



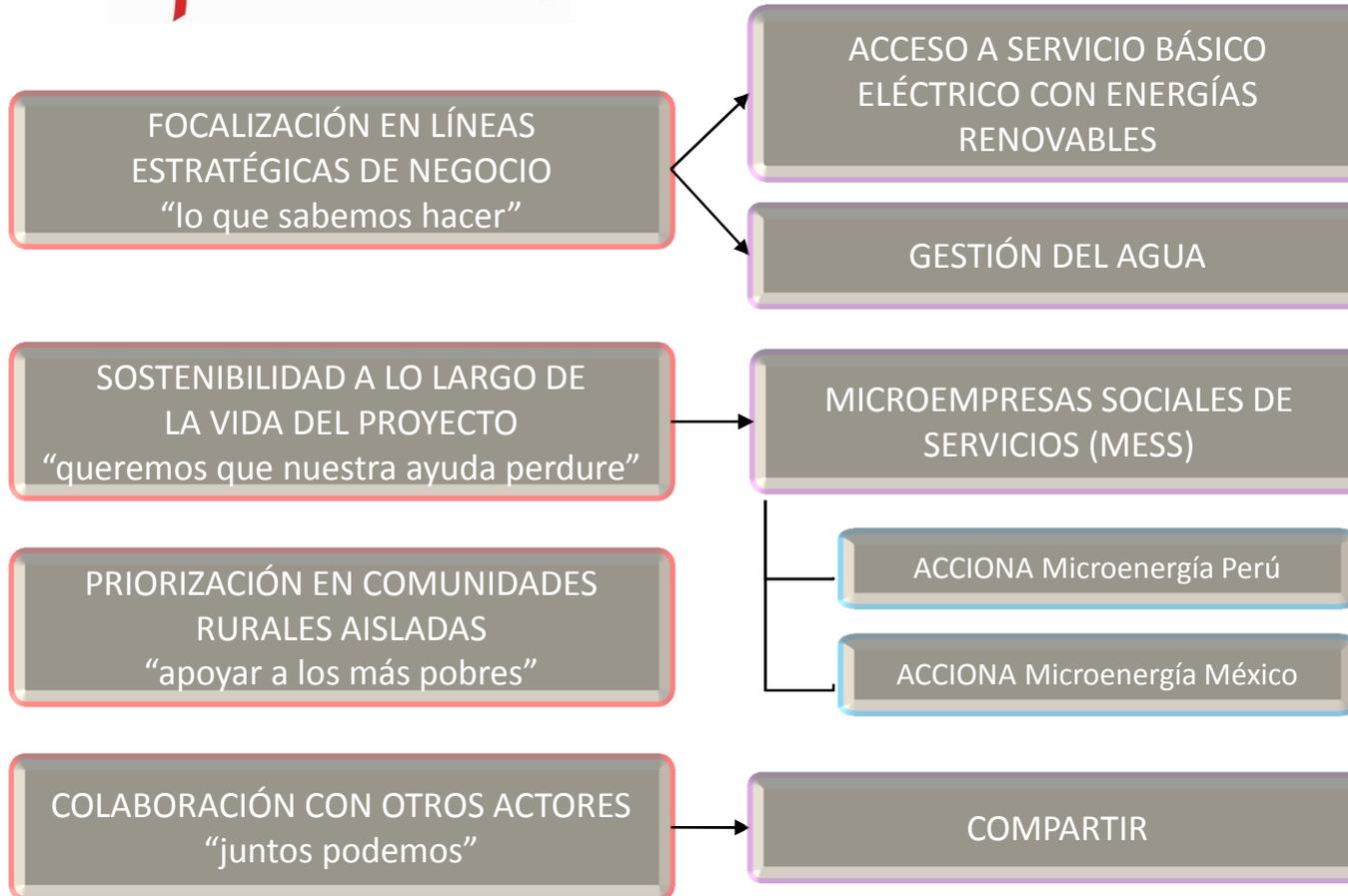
ACCIONA Microenergía Perú



NOVIEMBRE 2014

1. QUIÉNES SOMOS
  
2. ACCIONA MICROENERGÍA PERÚ:  
LUZ EN CASA
  1. Programa Luz en Casa
  2. Modelo de Provisión de Servicio
  3. Metodología
  4. Medición de impacto





Miembro de:





# Programa Luz en Casa



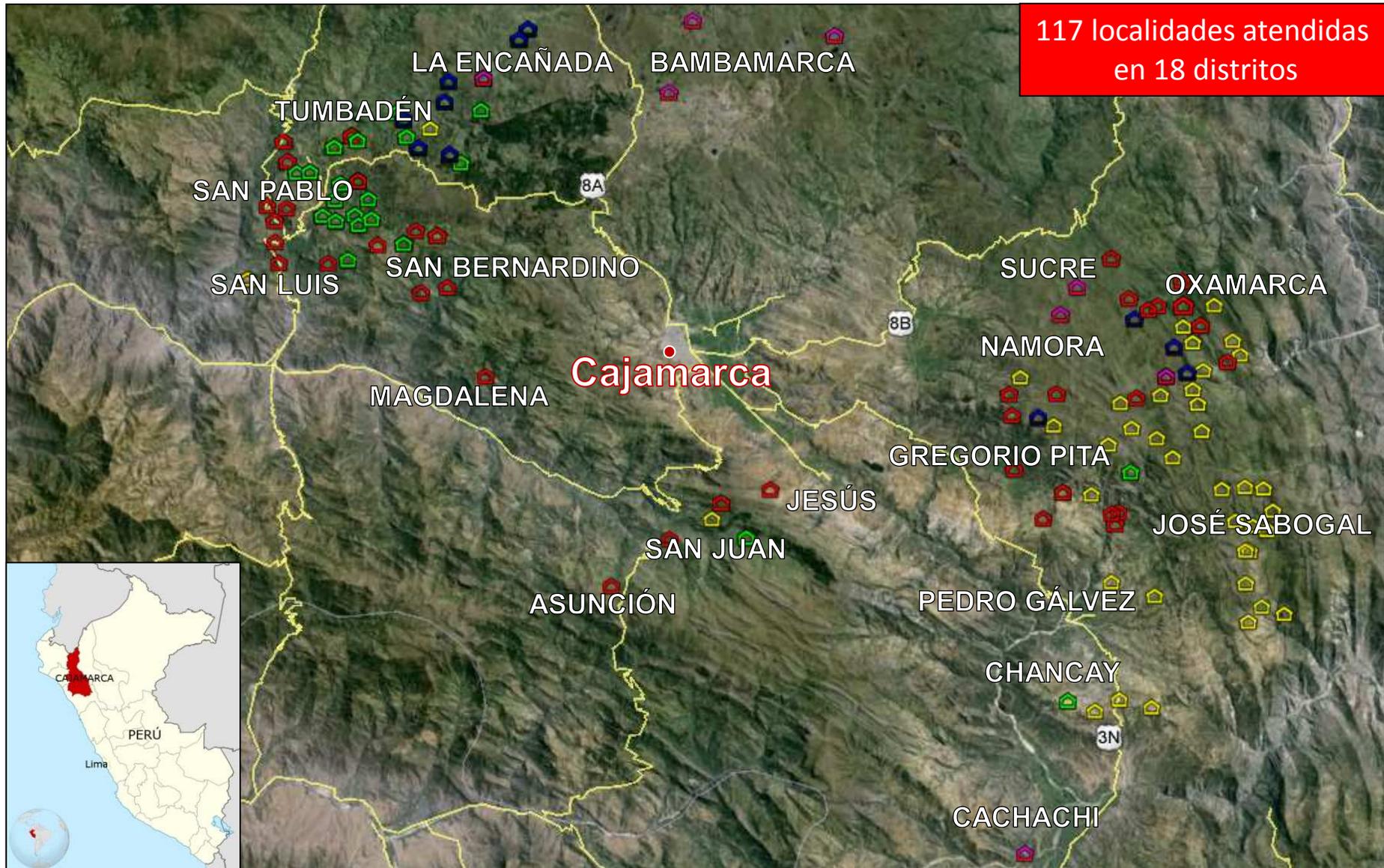
El Programa **LUZ EN CASA Cajamarca** ha demostrado que la electrificación rural con **Sistemas Fotovoltaicos Domiciliarios (SFD)** es **sostenible** económicamente y **asequible** a los más marginados.



## Las realidades

- ACCIONA Microenergía Perú provee un servicio básico de electricidad a **4.000 hogares** en pobreza y pobreza extrema, mediante sistemas fotovoltaicos domiciliarios, y con un sistema de cuota por servicio.
- Desde finales de 2013, los ingresos operativos superan a los gastos operativos (sostenibilidad económica).
- Las familias **abonan S/.10 al mes**, mientras que antes se gastaban de media S/.15 en pilas, velas, keroseno, carga de celular, etc.
- La tasa de morosidad es inferior al 1%. **Prácticamente todos pagan.**
- Es la única iniciativa privada en Perú, de electrificación rural con SFD. Tiene más de seis años de experiencia y funcionando de forma sostenible y asequible.



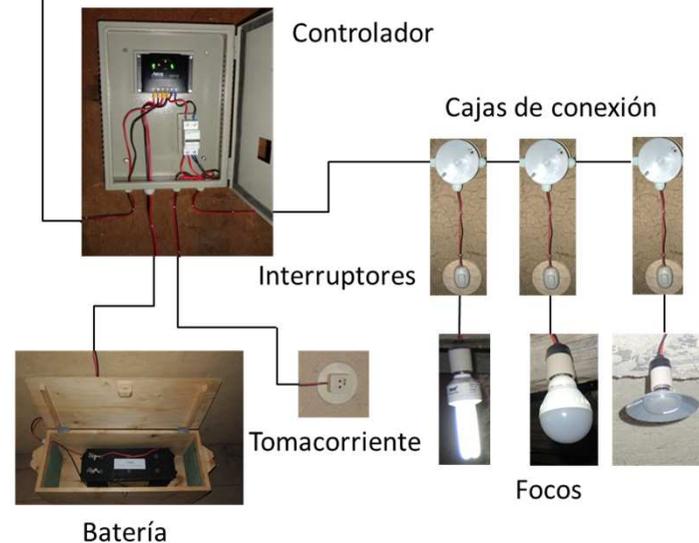


## Modelo de Provisión de Servicio

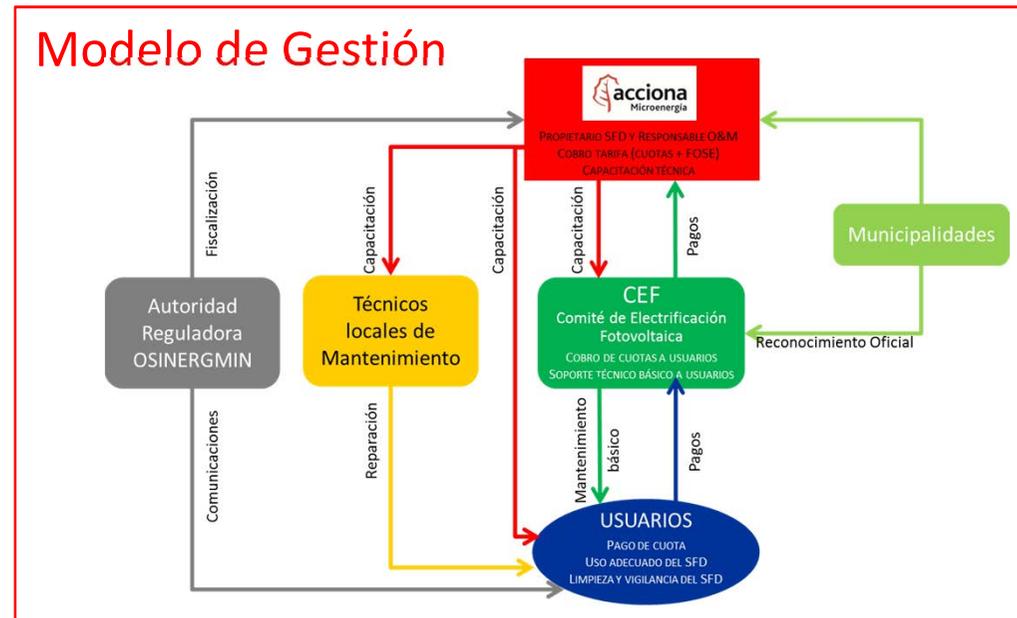
### Modelo Tecnológico



- Características técnicas básicas**
1. Panel solar: 60Wp-85Wp (12Vcc).
  2. Batería: 100Ah/12Vcc.
  3. Controlador: 10A/10A/12Vcc.
  4. Focos: 3 x 11W CFL, 5W LED/ 12 Vcc.
- Energía media disponible:  
7,24 kWh/mes



### Modelo de Gestión

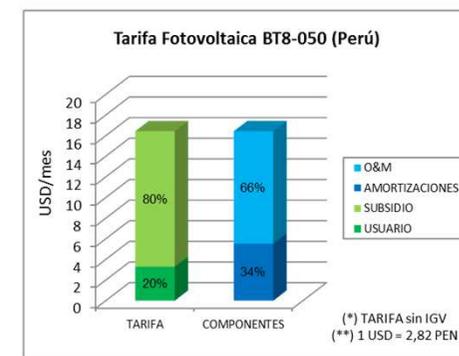


### Modelo de Financiamiento

**EXPLORACIÓN:**

**INVERSIÓN TOTAL: 3,1 M€**

- FUNDAME 1,7 M€
- AMP 1,2M€
- FOMIN 0,2M€



## Asambleas de sensibilización



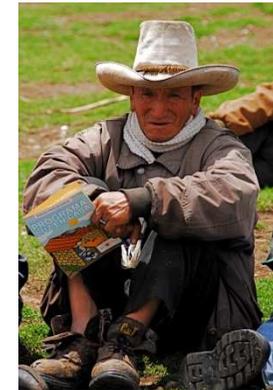
## Firma de acuerdos con Municipalidades



## Instalaciones demostrativas



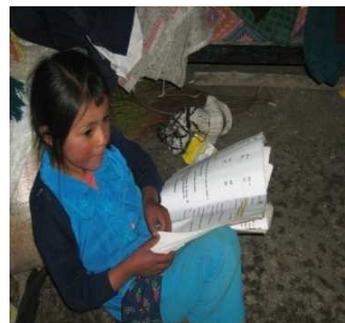
## Capacitaciones de usuarios y Comités de Electrificación Fotovoltaica



## Instalación



## Explotación





# FROM CANDLES TO LIGHT: THE CONSEQUENTIAL OUTCOMES OF RURAL ELECTRIFICATION



Families save in candles, batteries, and firewood (there is no differences in expenditures of charcoal, cooking gas, or fuel). These savings account for about S/.23.8 (US\$8.5) per month while the monthly charge for the panel is S/.10 (US\$3.6) per month.

Savings cover the monthly cost of the solar panels

**ARE THERE ANY OTHER BENEFITS TO USING THE PANELS?**

Fuente : Fomin/BID

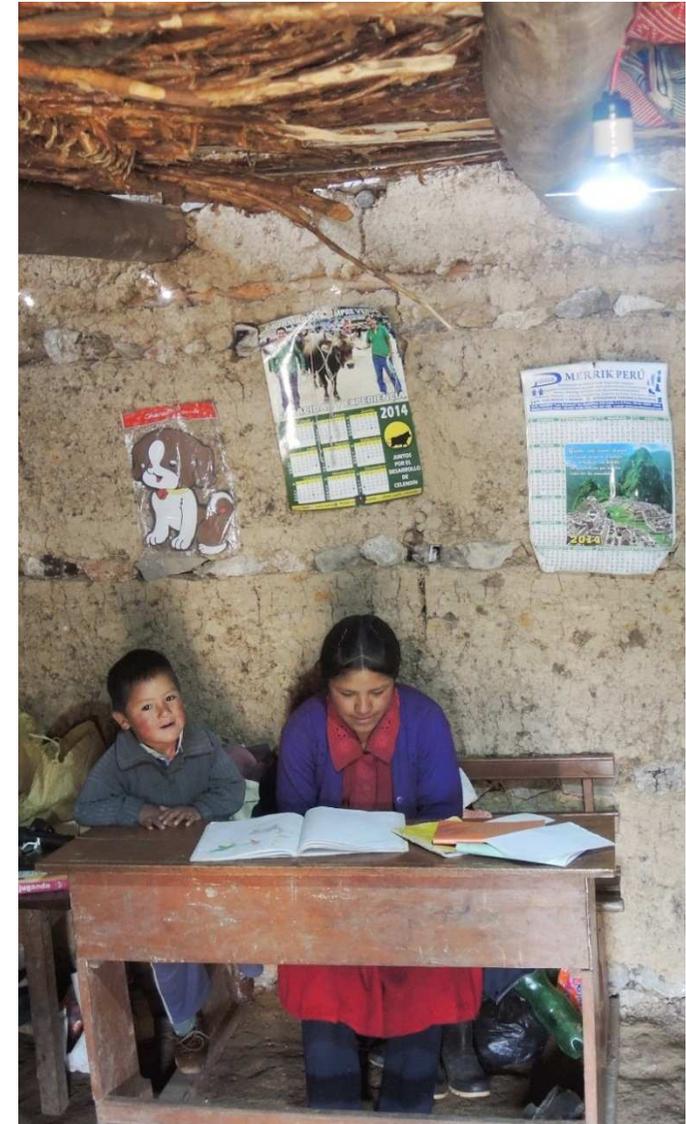
- About 80.8% of the beneficiaries of the project are poor and live in rural areas in the Departamento de Cajamarca.
- 98.3% of the beneficiaries could be considered as vulnerable to poverty.
- Households use their solar panel mainly for lighting
  - Only a fraction of households use the system to charge their cellphones (19%), watch TV (5%) and connect their radios (4%).
  - The power of the panel is not large enough to support large appliances.
- More women weave and spend more time weaving for their families.
- More men read, but the time they spend reading is not statistically different.
- The proportion of men (97%) and women (95%) who engage in productive activities is the same; but women with solar panels engage less time in agricultural activities and animal care (-1h 39min), and engage in a larger proportion (+2.9 %) businesses in their home

Fuente : Fomin/BID

These changes have impacted children, too:

- Children in households with solar panels spent more time doing homework and this has translated in more years of schooling for children going to elementary school.
- More homework has also translated in higher enrollment rates for children going to high school.

Fuente : Fomin/BID



# CONCLUSIÓN





ACCIONA Microenergía Perú

¡GRACIAS!

<http://www.accioname.org>