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 Federal Ministry  
for Economic Affairs  
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on the basis of a decision  
by the German Bundestag



100% RENEWABLES SOLUTIONS PACKAGE

# The pay-as-you-go model for distributed renewable energy



*This solution is part of a package of solutions meant to guide local and regional governments in implementing a local renewable energy transition by providing guidance on mechanisms, applications or technologies that can help accelerate their climate and energy action.*

*It was produced as part of the 100% Renewables Cities and Regions Roadmap project, which supports nine cities and regions across Argentina, Indonesia and Kenya to develop bankable renewable energy projects and in-depth local strategy and action plans to achieve one hundred percent renewable energy. The 100% Renewables Cities and Regions Roadmap project is implemented by ICLEI – Local Governments for Sustainability and funded through the International Climate Initiative (IKI), which is implemented by the Federal Ministry for Economic Affairs and Climate Action (BMWK) in close cooperation with the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) and the Federal Foreign Office (AA).*

## **DISCLAIMER**

All cities are unique. The Solutions Gateway has been developed as an advanced knowledge catalogue to provide an overview of possible Low Emissions Development Solutions. The Solutions and Packages it contains provide guidance on general conditions, which may not correspond to the existing conditions in your city or jurisdiction. The consultation and use of the Solutions Gateway does not waive the need for the Local Government to assess the feasibility of a Solution or Package in the local context in its city or jurisdiction, prior to implementation. Please note that the impacts, benefits and co-benefits indicated are generally valid but may not materialize in particular circumstances.

## **ABOUT SOLUTIONS GATEWAY**

[Solutions Gateway](#) is an online resource platform for Local Governments where they will be able to find possible Low Emissions Development (LED) Solutions for their cities.

In the context of the Solutions Gateway, Solutions are processes, or groups of actions, which Local Governments can implement to deliver climate change mitigation results and enhance local sustainable development. Taking an integrated approach, and focusing on Local Governments usual responsibilities and roles, Solutions include core actions as well as enabling and multiplying actions essential to maximize their effectiveness and efficiency. These include policy, regulatory, governance, capacity building, awareness raising, stakeholder engagement, etc.

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## 1. INTRODUCTION

Pay-as-you-go (PAYG) is an innovative business model where energy service companies sell or lease solar photovoltaic (PV) systems, usually solar home systems (SHS), to customers in exchange for regular payments via mobile money, cash or scratch cards [1]. Due to the range of packages available, customers can choose from starter kits that supply a few lights and charge cell phones, to larger systems that can power TVs, radios, stoves and small fridges [1][2]. In some cases, if a customer cannot make payments, the energy service provider is able to switch off the system remotely, and switch them on again once payment is made [2].

PAYG can even be used with other distributed forms of renewable energy (RE) or integrated with micro/mini-grids at community level. Local governments can enable PAYG markets by ensuring favourable regulatory conditions, raising awareness, offering incentives and partnering with the private sector in order to support their electrification, sustainable development and climate protection goals.

### 1.1 RELEVANCE

Fundamentally, PAYG aims to address two main challenges—energy access and economic participation, as it is tailored to the affordability of the customer. Approximately 840 million people globally do not have access to electricity, and over a billion people cannot rely on their electricity supply [2]. The conventional, centralised utility model has failed many citizens, and PAYG RE systems have been revolutionary for enhancing access to electricity. Between 2015-2020, 25-30 million people globally received electricity through PAYG systems [3]. In addition, even in countries with relatively high electrification rates such as Kenya (75%) and South Africa (85%), increased uptake of PAYG can support universal energy access targets.

While viable in grid-connected areas, PAYG is particularly useful for areas not connected to the grid. Energy distribution companies/utilities can save on network expansion/strengthening by promoting off-grid PAYG technologies that are quicker to install, cheaper and cleaner.

According to a 2019 Mastercard study, 1.7 billion people globally do not have access to a financial network or conventional bank account (majority of which are female). However, 66% of the population in off-grid areas had access to a mobile network [1]. Hence, PAYG integrated with mobile money can facilitate access to services and enhance financial inclusion for previously excluded people with irregular cash flows [1].



## 1.2 MAIN IMPACTS

- Access to modern, clean energy as well as finance is transformational on many levels.
  - It can improve livelihood opportunities for small businesses, especially women and youth, and overall quality of life for citizens. Labor market outcomes especially for women have been noted, especially shifts from the agricultural sector to entrepreneurship [3].
  - According to Science Magazine, using mobile money with PAYG systems has enabled at least 2% of households to break the poverty cycle in Kenya [3].
- Opportunities for further market development of PAYG systems using other forms of distributed RE, diversification of the energy distribution sector and stimulation of competition as there is an increased uptake of PAYG RE systems.
- Contribution towards the reduction of carbon emissions and climate protection.
- Ability to address local government strategies for the following:
  - Improved energy/electricity access, especially in areas where there is unreliable electricity supply or no grid-connection;
  - Improved community engagement and development;
  - Local and multi-level climate action; and
  - Participation in the green economy and job creation especially for youth and women.
- Stimulation of further innovation solutions and the evolution of financial models based on the PAYG model which could lead to opportunities such as micro-financing and community financing.
- Opportunity for strategic partnerships with the private sector for accelerated roll-out in communities.

## 1.3 BENEFITS

- Replaces traditional energy sources such as kerosene lamps, candles, torches, firewood, etc., and supports clean energy provision for citizens.
  - Provision of better indoor lighting for greater visibility at night, enables homework sessions for school-going children, as well as outdoor lighting to promote safety and well-being.
  - PAYG customers do not have to travel distances for collecting fuel wood or go to mobile phone charging service stations.
  - Improved indoor air quality and elimination of negative health impacts when solar replaces the use of kerosene, petrol, diesel, coal or fuel wood for cooking. This is especially advantageous for women and girls who are usually tasked with household chores and are the most exposed.
- Provides access to affordable energy. As PAYG can be tailored to the customers, it allows them to pay in increments within their means.
- Households and businesses can save money by eradicating the need for expensive fossil fuels and mobile phone charging services.
- Contributions towards climate change mitigation and the local energy transition. Enhances the city profile as green and sustainable.
- Financial inclusion and economic participation opportunities for low-income and vulnerable groups.
  - PAYG customers can overcome the initial upfront costs that traditional solar systems have.
  - With some PAYG business models, customers are able to build a credit record/rating by honoring their regular payments, and can even use the SHS as collateral for purchase of other assets [3].



- The current ability of PAYG solar systems to switch off in case of no payment can also serve as assurance for financiers.
- PAYG business models can have additional value-added applications and services other than household energy access, such as access to loans, medical insurance, agricultural equipment, etc.
- Digital inclusion for low-income and vulnerable groups.
- Increase in local green jobs, for example through PAYG energy service providers, domestic manufacturing, community SHS distribution agents and installers.
- Savings for energy distribution companies/utilities when using decentralized RE PAYG systems instead of expanding the grid to certain remote areas where the cost may be too high.
  - Alternate solutions improves network inefficiencies and reduces transmissions losses with power distribution over larger distances in the case of remote regions that are not serviced by the grid.
- Increased public knowledge and understanding of cleaner forms of energy, climate change and sustainable living through capacity building, sensitisation and awareness raising.

## 1.4 SUGGESTED INDICATORS FOR MONITORING RESULTS

- Number/percentage of households with access to energy [number/ year; percentage]
- Number of new and total households with PAYG RE systems [number/month or year; percentage]
- Improved indoor air quality/improved health for residents using PAYG RE systems [reduction in the number of sick days; reduced number of hospital or clinic visits for respiratory related illnesses]
- Number of new and total small businesses with PAYG systems [number/year]
- Reduction in the city's annual greenhouse gas (GHG) emissions [t CO<sub>2</sub> eq/year]
- Number of PAYG RE system related jobs created, especially for vulnerable groups [number of jobs/year]
- Number of local PAYG RE manufacturers [number/year]

## 1.5 TYPICAL LOCAL GOVERNMENT ROLES

- |                        |   |
|------------------------|---|
| • Policy maker         | • Consumer and procurement                            |
| • Planner              | • Operator of municipal facilities and infrastructure |
| • Legislator/regulator | • Mobilization and stakeholder engagement             |
| • Coordinator          | • Education and awareness raising                     |

## 2. INTEGRATED SOLUTION OVERVIEW

	Enabler Actions	Required Actions	Multiplier Actions
Policy	<ul style="list-style-type: none"> <li>• Invite energy providers to share their PAYG solutions with the city management/mayor/council, etc. to gather support for PAYG initiatives</li> <li>• Recommend a standardized cost of the solar home system so that energy service providers remain competitive and do not charge exorbitant rates to customers</li> </ul>	<ul style="list-style-type: none"> <li>• Map out the required enabling legislative framework needed to support the PAYG market</li> <li>• Establish policies and plans such as a sustainable energy strategy/master plan with defined energy access and electrification goals for the city, and include an implementation plan which states how PAYG systems contribute to achieving targets</li> <li>• Ensure policy coherence by referencing PAYG solutions across other related policies and plans (e.g. climate action plan)</li> <li>• Ensure alignment between local, provincial/regional and national goals for PAYG solutions, if applicable</li> </ul>	<ul style="list-style-type: none"> <li>• Political will and buy-in to support PAYG initiatives in the city and support increased energy access</li> <li>• Develop an incentive scheme or partial subsidy/tax rebate for PAYG customers in the city to further enhance the affordability of the solution</li> <li>• Develop a guarantee mechanism to support customers who earn below a certain threshold. Or, institute a “free basic electricity” monthly allocation for low-income households that need to register upfront, so that part of their electricity usage will be free/subsidized by taxes</li> <li>• Promotion of the local manufacturing of solar home systems through preferential procurement criteria to boost local economic development</li> <li>• Promote the use of local PAYG service providers to boost local economic development</li> </ul>
Stakeholders and Awareness	<ul style="list-style-type: none"> <li>• Support a local trade fair for energy service providers to exhibit and market their PAYG RE solutions to customers</li> </ul>	<ul style="list-style-type: none"> <li>• Undertake a PAYG market assessment to understand the various options that exist and what technologies are being used, to inform decision making and identify partnerships</li> <li>• Support and lead awareness raising campaigns about the benefits of using PAYG options and how it works through targeted information sharing, dialogues and community sessions</li> </ul>	<ul style="list-style-type: none"> <li>• Pursue partnerships with financiers/funding agencies and energy service providers to support wide scale roll-outs of city-led initiatives to increase the uptake of RE PAYG systems</li> <li>• Share success and impact stories within target communities, with other cities, etc. to inspire them and showcase the practical benefits of the solution</li> </ul>

	Enabler Actions	Required Actions	Multiplier Actions
Stakeholders and Awareness		<ul style="list-style-type: none"> <li>• Train community ambassadors as one strategy for awareness raising. Partner with local community groups/NGOs/ community SHS sales agents/ private sector to support awareness raising efforts</li> <li>• Pursue partnerships with mobile network operators to ensure adequate network coverage in the city to allow for mobile money transactions</li> </ul>	
Governance	<ul style="list-style-type: none"> <li>• Create working groups with relevant partners/ stakeholders to prepare, plan and coordinate city-led PAYG initiatives such as awareness raising, sponsoring of SHS, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Schedule public-participation processes for any policies that are developed, and obtain the necessary council approval</li> </ul>	<ul style="list-style-type: none"> <li>• Development of a monitoring and evaluation framework with indicators and methods for monitoring the impact of PAYG systems for residents and businesses in the city</li> </ul>
Capacity Building	<ul style="list-style-type: none"> <li>• Partner with the private sector and promote training of installers, sales agents, end-users, etc.</li> <li>• Organize peer exchange sessions to learn from other cities and how they have implemented PAYG systems and the benefits it provides</li> <li>• Invite energy providers to share their PAYG solutions to the city management/mayor/ council, etc. to inform them about PAYG RE solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Promote certification and training of SHS installers to ensure safe, quality systems, especially addressing vulnerable groups (for example, women, youth and persons with disabilities, etc.)</li> <li>• Promote consumer training on how the system works, the benefits and basic troubleshooting</li> </ul>	<ul style="list-style-type: none"> <li>• Promote training start-ups and partner with existing local training institutions/NGOs</li> <li>• Promote the inclusion of user-friendly manuals in awareness/ sales campaigns and training</li> </ul>
Technical	<ul style="list-style-type: none"> <li>• Partner with mobile network operators to support the network expansion in areas that require it to enable mobile money transactions</li> </ul>	<ul style="list-style-type: none"> <li>• Undertake a baseline assessment of the status of energy access within the city boundary. Identify areas within the city that are not grid-connected and would benefit from electricity generation from PAYG RE systems</li> </ul>	<ul style="list-style-type: none"> <li>• Support the development of guidelines together with energy service providers for the safe and quality installations of SHS/PAYG solar systems</li> </ul>



	Enabler Actions	Required Actions	Multiplier Actions
Technical		<ul style="list-style-type: none"> <li>• Work closely with the private sector to support the development of guidelines with industry best practice measures such as minimum technical standards, warranties for equipment, energy performance, etc.</li> <li>• Promotion of equipment testing and proper labeling of SHS/RE equipment</li> <li>• Promoting the standardization, safety and quality of SHS/RE equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic partnerships with IT service providers who could provide the cloud-based services (for example data management, live helpdesks, etc.), monitoring, control and forecasting [4]</li> <li>• Promotion of PAYG RE for on-grid consumers where required to improve the overall business case</li> </ul>
Finance	<ul style="list-style-type: none"> <li>• Promote and facilitate financing opportunities for local energy service companies to expand their businesses to respond to the demand and support the city's energy access targets</li> <li>• Provision of funding or the facilitation thereof for awareness raising campaigns</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate the applicability of the following financial models for individual systems: <ul style="list-style-type: none"> <li>◦ Rent to own (household takes ownership after a few years of regular payments)</li> <li>◦ Fee for service (only pay for services regularly over a longer period of time, no potential to own the system)</li> <li>◦ The option to buy the system once-off also exists, although it is less popular</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Development of incentives schemes or partial subsidies for PAYG customers in the city that may not be able to afford it on their own</li> <li>• Supporting the acceleration of value-added products and services attached to PAYG models, for example, the Solar Panda payment plan allows customers to build a credit history with them which can help with financial inclusion and unlocking future opportunities [5]. Another example is Fenix Energy who offers educational loans to its customers, and PEG Africa who partner with insurance companies to cover medical expenses for customers [2]</li> </ul>

	Enabler Actions	Required Actions	Multiplier Actions
<b>Finance</b>		<ul style="list-style-type: none"> <li>• Investigate the applicability of the following financial models for individual systems community based systems:               <ul style="list-style-type: none"> <li>◦ Renewable energy mini-grid system using a “stokvel” approach (South African term referring to a pooled community/ family savings scheme where each contributing member puts in an amount and gets a lump sum returned to them based on all the contributions received on a rotational basis). This approach could be leveraged where a portion of an individual’s contribution could go towards making their regular payments for the electricity used before it enters the pool; alternatively, they could use their lump sum when it is their turn to receive this, to buy the system upfront.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Supporting incentives for PAYG customers or energy service providers (e.g. tax exemptions, preferential finance from banks, etc.)</li> <li>• Strategic partnerships to facilitate funding opportunities for example with donor funding agencies, crowdfunding, or cost-sharing through public-private partnerships</li> <li>• Advocate for the removal of indirect subsidies for kerosene and other fossil fuels (if within control) and the addition of VAT/duty fees [2] to encourage adoption of renewable alternatives</li> </ul>

## 3. WORKFLOW / PROCESS PHASES

### 3.1 PREPARATION

- Map out the required enabling legislative framework needed to support the PAYG market.
  - Develop energy access acceleration/electrification policies, plans and strategies, with contributions from PAYG solar systems, and ensure alignment between national, sub-national and local targets.
- Consider the role of renewable energy PAYG systems and how it can support the city's sustainable energy access, local economic development and social upliftment targets.
  - Undertake a baseline study of energy access in the city (if this has not been done previously). Identify areas that are not grid-connected and would benefit from PAYG RE systems. Survey residents to ascertain whether they would be able to afford a PAYG system and if they are willing to invest in this for themselves.
  - Undertake a PAYG market assessment to understand the various options that exist and what technologies are being used to inform decision making and identify partnerships.
  - Consider subsidization or sponsoring of SHS for residents who may not be able to afford it on their own and are currently reliant on fossil fuels for energy or who are not currently grid-connected.
- Create governance structures and working groups to prepare, plan and coordinate any city-led PAYG initiatives e.g. awareness raising campaigns, development/amendment of policies and plans, etc.
- Set up meetings with SHS suppliers/energy service companies, PAYG entrepreneurs and financiers to scope the possibilities for partnerships to promote the uptake of PAYG systems in the city.

### 3.2 APPROVAL

- Ensure there is general political will to support PAYG initiatives.
- Schedule public-participation processes for any policies that are developed, and obtain the necessary council approvals.
- Obtain the support and buy-in from stakeholders and community members to proceed with PAYG as a sustainable energy access solution that provides multiple other co-benefits.
  - Conduct awareness raising, hold information sessions and consultations as required. Convey the benefits this offers for clean energy access (including clean cooking), job creation, local economic development and financial inclusion. Consider partnering with local community groups/NGOs/community SHS sales agents/private sector to support awareness raising.
- Ensure agreements for partnerships are in place from external stakeholders such as energy service providers, mobile network operators and financiers, etc. to bolster/accelerate city led PAYG initiatives.

### 3.3 IMPLEMENTATION

- Promote and facilitate financing opportunities for energy service companies to establish their start-up/expand their current businesses to promote local economic development and economic diversification in the city.
- Roll-out of city-led initiatives such as incentive schemes, subsidies, awareness raising, provision of solar home systems, etc.
- Contribute to industry best practice guidelines and technical documents, especially if the city is a utility.

### 3.4 MONITORING

- Monitoring framework to be developed with indicators and verification methods to monitor the impacts that PAYG has for residents and businesses in the city for example, increased energy access, improved health, employment, carbon emission reductions, etc.; for both city-lead and private PAYG programmes and initiatives.
  - Mainstreaming of the sustainable development goals in the monitoring framework.
- Share lessons learnt and good human impact stories to demonstrate benefits and inspire larger uptake within communities and other cities.

## 4. REALITY-CHECK

This solution is applicable in both urban and rural areas, however the benefits and low-hanging fruits are much more apparent in remote areas that are not connected to the grid. It is most feasible in areas with access to a mobile network, however there are also other options for payment such as cash collections by agents, scratch cards, central pay stations, etc.

### 4.1 REQUIRED PRE-CONDITIONS

- Mobile operator network access in the city (for the best outcome)
- Customer access to mobile phones, or PAYG models with other payment methods (cash payments at PAYG offices, collection agents, etc.)
- Willingness of the community to utilize PAYG RE systems, and sensitization of RE technology/awareness raising
- Suitable and safe roof structures on homes and businesses for solar to be mounted
- Locations with adequate irradiation with limited shading and suitable roof angle for optimal solar energy production

### 4.2 SUCCESS FACTORS

- Safe and quality installations of the PAYG SHS
- Recognition of the influence of households/community members on one another and leveraging that for further uptake of PAYG business models [1]
- Compatibility of available SHS and PAYG models with households' needs, modularity of the system and the option to further expand the system in order to fulfill growing energy requirements
  - Availability and adequate supply to meet the demand
- Operation and maintenance services available within the region to ensure sustainability of the product
- After sales services available for customers
- Zero-rated data transactions for mobile money payments, or energy service providers having alternate options for payment (e.g. offices within communities, payments at selected supermarket till points, etc.)

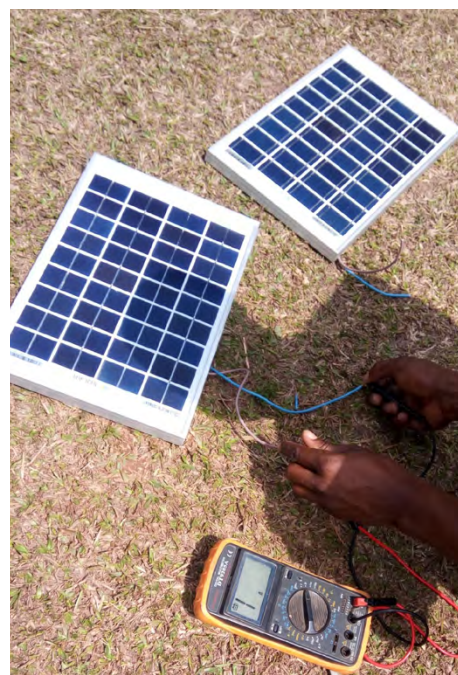


Image by @Katunguka, CC BY-SA 4.0

### 4.3 FOLLOW-UP NEEDED AND/OR RECOMMENDED

- Studies and surveys to confirm viability and determine requirements for large-sale roll-out of PAYG systems
- Monitoring and evaluation of the impacts PAYG is contributing to within the city for households and businesses

### 4.4 BARRIERS

- No/limited mobile network access and the cost of mobile phones and data, preventing the larger uptake of the technology. PAYG suitability for a particular area is dependent on mobile network operations.
- Lack of financing for energy service providers, local manufacturing and distribution, which can be addressed through support from governments or other external partners
- Untapped collaboration opportunity between the private sector and local governments, which can be addressed through greater dialogue and engagement

### 4.5 RISKS

- The poor or unsafe installation of PAYG solar systems can harm consumer confidence, and so standards and monitoring should be in place and robust, as well as the possibility for after-sales service
- Slow uptake due to reservations of the technology, as some may prefer traditional grid-connected electricity. This can be addressed through awareness campaigns etc.
- Perception of the technology being unreliable due to the weather, which can also be addressed by providing clear and accessible information
- Potential theft of the solar home system and perceived risks thereof with having these systems
- Damages to the system and lack of trouble-shooting knowledge, which can be addressed by partnering with the provider, including training programs and manuals etc.

## 5. CLIMATE CHANGE MITIGATION POTENTIAL

This solution is able to offer a clean, sustainable and more affordable energy alternative for households that depend on traditional fossil fuels such as kerosene, diesel, petrol or fuel wood. Kerosene and diesel in particular release toxic fumes that are harmful for people and the planet. Cooking with traditional fuels contributes to emitting 120 Mt–1 Gt of climate pollutants per annum [6][7]. It is also the source of black carbon which has a warming potential 460–1500 times more than carbon dioxide. Further, around 34–50% of wood harvested for cooking is considered to be harvested unsustainably thus impacting the rate at which forests can regenerate and aid climate protection [6] [7]. Therefore, the reduced reliance and use of wood for energy provision will assist with ensuring a more sustainable wood supply. It will further enable the local energy transition, mitigate greenhouse gas emissions and stimulate the green economy.

The efforts of local governments in pursuing clean energy provision can also support multi-level action and support national and sub-national governments with achieving their own climate change targets contained in their Nationally Determined Contributions (NDCs).

## 6. NATIONAL – SUBNATIONAL INTEGRATION IN THE CONTEXT OF THIS SOLUTION

### 6.1 BENEFITS TO LOCAL GOVERNMENT

- Greater opportunities for a wider-scale roll-out of PAYG solar systems and contributions towards the achievement of universal energy access
- Visibility and recognition of local initiatives and success, as well as contributions to national targets and future planning considerations
- Stronger partnerships to access funding for further implementation

### 6.2 BENEFITS TO OTHER LEVELS OF GOVERNMENT

- Peer learning and sharing of experiences, lessons learnt, challenges and success factors for collaboration with other local governments
- Leveraging local initiatives towards the contribution of national targets and goals
- Opportunities to attract investment into the country

## 7. CASE STUDIES

### CASE STUDY 1: PAYG SOLAR FOR IRRIGATION IN YEODA AND AMROHA, INDIA

#### Claro Energy, India

The agricultural sector is a significant contributor to the economy and responsible for employing more than fifty percent of India's workforce. Many farms in India do not have access to adequate water or grid-connected electricity. The expense of petrol and diesel for irrigation is one of the largest costs for farmers, contributing to their financial struggles. One solution that largely reduces the extent of the problem is the switch to **cheaper, cleaner and easier to maintain** mobile solar pumps for small-scale farmers, in which payment for consumption is by a pay as you go system.



Image by ©Claro Energy

The Indian Government has assisted with this transition to solar for farmers by means of subsidies, exemptions from import duties and concessions on equipment.

In villages such as Yeoda and Amroha, it has shown that this **improves the quality and yield of crops – many farmers can also increase the number of crops they grow as it becomes more viable**. It also provides a **buffer against the effects of droughts, the monsoon period** and overall **improves the farmer's financial positions**.

Further reading on Amroha and Yeoda's journeys:

- [The need for innovations in rural solar solutions](#)
- [Irrigation as a service](#)
- [Impact Story: Yeoda](#)
- [Solar pumps are transforming the lives of Amroha's farmers](#)



## CASE STUDY 2: PAYG ACCESS TO CLEAN ENERGY AND VALUE-ADDED SERVICES

### Mastercard and Fenix International

It is well known that education is a major expense for any household, and even more so in the global south. School and tuition fees are one of the significant expenses for Ugandans, especially those in rural communities. With most Ugandans receiving periodic income, paying for fees in lump sum is often difficult. 84% of Ugandan citizens have had insufficient funds for education of their family members.

Fenix International, a Ugandan based PAYG solar system provider provided more than 500 000 households with **clean affordable access to energy and safer homes** through solar home systems. 70% of Fenix's PAYG customers rely on the informal economy or the agricultural sector for employment, thus only receiving seasonal income. With the Fenix PAYG model, **customers can build a repayment and credit history to unlock financial services such as school fee loans, loans for agriculture, home loans and medical insurance**. 19 million payments have been processed over mobile phones. The effects of this programme are transformational and it can be replicated in many other cities across the globe.

Further reading:

- [Reaching the digital economy's last mile](#)
- [Energy access in Uganda](#)

## OTHER RESOURCES

- [Benchmarking energy access: Case studies from five informal settlements in the global south](#)
- [List of Local and National Government enabling factors for PAYG](#)
- [IRENA Pay as you go models: Innovation Landscape Brief: Includes a checklist of requirements for implementation](#)

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