home Delivery



User experience



Pay as you Go

LPG MARKETERS



Direct Relationship



Savings

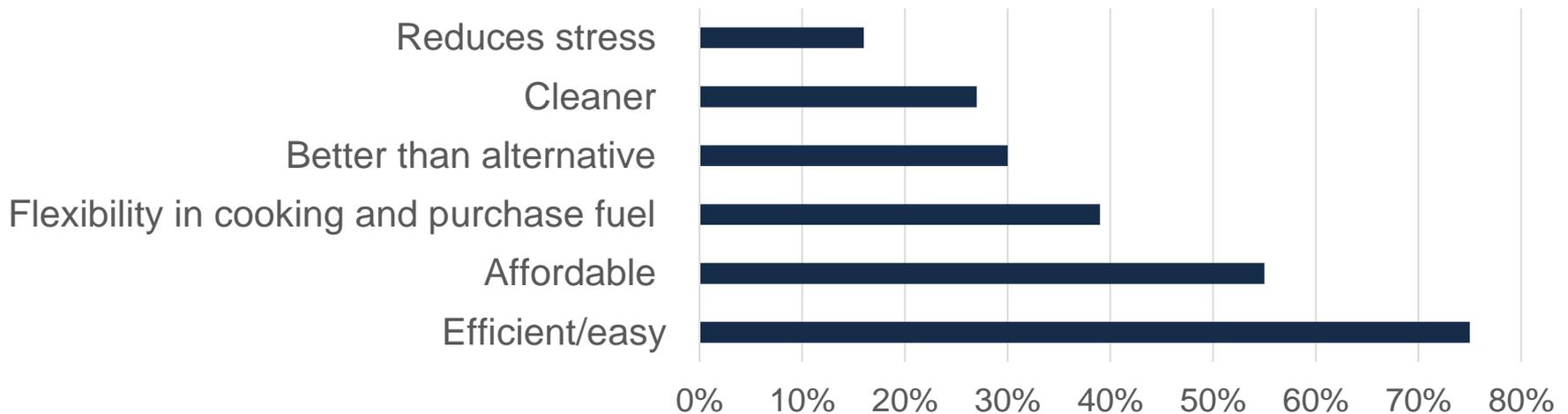


Control



Sebastian Rodriguez

Impact on Quality of Life



Keep providing more value to customers

www.kopagas.com

info@kopagas.com



Sebastian Rodriguez

Thanks



HOOGE RAEDT SOCIAL VENTURE B.V.
Investing to Empower underserved People





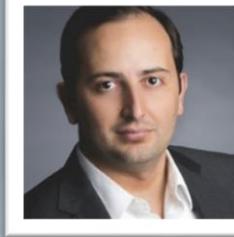
Lessons from PayGo and Consumer Finance

Alexander Sotiriou, CGAP

Contents

What PAYGo means for companies and customers

Alternative methods of financing goods/services



Alexander Sotiriou



Photo: Dave Lawrence / World Bank



What PAYGo Means for Companies and Customers

Pay-as-you-go Solar is a new form of asset financing, enabled by two innovations



Alexander Sotiriou



Digital Payments allow companies to sell to anyone who has mobile connectivity



Remote Lockout technology reduces the portfolio risk by ensuring willingness to pay

Financed, Affordable Solar Home Systems



SHS is purchased on credit, paid for over 12–36 months



A customer puts down \$10-30 as a deposit, acquires the asset



Monthly payments of \$8-\$20 combine loan instalments and usage fees



Flexible repayment adapts well to low-income cash flows



What PAYGo Means for Companies and Customers

Lockout technology is the key to offering truly flexible finance



Alexander Sotiriou

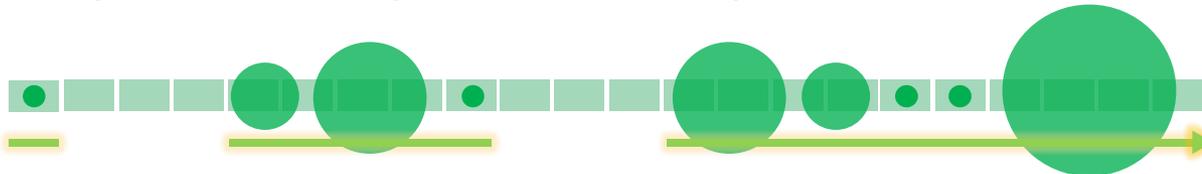
A 12-month PAYGo loan for a solar home system is really a commitment to buy 365 energy ‘days.’

PAYGo loans have no accumulated arrears, and no compounded interest.

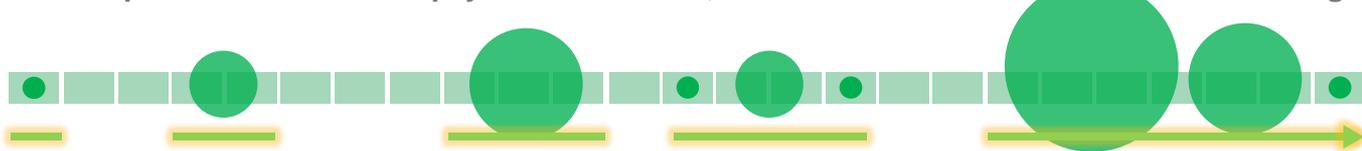
Poor households use this to buy 4–6 days a week, lowering the effective price.

Providers have enough data that they can price the loan for the average completion term. Fast re-payers subsidize the slow.

The “Adapter” starts off a bit rough but catches up by paying more than the minimum when possible. The loan is paid off on time and the power is on most of the time



The “Stretch Flex” puts money toward the loan when possible. It takes longer to pay off the loan and the power is on when the payments are made, but the total amount of the loan never changes



■ payment is due

● payment is made



→ power is on

┆ loan is paid off

What PAYGo Means for Companies and Customers

In their own words: Customers value the relationship with their PAYGo providers



Alexander Sotiriou

CGAP conducted demand-side research with FIBR to understand customer value in PAYGo

4

providers involved

138

households interviewed

4

countries represented

Take enormous pride and pleasure out of having energy in-home

Most customers have a strong trust in providers

Lower-income customers were not saving money by switching to solar, which was an early hypothesis

They mostly pay back the loan by tapping additional income sources or savings

They still perceive it as good value for money, and would recommend the loan elsewhere

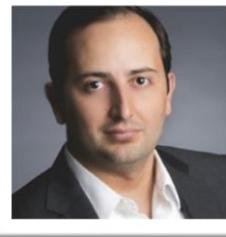
Bottom Line

These customers have been **historically underserved**, and they respect that PAYGo companies trust them



What PAYGo Means for Companies and Customers

Remote lockout technology allows firms to offer consumer financing to a wider group of customers



Alexander Sotiriou

The rise of asset financing in the developing world is partially enabled by the rapid proliferation of smart, connected devices that can report on usage behavior and be turned on or off remotely



Without lockout technology, no-file customers are simply too risky



Lockout gives a lender something to 'repossess'



It also provides a stronger incentive for on-time repayment



All of which can reduce the probability of default and loss given default



Elements of a Successful PAYGo Model

CGAP has focused on PAYGo because of its unique potential to advance financial inclusion. This is not just energy. This is asset financing for poor households.



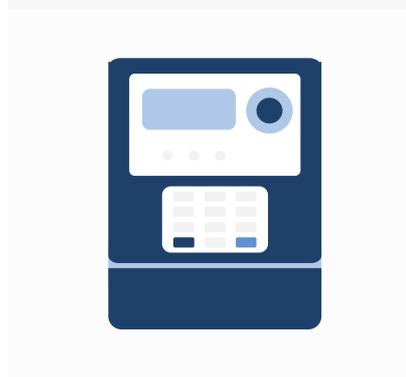
Alexander Sotiriou

At the end of a PAYGo loan, there are four building blocks in place for a long-term financial relationship

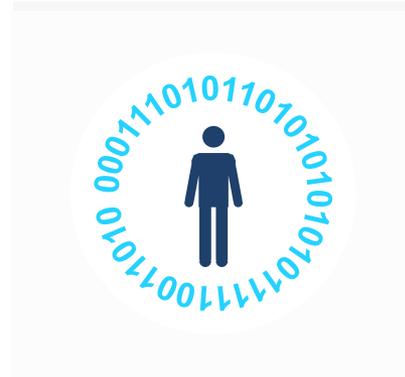
1 Established digital payment channel



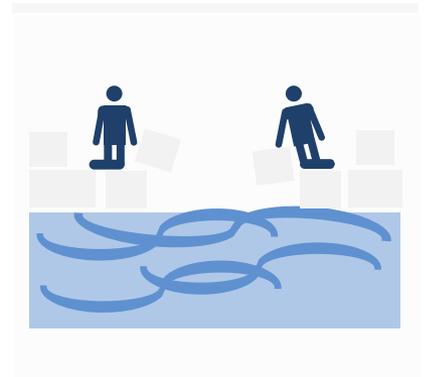
2 Remotely secured collateral for future lending



3 Rich consumer data on payment and usage



4 Mutual trust between provider and client



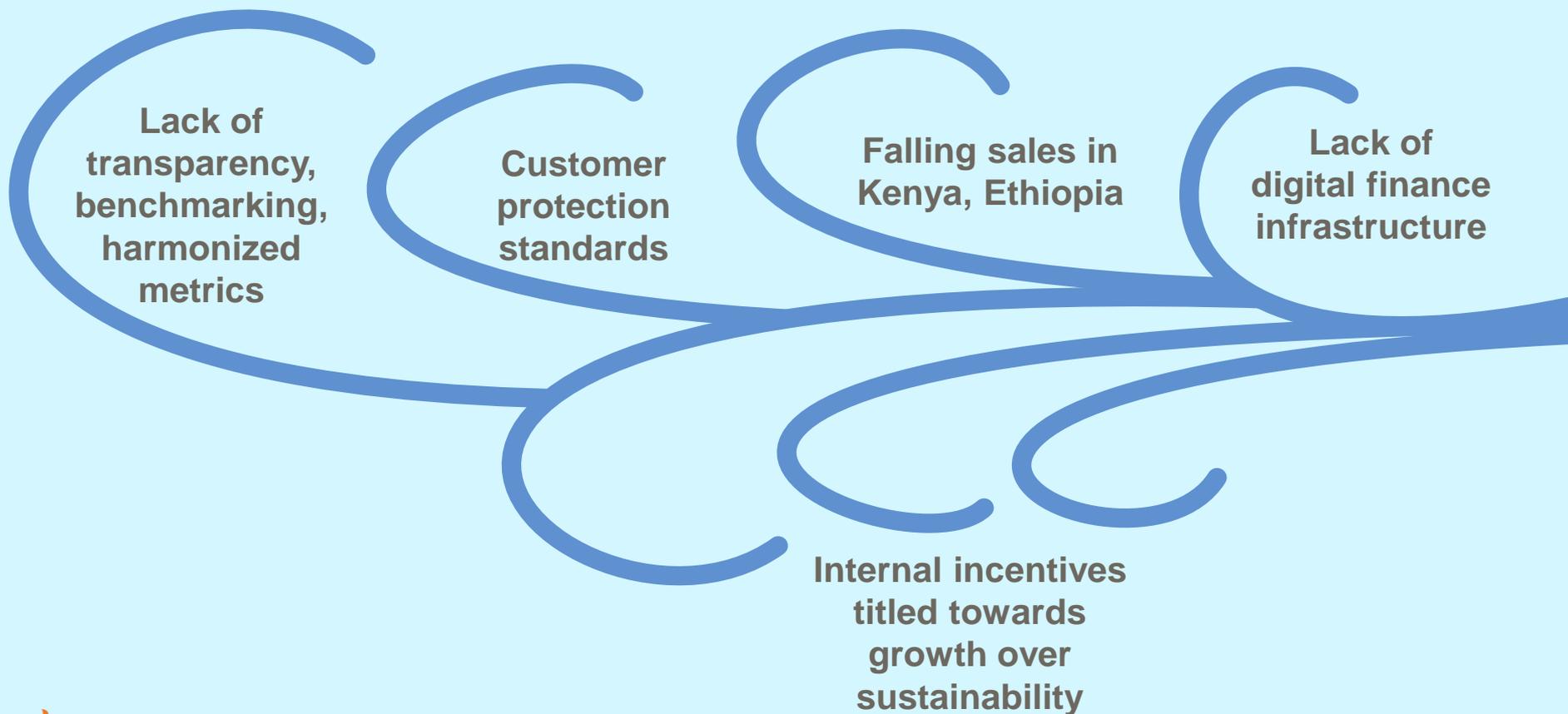
What PAYGo Means for Companies and Customers

Although we are excited about the sector's potential, there is uncertainty about the future and several barriers that need to be addressed.



Alexander Sotiriou

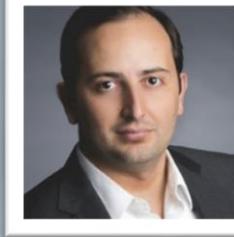
Headwinds:



Contents

What PAYGo means for companies and customers

Alternative methods of financing goods/services



Alexander Sotiriou



Photo: Dave Lawrence / World Bank

Alternative methods of financing goods/services

Effective financing for goods/services
requires coordination across two value chains

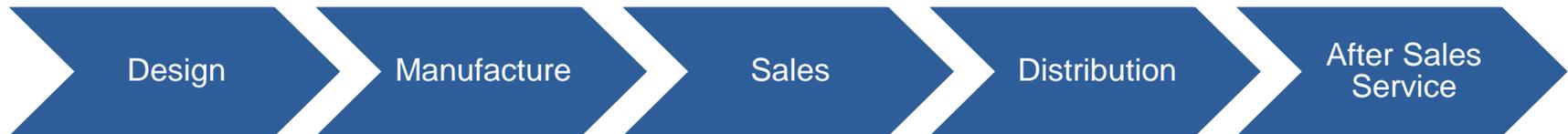


Alexander Sotiriou

Lending / Leasing Value Chain



Example: Durable Goods Value Chain



The coordination must be seamless for PAYGo products,
because of the tight linkage between usage and payments

Alternative methods of financing goods/services

Three models for effectively bundling products across value chains



Alexander Sotiriou



Product Led:

Specialized Non-Bank
Financial Institution



Bank/MFI-led: Retail Affiliate



Joint venture: Everyone stays in their lanes

Alternative methods of financing goods/services

Our experience in creating partnerships with traditional financial institutions



Alexander Sotiriou

MFIs have certain strengths ...

- Existing customer base
- Expertise in managing credit

... and weaknesses

- Rigid, traditional, and slow underwriting
- Do not like providing consumer finance, especially beyond existing customers
- Difficulty dealing with technology
- Do not offer flexible repayment schedules

Alternative methods of financing goods/services

Water.org: Making microfinance work for water and sanitation



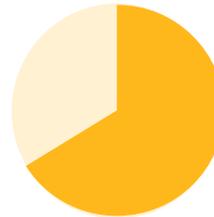
Alexander Sotiriou

Water.org has proven that there is a market for loans for water/sanitation improvements.



\$138

Average loan size



Two-thirds of borrowers earn less than \$2 a day

+99%
of loans repaid on time



Alexander Sotiriou

Stay connected with CGAP



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Q&A

1

For questions, please use the Chat box on the right-hand side of the Webex session.

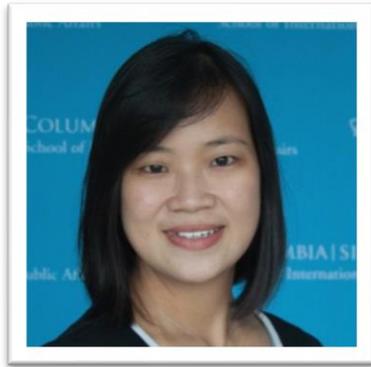
2

To ensure your question is seen by the moderator, select **“All Participants”** from the drop-down menu when sending the question.



Richenda Van Leeuwen

The Global LPG Partnership



Meixi Gan

The Global LPG Partnership



Sebastian Rodriguez

KopaGas



Alexander Sotiriou

CGAP

QUESTIONS? IDEAS?

- Richenda Van Leeuwen, GLPGP: richenda.vanleeuwen@glpgp.org
- Meixi Gan, GLPGP: meixi.gan@glpgp.org
- Sebastian Rodriguez, KopaGas: seb@kopagas.com
- Alexander Sotiriou, CGAP: asotiriou@worldbank.org

POLL

Please take a moment to respond to the poll questions on the right-hand side of your screen.

WHAT'S NEXT?

1

We will email you when the webinar recording and related materials become available on the FinDev Gateway website.

2

Join FinDev Gateway's next webinar:
Change Management: Business Opportunity in Customer Centricity

12 March 2019, 9:00 AM EDT

3

For more resources on financial inclusion, visit
www.FinDevGateway.org

Thank you

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