The Key Success Factors for biogas PAYGO

Summary of findings from ENEA Consulting's engagement with ATEC Biodigesters in Cambodia in 2019

Summary written in March 2020

Executive Summary (1/2)

PAYGO (”pay-as-you-go”) is a complex business model as firms must manage financial risks in addition to their regular business activities, as well as raising significant capital

- Adding finance capacity to an organisation is a major investment (in human resources, systems and finance) for small companies. Adding this component can reduce agility, as it requires new legal, accounting, operational and IT capabilities.
- The PAYGO model requires new finance capabilities such as credit assessment, payment collection, asset repossession, etc. As the sector matures, it is possible that several, but by no means all, activities may be outsourced (e.g. hardware/software).

6 Key Success Factors were identified for ATEC to ensure they successfully develop their PAYGO model

1. Pricing. The multiple benefits of biogas make pricing challenging compared to solar PV:
   - The economics of biogas PAYGO are complex as biogas customers typically have a ‘free’ cooking resource, whereas solar typically replaces a paid-for service (e.g. kerosene or battery torches).
   - Biogas offers a wide range of ‘services’ for the client that can be hard to quantify (e.g. value of biofertiliser for farming, safety compared to other sources, time saved on wood collection, etc.). ATEC will need to better understand these benefits as it refines pricing.
   - ENEA Consulting built a pricing tool for ATEC to support the pricing of biogas.

2. PAYGO business structure – The PAYGO business model requires 1) Sales & installation, 2) Services & After-Sales (SAS) and a 3) Technical team. Before regional technical support teams are established, sales agents could be used as a cost-effective local resource to solve basic technical issues, thus avoiding unnecessary recruitment.

Executive Summary (2/2)

Further Key Success Factors

3. Sales team structure**-** ATEC's PAYGO operations require a relationship-driven sales force that is incentivised to find & support quality customers. ATEC currently pays local sales agents using a combination of a fixed salary and a sales commission, and can observe which formality works better.

4. Credit assessment - ATEC's credit assessment process is well defined with a call centre review alongside first assessment undertaken during sales agent visits. ATEC's Credit and Assessment metrics are derived from MFI credit assessment forms and uses financial, social and economic indicators. There are options to further this strengthen this process, including analysing additional data points at the time of sale.

5. Late payment process – ATEC's late payment collection process is well defined & uses many of the best practices from solar PAYGO. ATEC's late payment process determines why the customer didn't pay and has specific actions for each reason (technical issue or financial issue). ATEC's process utilises service block-out, SMS, phone-calls and local field agent visits as tools to recover late payments. Loan restructuring is used in the solar PAYGO sector to avoid default for customers in financial hardship

6. Repossession policy A biodigester is not as easily transportable (and therefore harder to repossess) as a solar home system, and the residual value would likely not compensate the overall repossession costs. In addition, repossession poses several legal and image risks. Repossession should be done only as a last resort.

Focusing on these 6 key success factors, will help ATEC successfully implement their pay-as-you-go roll-out in Cambodia, providing affordable clean energy to rural households.

In July 2019, ATEC Biodigesters needed strategic advice from ENEA Consulting on the business development of its new PAYGO solution

Context (July 2019)

ATEC Biodigesters International offers commercially scalable 'plug-and-play' biodigesters that are designed to work in a variety of challenging environments. Since starting operations in 2016, ATEC has sold close to 1,000 units, the majority in Cambodia, with units also exported to Myanmar, Bangladesh, Thailand, Indonesia and PNG.

ATEC is currently looking to grow its market and have conducted market research to explore alternative product offerings. The results suggest Cambodian customers would benefit from a PAYG product.

In response to this ATEC have developed PAYGO hardware and software to suit its systems, and plan to begin pilot testing in Cambodia in the second half of 2019. To support this undertaking, ATEC needs to gain a deeper understanding of the PAYGO sector and develop a business strategy.

ENEA Consulting has worked extensively on both biogas projects and PAYGO energy products globally. ENEA will leverage this experience and knowledge to support ATEC to develop a PAYGO business strategy.

Project objectives

This work aimed at giving ATEC a deeper understanding of key learnings from the PAYGO sector and then using these develop and refine its business strategy. This included:

- Identifying the main Key Success Factors to develop a PAYGO offering, by:
  - Analysing the development of solar PAYGO solutions in emerging countries (KSF and main barriers)
  - Identifying and reviewing projects employing new business models for micro-biodigesters in energy access
  - Selecting which factors are applicable to ATEC's context (market, technology)
- Designing a targeted market study to test the validity of the identified factors and determine the potential PAYGO business model, by:
  - Proposing methodologies & tools
  - Analysing the results of the market study regarding the Key Success Factors

The final deliverable helped ATEC to de-risk and develop its future PAYGO solution in Cambodia and other countries.

Disclaimer

ENEA Consulting believes that household biogas can be one solution to deliver clean, sustainable and cheap cooking-fuel energy to a wide range of farmer communities in emerging countries.

This project conducted by ENEA Consulting in late 2019 answered the question: "What does ATEC need to consider when launching a PAYGO business model?". The answer found in this document can provide lessons to household biogas firms across the world. ENEA Consulting did not provide advice on "Should ATEC (or others) launch a PAYGO business model?", as the ATEC board had already decided to pilot PAYGO. By contrast the 'should' question will depend on regional factors such as consumer willingness-to-pay, mobile money availability and value perception of biogas.

The project was part of ENEA Consulting's Energy Access program, where ENEA Consulting works at a free or low-fee basis for energy access entrepreneurs. Hence ENEA Consulting remained totally independent on its diagnosis. This kind of partnership allows ENEA Consulting to remain free of any conflict of interest. Furthermore, the diagnosis/recommendations conducted by ENEA Consulting could be used for the Energy Access companies as a very valuable "third-party" review to engage stakeholders, such as investors.

For more information, please visit the Energy Access section of our website: http://www.enea-consulting.com/en/about/energy-access/

That document and the information it contains have been approved/reviewed by ATEC.

That report has been written by Adrien de Vriendt, consultant, Tom O'Reilly, analyst, and Richard Scotney, manager between July 2019 & March 2020.

Executive summary

Context & disclaimer

Introduction

Key Success Factors for biogas PAYGO

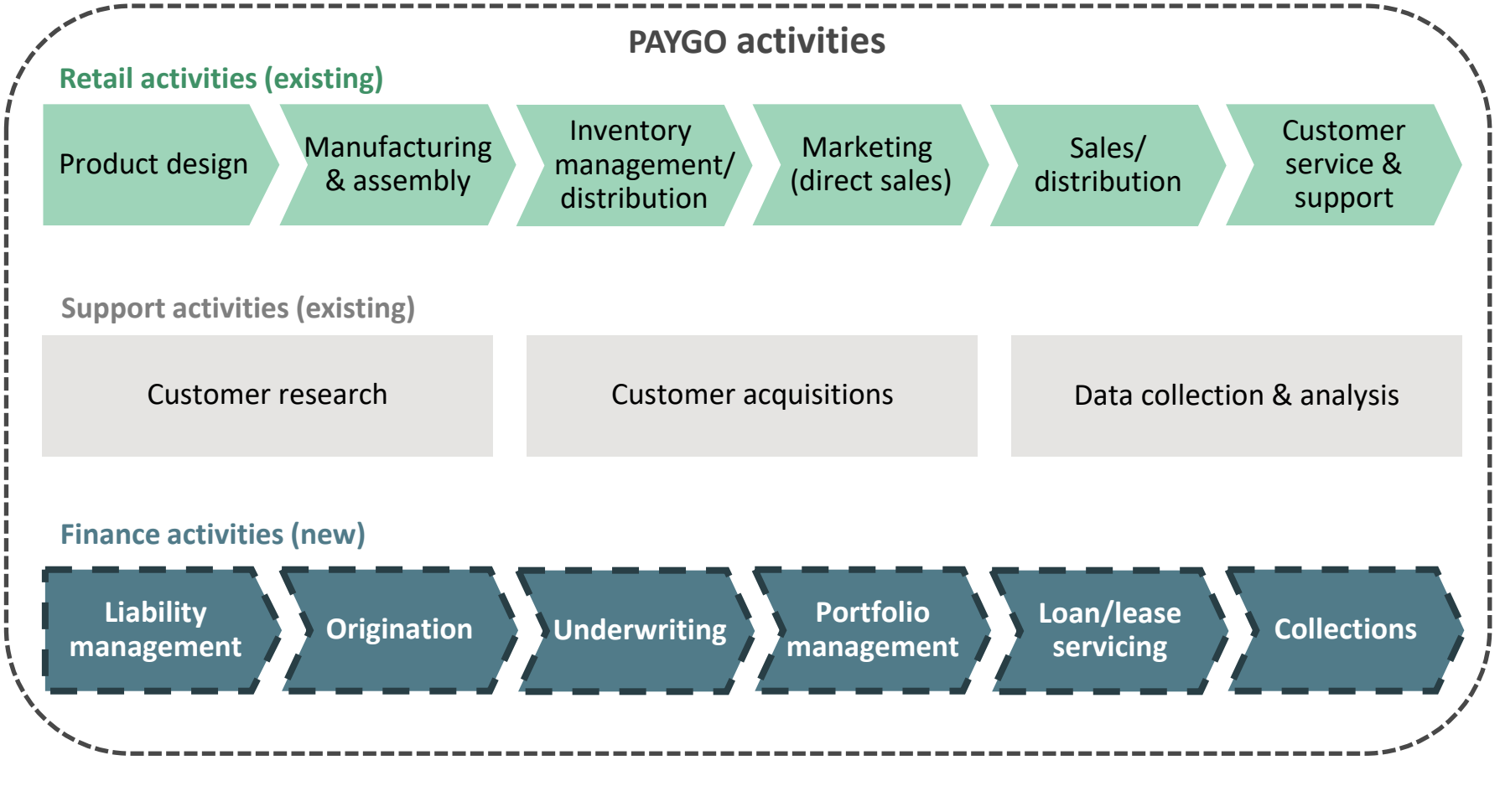
Recommendations based on ENEA's project with ATEC in July 2019

PAYGO business models allow products to be paid off in instalments, reducing the upfront investment barrier and thus improving access

PAYGO key elements	*Explanation*
PAYGO key elements	
Instalments	Instalments (e.g. weekly, monthly) allow customers to spread payments over time, avoiding high, unaffordable, upfront expenditure
Lease-to-own	Solar PAYGO providers trialled both lease-to-own and energy-as-a-service models. The customer's preference was to eventually own the asset. In 2018, approximately 90% of PAYGO sales were via lease-to-own[1].
Mobile pay	Payments initiated through a mobile device have enabled off-grid customers to make remote digital payments through mobile money applications. This enables more efficient collections for PAYGO providers.
Block-out technology	PAYGO products are fitted with block-out technology to stop the service if payments are not made. Once the product is paid for, the system unblocks permanently.
PAYGO results	
Energy Access	The PAYGO business model was pioneered in the solar PV sector, this has enabled people to overcome CAPEX barriers and get access to renewable electricity – between 2011 and 2017 PAYGO was used to install solar PV in over 1.5M homes in Africa[2].

1. CGAP (2018)
2. Mastercard (2018)

Adopting this business model requires retail companies to become more vertically integrated, taking on many new roles, risks and responsibilities



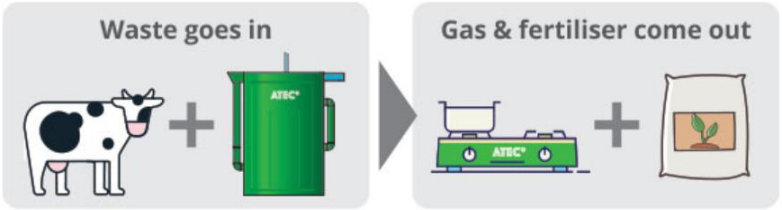
To transform into PAYGO providers, retailers and distributors must also become financial service providers

Source : ENEA Analysis and inspired from CGAP, *Making Sense of PAYGO Solar Business Models* (2018)

Micro-biodigesters allow farmers to produce biogas from waste, saving them money and avoiding the inhalation of toxic & polluting fumes

How do ATEC's biodigesters work?

- Biodigesters convert manure, human, kitchen and green waste into biogas and organic fertiliser
- ATEC's system requires a minimum of 2 livestock or 5 kg of green waste per day in order to produce enough gas for daily cooking needs
- The system is resistant to extreme weather (flooding, typhoons, earthquakes)
- The system is adaptable to many soil types
- The system comes with a biogas stove and rice cooker



Biodigesters have different types of positive externalities:

- Financial: gives more revenue to farmers and provides them with cooking gas
- Agronomics: Improves fertilisation and reduces the use of chemical fertilisers
- Energy and environment
  - Reduces GES emissions compared to both wood-burning and LPG cookstoves
  - Reduces deforestation
- Quality of life
  - Makes cooking easier (e.g. biogas rice cooker)
  - Increases free time compared to wood-burning cookstoves
  - Improves air quality compared to wood-burning cookstoves

Source: ENEA Analysis, ATEC

Executive summary

Context & disclaimer

Introduction

Key Success Factors for biogas PAYGO

Recommendations based on ENEA's project with ATEC in July 2019

Key Success Factors (KSFs) for the PAYGO service provider correspond to 8 major themes…

Key success factor themes

- Cultural 
- Regulatory 
- Economic 
- Strategic 
- Financial 
- Technical 
- Operational 
- Geographical 

… under which ~25 KSFs have been identified

Theme	Key Success Factor
Cultural	Education level of the workforce
	Mobile payment market share
	Prevalence of loans and commitment to respect a contract
Economic	Product price & payment structure
	Ownership of the asset after X payments
Financial	Access to capital to support PAYGO business model
	Credit scoring / assessment of potential customers
	Ability to manage working capital issues
	Ability to "securitise" and/or to borrow debt with the customer future payments/receivables
Geographical	Population density
Operational	Distribution/logistics strategy (last-mile)
	Repossession policy/procedure
	Sales team structure
	After-sales & maintenance services
	Late payment collections process
	Data management software
	Customer education process
	Vertical integration
	Product/service warranty in case of technical issue
Regulatory	Local financial regulation regarding PAYGO accounting
Strategic	Growth strategy
	Partnerships (with finance operators or telecom operators)
Technical	Payment technology
	“block-out” technology
	Platform integration and communication

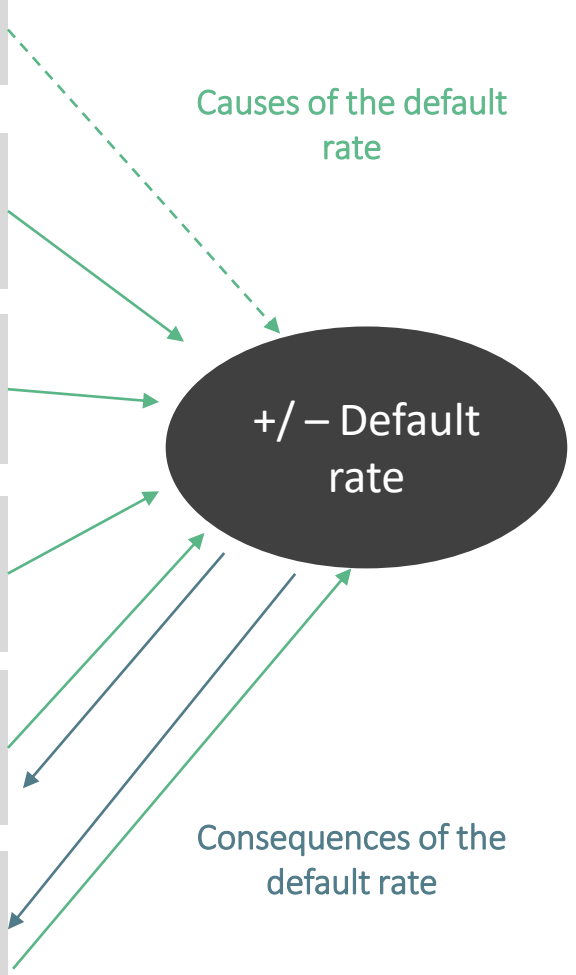
ATEC and ENEA shortlisted 6 KSFs for deep-dive analysis

Theme	KSF	Main questions
Financial	Credit scoring of potential customers	➢ How to find a 'proxy'/ indicator/efficient process to assess the credit scoring of potential customers (in an efficient and cost-effective way)?
Operational	PAYGO business structure within the company	➢ How to organise PAYGO activity within existing ATEC operations in Cambodia?
	Sales team structure	➢ How to manage the trade-off between customer acquisition & customer retention? ➢ What incentive payments can be used for sales staff?
	Late payment collection process	➢ ENEA's opinion on the default rate (based on PAYGO experience). ➢ What is ENEA's opinion on current late payment process? ➢ Is it possible to restructure loans (e.g. in line with accountability standards)?
	Asset repossession policy	➢ If repossession has to happen, how should it be handled?
Economic	Product price & payment structure	➢ How is PAYGO priced (e.g. daily rate, deposit)? ➢ How other potential PAYGO solutions are priced?

Since the mission began during ATEC's PAYG pilot, the focus was placed on more operational and practical KSFs

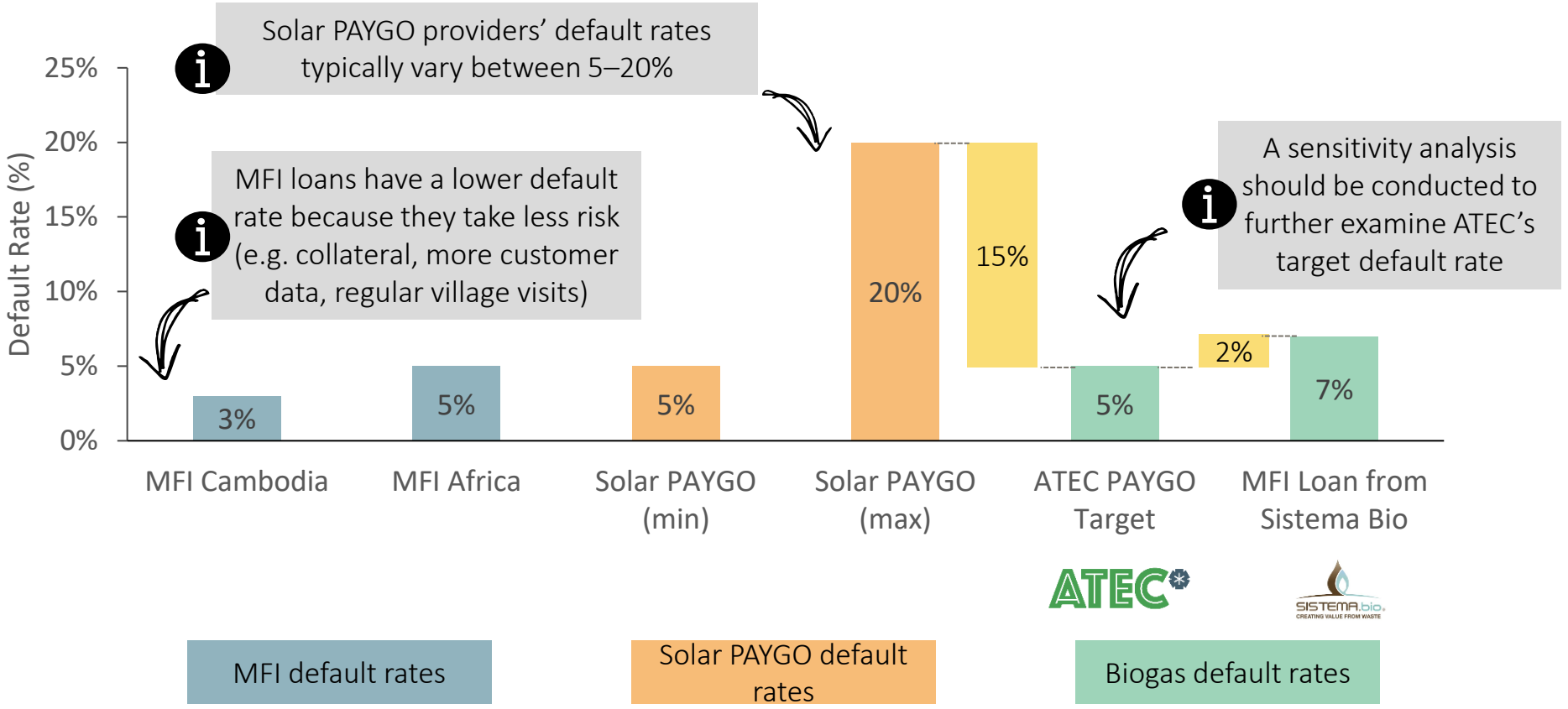
Five out of the six priority KSFs that ATEC selected can be closely linked to the default rate, which is considered to be critical for PAYGO providers

Key Success Factor	*KSF link to default rate*
PAYGO business structure	Having the correct organisation to implement PAYGO indirectly helps reduce the default rate.
Product price & payment structure	Achieving a price and deposit that balances company risk and customer affordability reduces the default rate.
Credit scoring of potential customers	Accurately assessing customers' ability to pay at time of sale reduces the default rate.
Sales team structure	Incentivising sales teams to target and approve customers that can pay can reduce the default rate.
Late payment collection process	An efficient and effective payment collection process can encourage payment and reduce the default rate.
Asset repossession policy	A low default rate results in fewer repossessions (which cost money, time and reputation). A clear repossession policy also reduces default rate.



ATEC's target default rate is lower than the average default rate for the solar PAYGO sector in Sub-Saharan Africa (SSA)

Indicative financing default rates in the Energy Access sector, for MFI and for PAYGO financing models (sources: ENEA Consulting, Kiva (Sistema Bio default rates in Mexico, Kenya, Nicaragua, Colombia, 2012))



Managing the default rate will be important to ATEC, especially due to the costly repossession process. ENEA advises ATEC to do a further 'sensitivity' analysis.

Executive summary

Context & disclaimer

Introduction

Key Success Factors for biogas PAYGO

Recommendations based on ENEA's project with ATEC in July 2019

Executive summary
From ENEA's July 2019 project

From what ENEA has seen, ATEC is ready to launch PAYGO

- From what ENEA has seen, ATEC's biogas units function properly. ENEA has not seen the mobile payment technology, however, because it was not deployed in July 2019 when ENEA visited ATEC. ATEC's product provides a wide range of economic, agronomic and environmental benefits in rural Cambodia.
- ATEC has been operating for more than four years, and ATEC has prepared its 'business shift' to PAYGO in Cambodia (financing, after-sales, maintenance, late-payment processes, etc.)

The current customer price for PAYGO might be too low for ATEC

- After having a clear understanding of the costs, ATEC will be able to define the target margin per unit and therefore the customer price for their PAYGO solution.
- ENEA helped ATEC to develop a pricing tool to calculate the correct pricing

Credit assessment of potential customers is the main 'shield' to minimise the default rate

- ATEC is well aware of the risk of default rate and of the fact that the first 'barrier' to mitigate this risk is to set a proper credit assessment process. ATEC has set the proper process for credit assessment.
- Regarding the credit assessment form, ATEC could improve the data quality for credit assessment. Doing so, ATEC will be able to better test the credit assessment form during the 'pilot phase'.

Executive summary

Context & disclaimer

Introduction

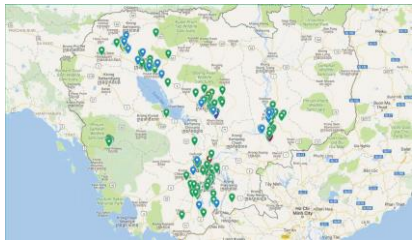
Key Success Factors for biogas PAYGO

Recommendations based on ENEA's project with ATEC in July 2019

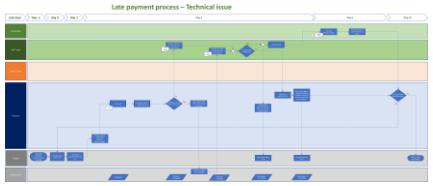
- PAYGO business structure/organisation within ATEC

For the ‘pilot phase’, ATEC’s operations for PAYGO are under construction

ATEC’s operations team managing PAYGO



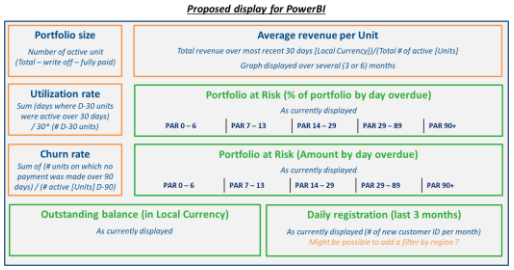
ATEC biogas units



Late payment process–Technical issue

- **Sales & installation:** ATEC focuses on geographical areas where it already operates in order to reduce transport costs and to ensure local sales & support agents are present
- **Services & After-Sales (SAS):** ATEC is setting up a **call centre** in order to standardise after-sales services, customer enquiries and support repayment.
- **Technical team:** ATEC has already set up a process to respond to technical issues, such as low biogas production. They are also setting up a **maintenance team**.

Data management of PAYGO customers



Proposed display for Power BI

- ATEC is currently reviewing the way the CRM (customer relationship management) system is used
- **Angaza will provide information about portfolio management & outstanding balances**. Currently, this information is recorded manually.
- **The link between the CRM, CommCare HQ and Power BI from Angaza is under discussion**

ATEC is ready to scale PAYGO but needs to clearly define the organisation of the technical team

- ATEC's strategy to focus on geographical areas where it is already present, and their decision to focus on densely populated areas make operations easier
- ATEC is used to managing after-sales and technical issues from its current business (this is not always the case for solar 'retailers'). After more than two years of operations, ATEC's track record is very impressive and most of their biogas units seem to be working properly.

The ability to quickly solve technical problems is key to keeping the default rate as low as possible.

	Options to organise the technical team	
	Option 1: shortage of skilled technicians	Option 2: enough skilled technicians
Process (if the problem cannot be solved by call center)	• 1 sales&support agent deals with main 'basic' technical issues • The agent can call a technician from ATEC's Phnom Penh HQ if needed • In the event that the problem is too complex, a technician from Phnom Penh can intervene.	• A tandem team is structured at local level: 1 sales agent and 1 technician • They both attend the installation • The sales agent is in charge of customer relationship but the technician fix with all technical issues.
Advantage	• Most technical issues can be solved by local sales & support agents • If sales agents have commissions per payment, they are incentivised to intervene quickly. • The technical team focusses on more critical issues	• The technician can create a 'proximity' with the customer • The sales agent can focus on visiting other installations (for late payment reminders or potential customer visits)
Disadvantage	• It reduces the available time for sales agents to visit other installations	• Technician intervention might be costly (because there is less incentive to solve the issue)

- The organisation of the technical team is closely linked to the late-payment process and sales team structure. Before regional technical support teams are established, sales agents could be used as a cost-effective local resource to solve 'soft' technical issues.

Executive summary

Context & disclaimer

Introduction

Key Success Factors for biogas PAYGO

Recommendations based on ENEA's project with ATEC in July 2019

- Product price & payment structure

ATEC has already developed its PAYGO pricing and payment structure

	ATEC approach
Down payment	ATEC uses a $10 down payment. This is 2% of the total PAYGO price of $780, which is relatively low compared to solar customers.
Payment structure R&D	ATEC are rolling out PAYGO initially as a pilot phase, but will only be offering a single payment option.
Payment duration	ATEC will offer a single payment duration of approximately 2 years (27 months) for PAYGO customers
Instalment payment	ATEC's payment instalment is *$30 per month. This figure was decided based on a customer market study surveying 189 potential customers.

*$20 monthly payment may be available as a part of loan restructuring

ATEC's payment and pricing structure has utilised some key lessons from the solar PAYGO industry

ATEC pricing and payment structure

Down payment

ATEC's 2% down payment of $15 is a much lower percentage than the down payment for PAYGO solar (*typically 10–15% of total cost[1]). It is important that the down payment does not create another capital barrier.

Payment structure R&D

ATEC is considering offering several products during the initial PAYGO pilot phase to determine which products customers prefer (e.g. $20 or $30/month)

Payment duration

ATEC's payment duration is in-line with solar PAYGO figures (between *12–36 months[2]–this will depend on system size).

Focus on next slide

Payment instalment

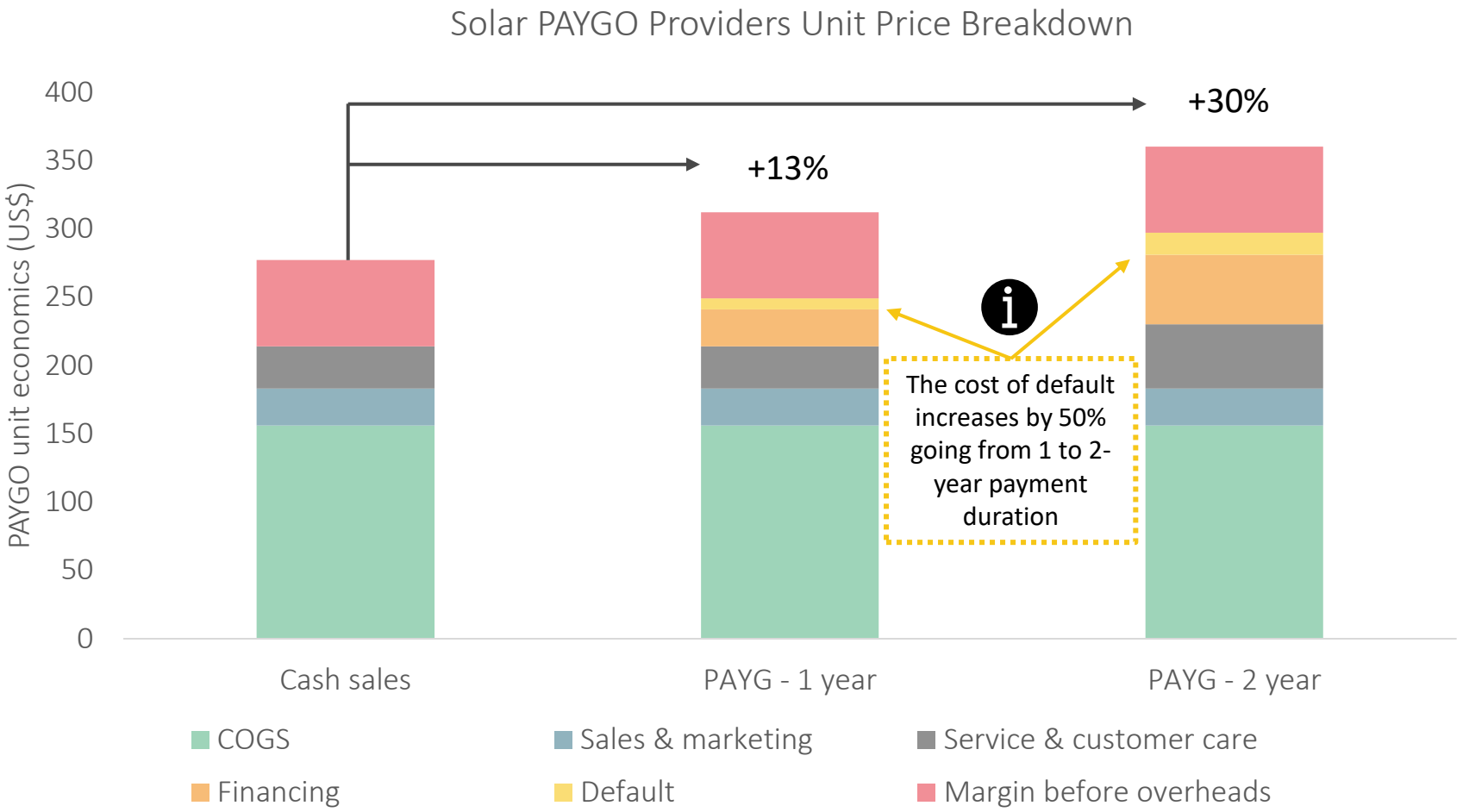
ATEC's pricing equates to approximately $1/day, but ATEC can incentivise early payments to take into account seasonal crop revenues (nb: in Asia, agricultural revenues tend to be less seasonal than in Africa).

Questions: Does this align with the value of the service the customer receives from the product? (e.g. energy savings? fertiliser savings?)

* 1. The World Bank, *Data Playbook for the Off-Grid Pay-As-You-Go Sector*, 2018

2. CGAP, *Access to Energy via Digital Finance: Overview of Models and Prospects for Innovation*, 2014

While increasing payment duration reduces the instalment cost, it increases the risk for ATEC & the overall cost to the customer



Extending the payment duration exposes the PAYGO provider to the customer's financial risks (e.g. bad harvest)

Source: Hystra—*Reaching Scale in Access to Energy* (2017)

Executive summary

Context & disclaimer

Introduction

Key Success Factors for biogas PAYGO

Recommendations based on ENEA's project with ATEC in July 2019

- Credit assessment

ATEC has already set up 'credit assessment' tool and process based on the microfinance institution (MFI) experience

ATEC's credit assessment process is well defined and ensures a third party reviews the first assessment undertaken during prospect generation and sales agent visits

0 Direct prospect generation **through sales agents** or indirect prospect generation (call centre &/or social media)

1 Sales agent goes to visit the potential customer and **fills in the 'Credit and Assessment Form'**

2 **Answers analysed by Credit Assessment team** and double-checked (e.g. phone calls to the village chief)

3 **Credit Assessment output:**
- Approved;
- Making decisions (further analysis?);
- Rejection

ATEC's Credit and Assessment mainly derived from MFI credit assessment forms and gathers various financial, social and economic indicators

Current weighting of various indicators in the 'Credit and Assessment Form' (rectangles proportional to weight)

Financial situation of the household				Social indicator				Economic situation o...	
Total Dept=Total Assets/Liability	Ratio of ability=Net Income/Monthly Leasing	Guarant... Insurer (Y/N)	Payment in time to other MFI & privat...	Personal characte... (friendly?)	Current Living duration/ lenght	Type of land (village/ farm)	Type of house (wood house...	Regular income (Y/N)	Job/ occupati... duration/ lenght

- ATEC is currently testing its credit assessment process by accepting ~50 customers that would have different outputs regarding the credit assessment tool

Existing processes are in line with solar PAYGO best practices, but data quality for credit assessment could be improved

The current process and tools are in line with industry best practices and are employed by most successful solar PAYG companies

- **Regarding the weighting, ATEC has handled the trade-off between financial indicators** (more relevant, but hard to check/certify, and they might evolve after the PAYG credit has started) **and socio-economic indicators** (more subjective, but easier to check and probably determinant to assess customer commitment to pay a credit)

There might be ways to obtain more 'serious' prospects (while reducing customer acquisition cost and default rate)

- To better identify the 'serious' prospects, **ATEC can use social media marketing tools focusing on target customers** (e.g. Facebook profiles that are interested in buying a car and that are not searching for credits)
- To better identify the 'serious' prospects, **ATEC can track when a potential customer has been recommended by a neighbour/member of the family** (with a commission after one year of payments?)

There might be ways to enrich data via cross-checking with other data points

- External subjective criteria (e.g. the difference between a wooden house and mud hut), **photos of the area / the house could be taken and presented to the credit assessment team** and compared with the existing data such as CommCare field data.
- To crosscheck economic and financial indicators (e.g. revenues and cost) of farming activities, the form should include **agricultural metrics** (e.g. type of crops & hectares, livestock, etc.) that can be cross-checked with indicative economic data (e.g. average wholesale price of agricultural output (rice, fish, chicken, etc.) in the area)

- **ATEC needs to improve data quality and reliability used for credit assessment. In the medium term, that would make statistical data analysis of default rates more relevant.**

Executive summary

Context & disclaimer

Introduction

Key Success Factors for biogas PAYGO

Recommendations based on ENEA's project with ATEC in July 2019

- Sales team structure

ATEC's PAYGO operations could benefit from building a relationship-driven sales force that is incentivised to find & support quality customers

ATEC currently pays local sales agents using a combination of a **fixed salary** and a **sales commission**

Sales commission

Sales commissions can encourage sales agents to sell to higher-risk customers and do not support long-term customer relationships.

ATEC could benefit from trialling incentives on customer retention (ex: commission after a certain no. of payments), this will encourage sales agents to:

- Sell to customers with the ability to pay.
- Build relationships and provide ongoing support to customers.

Incentivised sales agents could conduct credit scoring

Fixed salary

Using a fixed salary component is encouraged in the solar PAYGO sector as it can have several benefits:

- Improved staff retention resulting in more experienced sales staff that can create long-term customer relationships.
- Reduced management and recruitment costs—considered a key challenge for PAYGO providers recruiting in remote areas.

- Cultivating long-term relationships between the customer and the sales agent is a high priority for ATEC to manage customer satisfaction & help their customers maximise value from their product

Executive summary

Context & disclaimer

Introduction

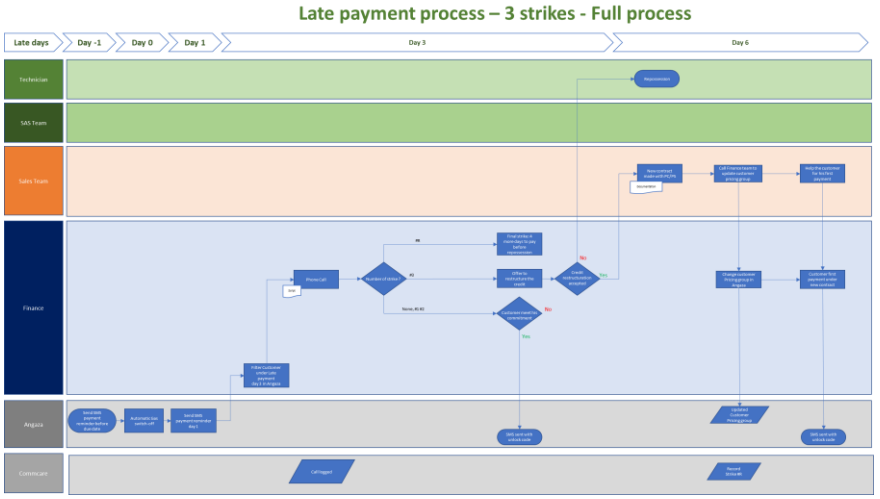
Key Success Factors for biogas PAYGO

Recommendations based on ENEA's project with ATEC in July 2019

- Late payment process

ATEC has a ‘3 strikes’ late payment collection process that utilises local field agents with previous customer relationships

ATEC uses service block-out, SMS, phone-call and field agent visits as tools to recover late payments



ATEC’s process considers the reason for a late payment:

- Technical issue
- Customer financial issue

Due to the cost of repossession, ATEC will encourage loan restructuring as a last resort

Late payment collections are a priority for ATEC. Their late payment collection process is well defined & uses many of the best practices from solar PAYGO

The well-defined late payment process shows ATEC considers this a high priority:

- Solar PAYGO providers are finding that collection procedures need to be a priority. Providers acknowledged that more strategic collection intervention approaches are improving repayment rates and lowering repossession rates.

ATEC's late payment process determines why the customer didn't pay and has specific actions for each reason (technical issue or financial issue):

- Experience from the solar PAYGO sector indicates it is very important to know why the customer did not pay—technical issue, product not performing or lack of money.
- ATEC could consider other potential outcomes and the consequences (e.g. The customer is not satisfied with the product & no longer wants to pay—is this treated the same as a financial issue?)

ATEC's process utilises service block-out, SMS, phone-calls and **local field agent visits** as tools to recover late payments.

- Solar PAYGO experience has found that field agents are up to 50% more effective than call staff in getting customers to make late payments within 48 hours—due to familiarity.

Loan restructuring is used in the solar PAYGO sector to avoid default for customers in financial hardship

- The accounting for loan restructuring should be defined.
- Are loan restructures considered in the financial modelling?

- Late payment collection process is costly and requires a lot of different teams / steps. It should be avoided with the 'credit assessment'.

Executive summary

Context & disclaimer

Introduction

Key Success Factors for biogas PAYGO

Recommendations based on ENEA's project with ATEC in July 2019

- Repossession process/policy

Currently, ATEC has very little experience in repossessing units. Repossession, however, should be avoided as much as possible

ATEC approach / **first lessons from ENEA**

Repossession is costly

- ATEC digesters are buried at a depth of 1 m, manure must be removed, and the units should be cleaned. Repossession is therefore very costly
- Repossession cost also depends on the distance from the operations site.
- **Repossession cost is much higher than for solar (in nominal and relative terms).**

Repossession raises legal issues

- When a customer was not happy with a unit, ATEC paid back the customer. **How much should be paid back (e.g. upfront payment only? 50% of the value is the customer has paid 50% of it)?**
- **Is ATEC allowed to repossess the units? That should be clarified in contracts.**

Repossession could also be very bad for the image of ATEC

- Repossession of a unit might a 'violent' & 'rude' moment when police/security forces would intervene with ATEC, so that would be clear for all the customers that the units belong to ATEC.
- **Repossession should be 'promoted' in a proper way. ATEC should find the right balance between being the 'nice Energy Access company' and a company that does not allow default rates.**

Residual value of the biogas unit?

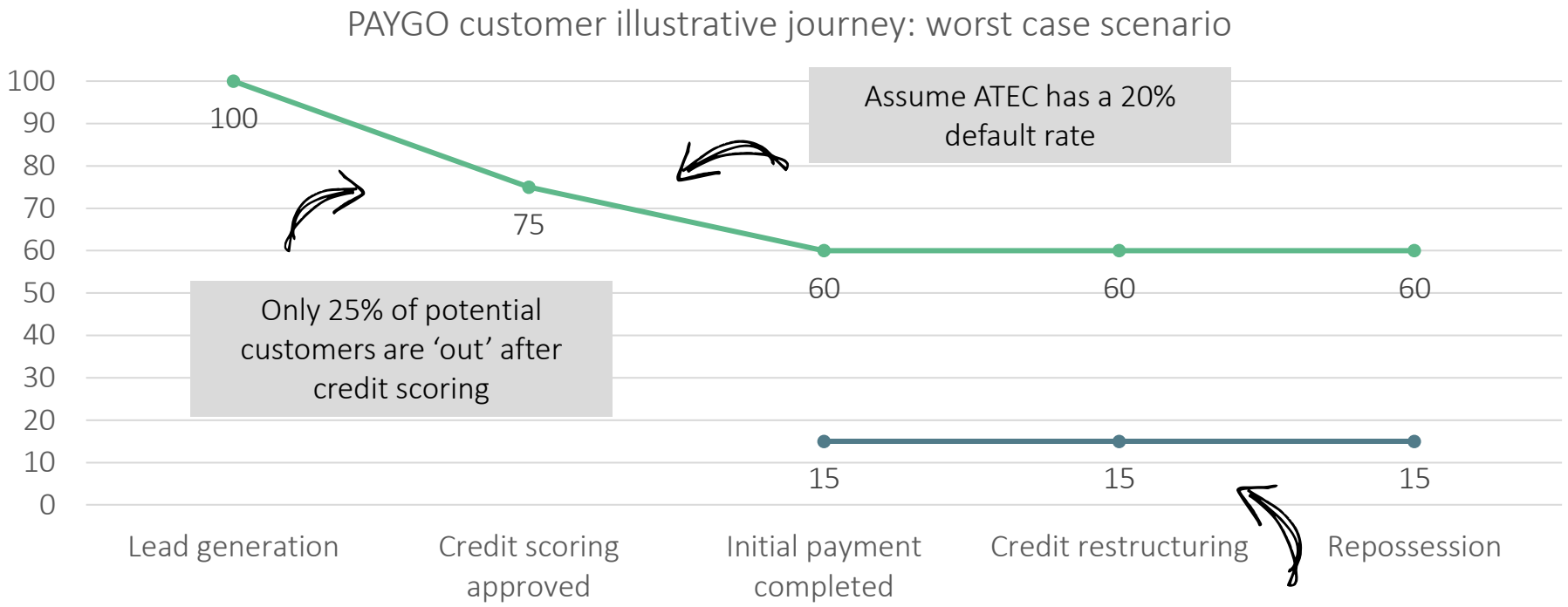
- It is possible to sell the recovered biogas unit, but not the appliances (cook-stove & rice cooker), **the total residual value of the recoverable assets (~200$) would not compensate the overall repossession costs.**

➤ ENEA's main findings regarding repossession only apply to solar PAYGO systems, which are less costly to repossess. Since costs are higher for biogas systems, ENEA advises ATEC to ensure repossession is avoided.

How to avoid repossession? (1/2)

Illustrative example – worst case scenario

Assumption: repossession would be very costly for ATEC



Assume ATEC has a 20% default rate

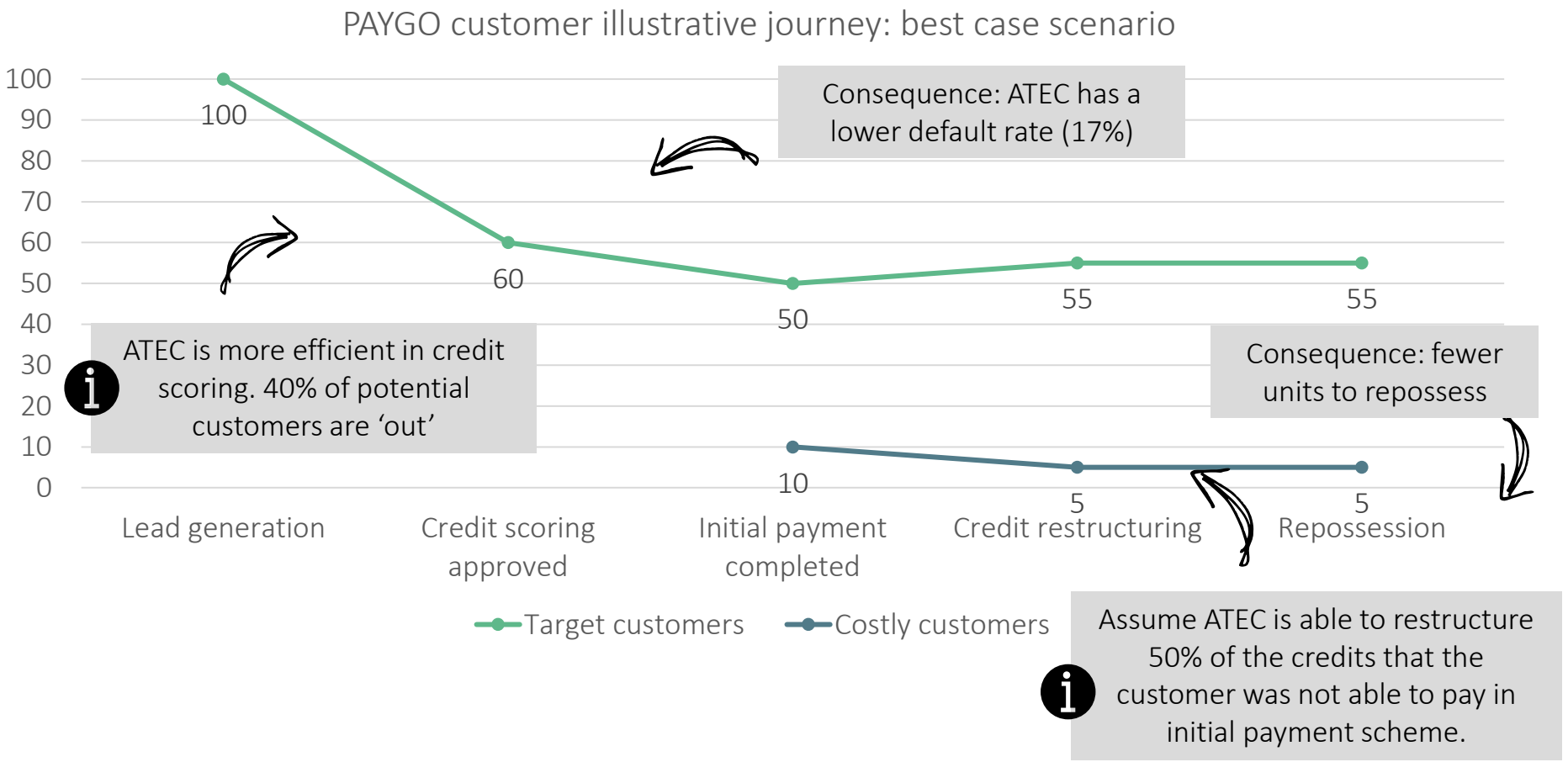
Only 25% of potential customers are 'out' after credit scoring

Assume ATEC is not able to restructure any of the credits. ATEC has to repossess 20% of PAYGO units sold.

How to avoid repossession? (2/2)

Illustrative example – best case scenario

Assumption: repossession would be very costly for ATEC



enea
CONSULTING

Paris

89 rue Réaumur
75002 Paris,
France

+33 1 82 83 83 83
contact.paris@enea-consulting.com

Hong-Kong

Suite D, 6th floor,
Ho Lee commercial building
38-44 d'Aguilar Street, Central,
Hong Kong

contact.hongkong@enea-consulting.com

Melbourne

Level 12, 360 Elizabeth Street
Melbourne VIC 3000,
Australia

contact.melbourne@enea-consulting.com