



IMPACT REPORT

July 2020



The Business Partnerships Platform is supported by the Australian Government
and implemented by Palladium



The Partners and the Project

Sola PayGo (SPG) was established in late 2017 in response to recognition of the need for quality energy solutions for the remote and rural regions of PNG. SPG now has established a presence in Central, Eastern Highland, Western Highland, Southern Highland and Enga provinces.

A PARTNERSHIP APPROACH

The partnership of SPG with d.light Inc (USA) as the product vendor, bmobile (PNG) as the telecommunications service provider, and DFAT providing awareness and support at both senior government levels and through their social media presence has enabled SPG to provide several thousand households with access to an affordable and reliable pay-to-own solar lighting solution over the 12-months of the BPP initiative. The Business Partnership Platform (BPP) has facilitated the growing success of this solar solution, accelerated the development of the business model and supported the impact analysis of this initiative.

CORE INITIATIVE PRINCIPLES

- Providing affordable, safe, renewable energy solutions for off-grid communities and contributing to the clean energy agenda in PNG.
- Transforming the way individuals, households, and businesses access, use, and pay for energy solutions, utilising mobile phone technology.
- Increasing the quality of life for the rural poor and creating positive social outcomes in PNG, including in the areas of women's participation, improvements in safety, income generation, access to markets, access to financial services, and education.
- Delivering consistent high-quality customer service and support to all SPG solar product owners.

REACHING THE COMMUNITY

Product exposure via roadshows personalises the offer to small communities providing hands-on awareness and education, purchasing opportunities, and face-to-face customer support, while reducing transport and access limitations experienced by PNG remote and rural populations. A call centre and on-call sales agents and regional service centres also provide an efficient support structure for questions and issues that arise.

Pay-to-own technology provides consumers with an affordable solution to purchase a high-quality solar kit with an expected 5-year lifespan. Payment of a deposit affords the consumer immediate access to the power solution. Weekly instalments allow for continued use of the solar unit until it is paid off (~ 1 year).



Australian Government
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Impact Assessment Methodology

The impact we have within the community goes to the heart of both the BPP initiative and the partners' vision, mission, goals, and ongoing success. To ensure a scalable and sustainable enterprise, delivery of product and services must focus on our consumers' wants, needs, and spending limitations. Impact assessment has been embraced not because we owe it to our investors but because we owe it to our consumers, the ones we are here to serve.

MEASURING IMPACT

900

Customers dialled

431

Remote surveys completed

42

Semi-structured interviews

THE SURVEY SAMPLE

100%

owned units for ≥ 6 months
prior to surveying

45%

had paid off the unit

100%

were from provinces where
roadshows were held

100%

were using the pay-to-own
product

DATA COLLECTION

There were complexities with remotely surveying customers due to language barriers, geographical isolation, and network connectivity.

Also challenging was collecting data appropriate for quantitative analysis.

However, using Likert scales whenever possible, recording statements for further extrapolation, and combining this with data collected at the point of registration has allowed for extensive quantitative and qualitative analysis.

All customers approached were willing to answer questions and keen to tell their story.

MEASURING BREADTH AND DEPTH

Measurement of metrics investigating breadth of our impact was valuable, indicating the sustainability of the project and success of the partnership. However, measuring the depth of impact was crucial in determining the value of the project and the best way forward to cater effectively and efficiently for the remote and rural populations of PNG. It tells us if what we are doing is truly worthwhile.

BREADTH

Where are we reaching?
How many are we reaching?
Who are we reaching?

DEPTH

Is it changing lives?
What are the changes?
How can we improve?



SPG and BPP staff meeting and surveying customers in Wabag, Enga.
Photo credits: Sarah Wiles

UNITS IN SITU

Province	%
Central	21.4
Chimbu	2.0
Eastern H’Inds	17.6
Enga	23.8
Jiwaka	2.8
Madang	4.1
Milne Bay	1.5
Morobe	9.8
NCD	5.1
New Ireland	1.1
Other	3.0
Sthn H’Inds	1.8
Western H’Inds	6.0

Table 1 Percent of product sold being used in each province

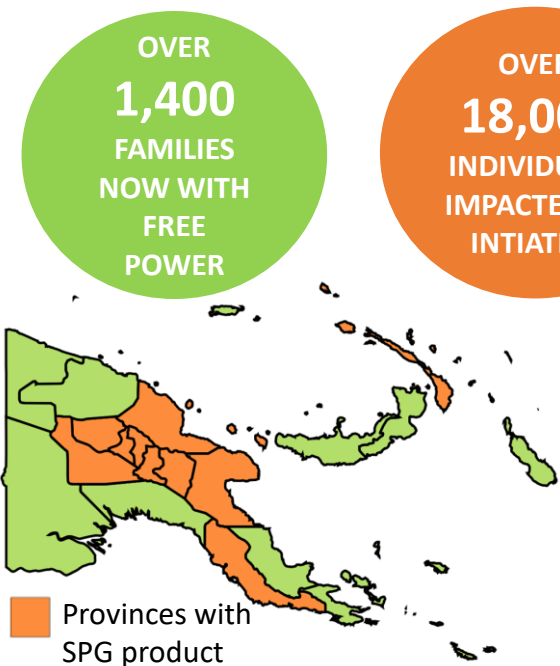


Fig. 1 Provinces where SPG product has been purchased

INITIATIVE REACH

Reach has been achieved via roadshows and families sending units out to their villages. Also interesting was the number of customers who reported sharing their unit with neighbours and their community.

OVER
1,400
FAMILIES
NOW WITH
FREE
POWER

OVER
18,000
INDIVIDUALS
IMPACTED BY
INITIATIVE

ACCESS TO
LIGHT FOR
OVER
15,000
WOMEN AND
CHILDREN

Extrapolation of data has indicated that the BPP initiative has been successful in targeting key demographics of the rural and remote PNG population.

Of significance is the number of women (> 7500), children (> 7500) and customers with low levels of education accessing the SPG unit. As well as the number of women purchasing the unit.

CUSTOMER BASE PROFILE

GENDER		AGE (years)		EDUCATION	
F	41%	Avge	43	No formal	1%
M	59%	20-30	12%	Primary	22%
		31-40	30%	Grd 7-8	34%
		41-50	30%	Grd 9-12	24%
		51-60	20%	Tertiary	18%
		61+	8%		

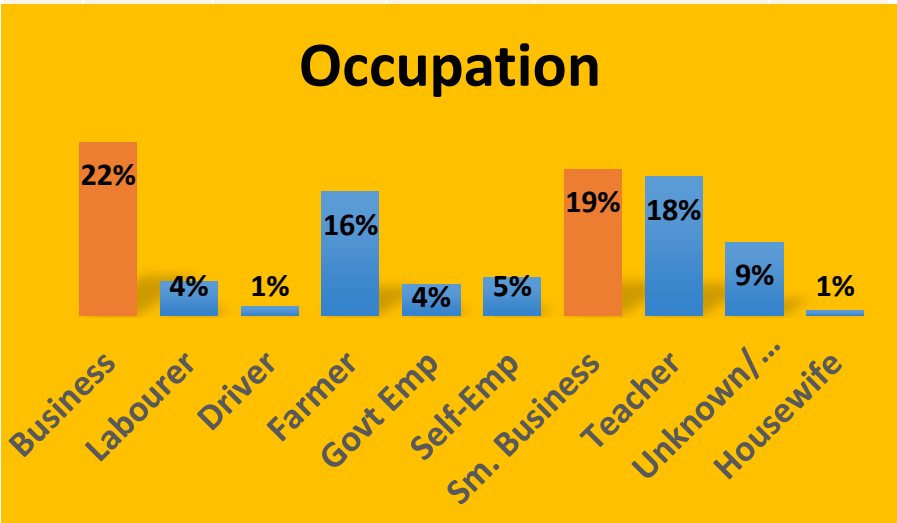


Fig. 2 Occupations of unit purchasers

"My uncle [from NCD] paid the deposit on our unit and sent it to us. Now from the little things that we sell [at night markets] enough money is made to pay for our daily needs. (Pamela, Madang)

GENERAL IMPACT

QUALITY OF LIFE: 100% of customers indicated their quality of life had improved since purchasing the unit with 97% of these identifying the improvement as significant to extremely significant.

KEY UNIT BENEFITS identified by customers included **general lighting providing increased hours in the day (an average of 4.7 hours/ day), cost savings, and ease of use.**

CUSTOMER USAGE: Recognised was the value of the d.light quality lighting as an essential utility. Key uses of this lighting were identified as (in order of priority and prevalence) **education (92% of households), security, household chores, income generation, phone charging, reading and socialising.**

INCOME GENERATION: 33% of respondents indicated extra earning potential as a result of the unit. Income earning opportunities identified as a result of the unit included (i) **added hours for bilum making and baking for sales at markets**, (ii) **garden harvesting in the evenings**, (iii) **ability to stay at the markets longer**, (iv) **longer hours for trade stores**, (v) **roadside vending in the evenings.**

CUSTOMERS SAVING: % of customers reporting savings

- While paying -73%
- Once paid off -98%

Customers indicated savings were generally a result of spending less on other fuel sources and phone charging expenses.

FAMILY AND COMMUNITY CONNECTIONS: PNG place significant value on relationships and family connections. 95% of customers recognised the positive impact of the reliable long-lasting light on family time

Average hours of increased family time – 4.1 hours/ week

83% of customers indicated unit value for improved community connections

Average hours of increased community connection – 4.6 hours/ week

CUSTOMER SATISFACTION: 100% of customers expressed satisfaction with their unit.

EXTRA MINUTES IN A DAY FOR STUDY

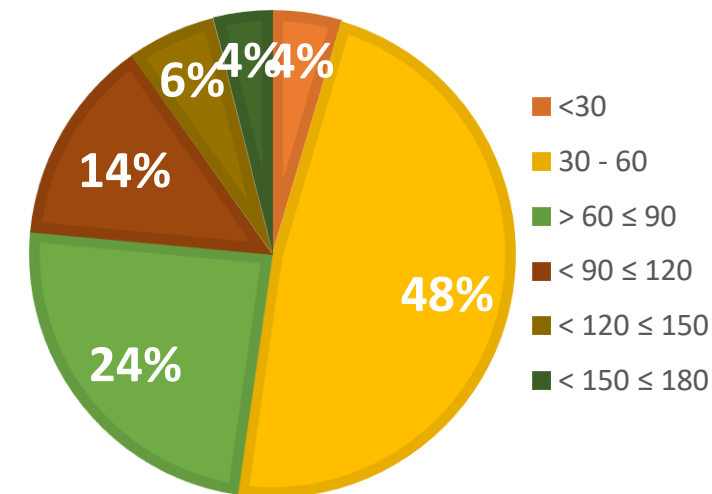


Fig. 3 Extra minutes available for study each day



Fig. 4 Activities enabled by SPG unit

IMPACT ON WOMEN IN RURAL AND REMOTE POPULATIONS

Analysis of this initiative has determined the following:

1. 41% of units have been purchased by women with anecdotal reports indicating women have had increased access to this service due to the roadshow model implemented.
2. The d.light kit is for household rather than individual use, so the initiative is reaching families not just the initial purchasing customer. Data collected indicates that the number of women now with access to effective lighting and phone charging capabilities, due to the initiative, is 7500+.
3. 93% of interview and survey respondents indicated that increased hours in the day was a significant benefit of the unit and was closely linked to increased ability to complete household chores and preparing for markets the next day (baking, bilum making) and the capacity for women to stay working in their gardens for longer as other chores could be completed at night.
4. The second most valued benefit of the unit, behind education, was recognised as the security the lighting provided for homes and as Beverley from Enga highlighted ***"Now Sola PayGo come we sleep safe with light and enjoy the benefits of solar. I am so happy."***



Happy customers in Wabag. Image Credit: Sarah Wiles

INITIATIVE PARTNERS IMPACT ON WOMEN IN BUSINESS

Sola PayGo and the Call centre are providing an ever-growing number of jobs in the business world for young women, with 80% of staff recruited being women, appointed to all areas from management and administration through to technical, sales, and call centre agents. While security issues must be considered when employing women, demonstrated is the broad range of jobs available where security is not a concern.

All staff recruited receive bi-monthly training opportunities to develop their knowledge and workplace skills. Also offered are opportunities for staff to review their professional goals and devise a professional development plan.



BPP INITIATIVE KEY LEARNINGS:

- All members of this **partnership have successfully contributed and benefitted from the BPP initiative** creating a sustainable model with which to move forward.
- Customer responses indicated a **clear appreciation of the value of high-quality solar home systems** when compared with generic products and smaller solar lanterns which have been available previously.
- **Households and communities** with limited or no access to light are being **targeted successfully** by the Sola PayGo/ bmobile/ d.light partnership with provision of an accessible, affordable, high-quality, pay-to-own product.
- **Positive social outcomes are being achieved** with customers keen to tell their story of the benefits of possessing a quality solar system.
- **Customers value** the product, the availability of affordable payments, easy to use access to financial services, and **the impact it is having** on their family lives, businesses, and communities.
- Increased productivity, income-generation opportunities, and savings are all recognised as **significant benefits** of owning the unit.
- **Gender equality has been successfully addressed** with improved access to income generation opportunities for women, more useful hours in a day, and the security achieved through good lighting and consistent phone charging capabilities.
- **Reduction in fossil fuels and batteries purchased** for lighting has a positive environmental impact.
- Significant impact results also provide evidence of the BPP initiative **supporting achievement of UN Sustainable Development Goals**.



BUSINESS PARTNERSHIPS PLATFORM



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