

TEAM ENERGY FOUNDATION

Empowering communities, Uplifting lives

Project BEACON to the HEART and SOUL Program : A Story on Social Acceptance of Renewable Energy Systems



PROJECT **BEACON**

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FOUNDATION

Empowering communities, Uplifting lives

- Acronym for **B**aranggay (Village) **E**lectrification **A**ssistance for **C**ountryside **D**evel**O**pme**N**t
- Electrified 300,000 households through : (1) Grid Connection, (2) Diesel Generator Sets, (3) Solar (PV) Home Systems (25,000 households)
- Partnered with over 50 Distribution Utilities nationwide
- Created over 100 people' s organizations
- Partnered with USAID, the Dutch Government, The British Council
- Total Project Cost: US\$40Million



Project BEACON Program Framework

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FUNDING

TEAM ENERGY
FOUNDATION
USAID
DISTRIBUTION UTILITIES
DEPARTMENT OF
ENERGY
OTHER SOURCES

IMPLEMENTATION POLICY

DEPARTMENT OF
ENERGY
OTHER FUDING
AGENCIES



Pagbilao Earth Day Run: A Sprint for Carbon Footprint

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- Held last April 16, 2011 at Pagbilao Power Station
- Beneficiary: Kasamaka Quezon Incorporated (KQI)

Pagbilao Earth Day Run: A Sprint for Carbon Footprint

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Program Evaluation

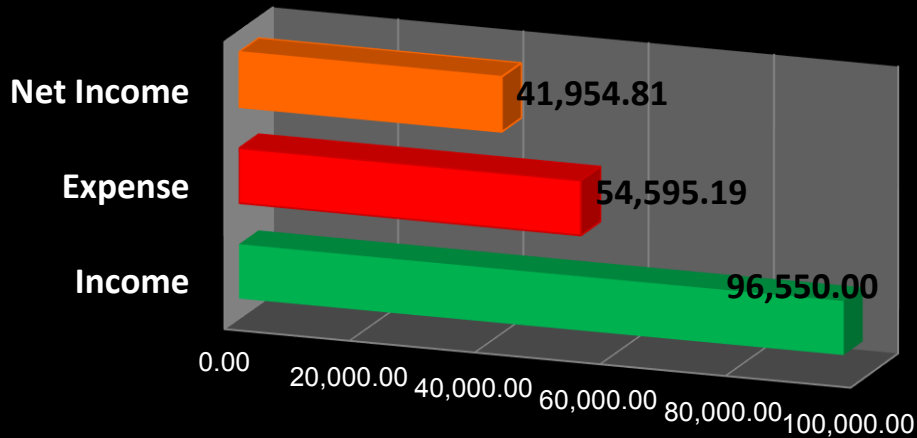
RETURN OF INVESTMENT

| <i>Income</i> | <i>Expense</i> | <i>Net Income</i> | <i>ROI</i> |
|---------------|----------------|-------------------|-------------|
| 96,550.00 | 54,595.19 | 41,954.81 | 1.77 |

AVERAGE DONATION

| | |
|-------------------------|---------------|
| <i>Total Donations</i> | 96,550.00 |
| <i># of Donors</i> | 154 |
| <i>Average Donation</i> | 626.95 |

Net Income on Pagbilao Earth Day Run



Pagbilao Earth Day Run: A Sprint for Carbon Footprint

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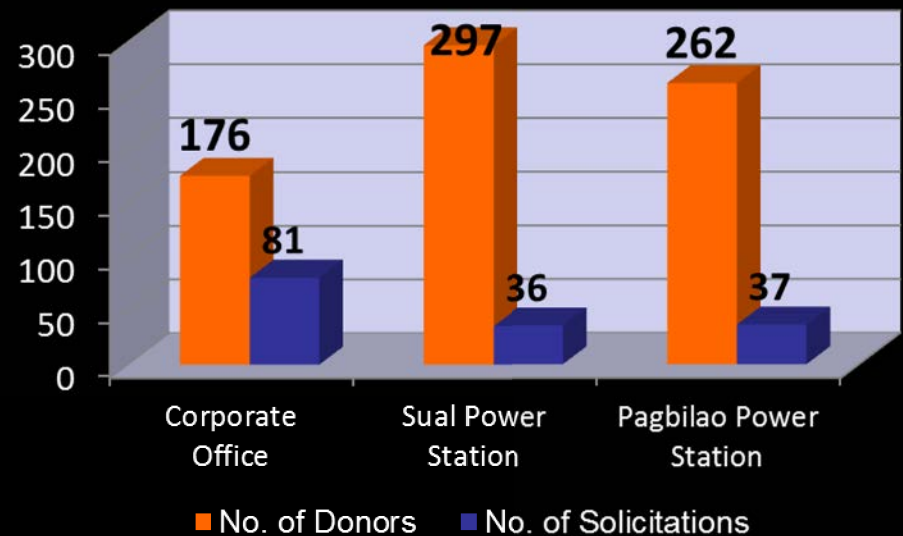
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Program Evaluation



| RESPONSE RATE | | | |
|------------------------|-------------|--------------------|-------------|
| Site | # of Donors | # of Solicitations | RR |
| Corporate Office | 176 | 81 | 2.17 |
| Sual Power Station | 297 | 36 | 8.25 |
| Pagbilao Power Station | 262 | 37 | 7.08 |

Total Responses per Site



Brigada Eskwela 2011

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| | CORPORATE OFFICE | SUAL POWER STATION | PAGBILAO POWER STATION |
|------------------------|---|--|--|
| Adopted School: | Rafael Palma Elementary School Pasay City | Caarosipan Elementary School Sual, Pangasinan | Binahaan Elementary School Malicboy Elementary School Pagbilao, Quezon |
| Output: | Rehabilitated the following school facilities: 1) Main Stage 2) Four (4) Classrooms of Grade Six and Grade Two students 3) Repainted 400 desk/chair 4) Busted Fluorescent Lights replaced – 30 pieces 5) Electrical Sockets fixed - 20 pieces 6) Light switch – 15 pieces | Rehabilitated the following school facilities: 1) Fixed electrical wirings of light for six (3) rooms 2) Fixed main switch 3) Repaired and repainted the ceilings and walls of the three (3) rooms assigned to Grade 2 students 4) Repainted 500 desk/chairs 5) Installed three (3) ceiling fans in three (3) rooms | Rehabilitated the following school facilities: 1) Repaired and repainted the ceilings and walls of the three (3) rooms assigned to Grade 2 2) Repaired , repainted the ceilings and walls and replaced roof of the canteen 3) Repainted 500 desk/chairs 4) Installed two (2) fluorescent light with housing in rooms 5) Repaired ceiling, cement plastering and wall painting 6) Installed two (2) fluorescent light with housing in rooms 7) Repainted 100 desk/chairs |

Brigada Eskwela 2011 Program Evaluation

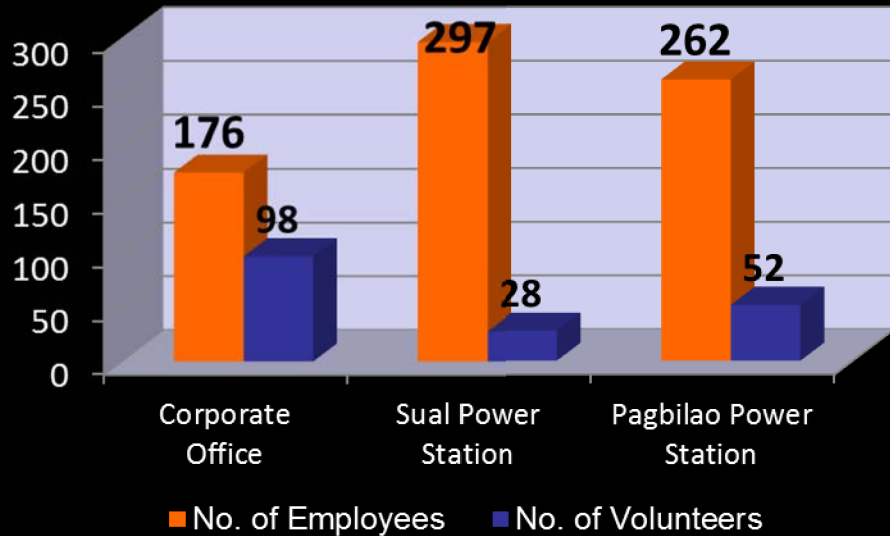
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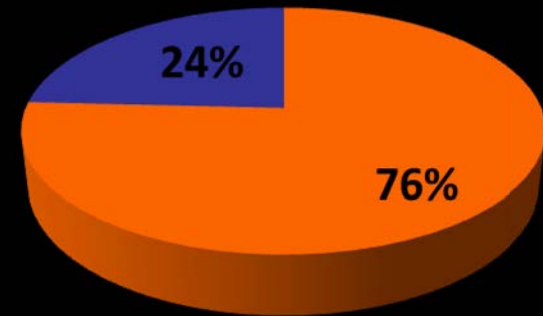
RESPONSE RATE

| Site | # of Employees | # of Volunteers | RR |
|------------------------|----------------|-----------------|-------|
| Corporate Office | 176 | 98 | 1.80 |
| Sual Power Station | 297 | 28 | 10.61 |
| Pagbilao Power Station | 262 | 52 | 5.04 |

Total Volunteers per Site



Percentage of Volunteers



- No. of Unregistered Employees
- No. of Volunteers

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Projects for Approval



TEFI Donor's Database

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- Privacy policy reviewed by IT
- Finalization of AKUBO Software Proposal
- Account activation by July 1, 2011
 - Awaiting upgrade of Microsoft Windows 7 by IT Department



TEFI Donor's Database

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akúbo

Add a Donation

View All Donations

View Donations By

Status

Type

Category

Account

Campaign

Last 7 Days

This Month

Last Month

More

View All Invoices

Paid

Unpaid

This Month

Last Month

More

View All Receipts & Thank You

This Month

Last Month

More

Add a Donation

-- Choose a Contact --

Date 03/29/2011

Payment Method [none]

Category [none]

Account [none]

Campaign [none]

Amount [] US Dollars

Status

paid

invoiced (pledge)

not paid (pledge)

To be sent Receipt & Thank You

Type

income

expense

Memo

Create Invoice

Submit

Cancel

TEFI Affinity Card

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- Exploratory meeting with Unionbank at Venture Fund Raising last **May 17, 2011**
- Preliminary meeting with Internal Communications and Credit Management with Unionbank last **June 1, 2011**
- Launch of Affinity Card across sites (Target Date: July 11-15, 2011)
- Partnership between:



Sample
Affinity Card

Get involved in saving our planet.
Get the Haribon Visa Card.



TEFI Affinity Card

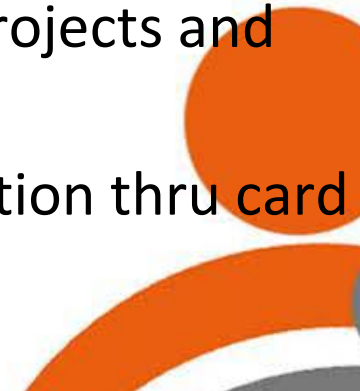
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- **Benefits to Team Energy Foundation, Inc.**

- ✓ Fund Generation
- ✓ Promote stronger affinity and loyalty among members
- ✓ Wallet Advertising
- ✓ Additional Promotion of the Organization

- **Benefits to Card Holders**


- ✓ Provide an additional venue for members to automatically contribute to and support the organization's projects and activities.
 - ✓ Donation to Team Energy Foundation organization thru card spend.
 - ✓ Enjoy donation convenience
- 

TEFI Affinity Card

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- **Fee Sharing**

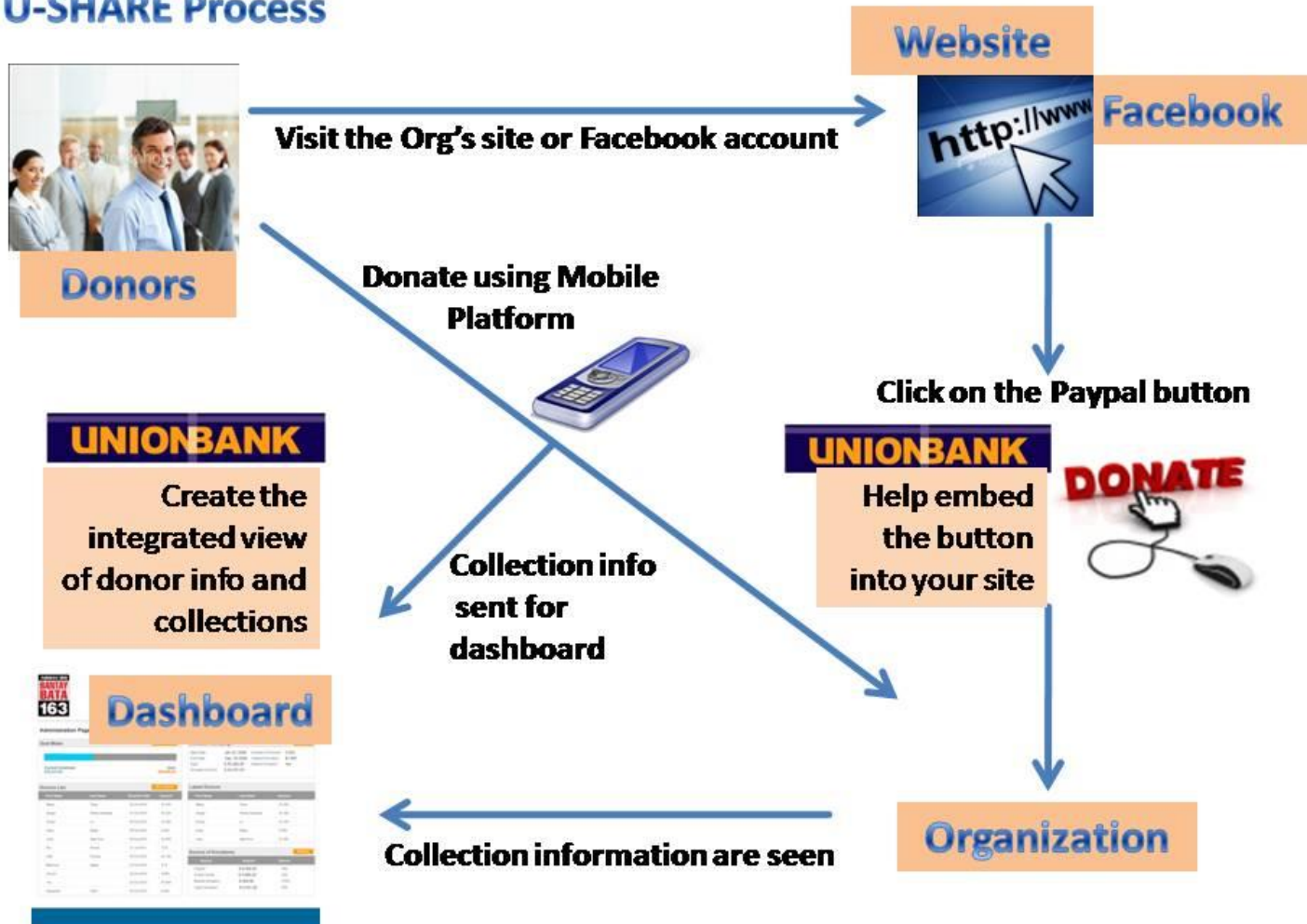
- UnionBank will share a portion of paid 1st Year or 2nd Year Annual fee of Cardholder
 - UnionBank will allocate a portion of every cardholder retail spend and share it with Team Energy Foundation Organization.
 - UNIONBANK shall credit all Annual Fee share to Team Energy Foundation account number maintained at a UnionBank Branch. Withdrawals from the account shall be allowed only against cleared funds.
- 

TEFI U-share Project

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U-SHARE Process



TEFI U-share Project

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- An **Average Daily Balance (ADB)** of the proposed amount for the Basic package will be required per month and should be maintained by the Business Check account.

| Package | Required ADB | Required ADB for Business Check | Total ADB to be maintained per month |
|--|--------------------------------|---------------------------------|--------------------------------------|
| Basic | Php 1,000, 000 | Php 50,000 | Php 1,050,000 |
| *Option for BILLS PAYMENT (OTC, INTERNET and ATM) | | | |
| Php 3,000,000 + Php 15.00 per txn | | | |
| *Option for Mobile VAS and Mobile Donations | | | |
| Share for the Telco | Share for the Content Provider | | Share for the Client |
| 70% | 10% | | 20% |



The BEACON Experience

Household Survey Results



PRESENTATION OUTLINE

- Survey Methodology
- Profile of Respondents
- Service Delivery Performance
- Service Patronage
- System Operation and Maintenance
- Impact Assessment



METHODOLOGY

- Research Design
- Area Coverage
- Sample Size: HH coverage

Research Design

Type of Study: Quantitative Research

Methodology: Face-to-Face Interviews

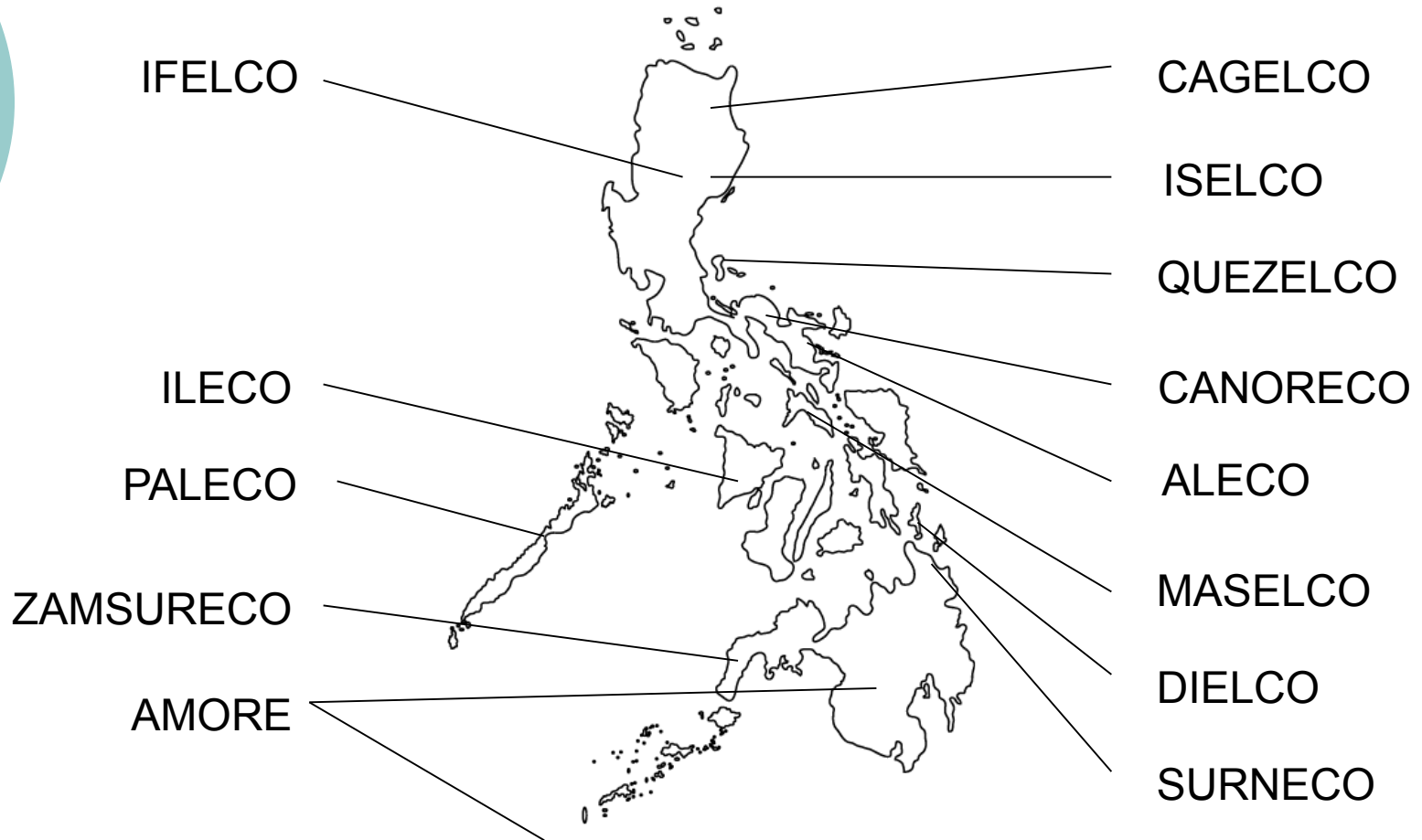
Respondent Profile:

- Main Decision Makers of the household: Household Head or Housewife.
 - There are 3 types of households interviewed: Energized, Disconnected and Un-Energized
- Sampling: Stratified Sampling of newly energized Barangays.
- Survey Area & Sample Size: Total of 1,160 Interviews of households, nationwide.

| Region | Total |
|---------------|--------------|
| CAR | 90 |
| I & II | 160 |
| IV | 180 |
| V | 230 |

| Region | Total |
|---------------|--------------|
| VI | 70 |
| IX | 100 |
| CARAGA | 80 |
| ARMM | 250 |

Survey Area



Survey Coverage

| Project Partner | Population of Barangays Covered | # of Respondents/ Households Interviewed |
|-----------------|---------------------------------|---|
| IFELCO | 5,938 | 90 |
| CAGELCO | 11,434 | 90 |
| ISELCO | 4,491 | 70 |
| QUEZELCO | 11,641 | 91 |
| PALECO | 25,884 | 89 |
| CANORECO | 15,177 | 50 |
| ALECO | 9,258 | 150 |
| MASELCO | 1,818 | 30 |
| ILECO | 10,080 | 70 |
| ZAMSURECO | 7,096 | 40 |
| SURNECO | 6,847 | 40 |
| DIELCO | 3,015 | 40 |
| AMORE | 34,443 | 310 |
| TOTAL | 147,122 | 1,160 |



RESPONDENT PROFILE

Household Size

| | TOTAL | GRID | MINI-GRID | SOLAR |
|-------------------------|-------|------|-----------|-------|
| Base - Total interviews | 1160 | 670 | 89 | 401 |
| | % | % | % | % |
| 1 | 2 | 1 | 2 | 3 |
| 2 | 6 | 6 | 15 | 3 |
| 3 | 13 | 14 | 14 | 13 |
| 4 | 17 | 18 | 21 | 14 |
| 5 | 19 | 22 | 10 | 16 |
| 6 | 13 | 15 | 12 | 11 |
| 7 | 10 | 9 | 8 | 11 |
| 8 | 6 | 7 | 3 | 7 |
| 9 | 6 | 4 | 3 | 9 |
| 10 | 4 | 3 | 7 | 7 |
| More than 10 | 4 | 3 | 4 | 8 |
| No Response | 0 | 0 | 0 | 0 |
| | | | | |

Age of Family Members

| | TOTAL | GRID | MINI-GRID | SOLAR |
|--------------------------------|-------|------|-----------|-------|
| Base - Total Household Members | 6516 | 3539 | 476 | 2501 |
| | % | % | % | % |
| 0-1 yr old | 4 | 4 | 3 | 3 |
| 2 years old | 2 | 2 | 3 | 2 |
| 3 years old | 2 | 2 | 4 | 3 |
| 4 years old | 2 | 2 | 2 | 2 |
| 5 years old | 2 | 3 | 2 | 2 |
| 6-11 yrs old | 19 | 18 | 18 | 20 |
| 13-16 yrs old | 11 | 10 | 11 | 12 |
| 17-21 yrs old | 11 | 11 | 12 | 12 |
| 22-25 yrs old | 7 | 6 | 5 | 7 |
| 26-35 yrs old | 13 | 13 | 12 | 13 |
| 36-45 yrs old | 11 | 11 | 12 | 11 |
| 46-55 yrs old | 8 | 9 | 8 | 7 |
| 56-60 yrs old | 3 | 4 | 4 | 3 |
| 61-65 yrs old | 2 | 2 | 3 | 1 |
| 66-70 years old | 1 | 1 | 2 | 1 |
| Above 70 years old | 1 | 1 | 1 | 1 |
| Average Age | 24.6 | 25.1 | 25.2 | 23.7 |
| % school age | 41% | 39% | 41% | 44% |

Educational Attainment

| | TOTAL | GRID | MINI-GRID | SOLAR |
|------------------------|-------|------|-----------|-------|
| Base: Total HH Members | 6516 | 3539 | 476 | 2501 |
| | % | % | % | % |
| Pre-school | 1 | 1 | 0 | 0 |
| Some elementary | 27 | 23 | 25 | 32 |
| Completed Elementary | 16 | 19 | 15 | 11 |
| Some High School | 16 | 17 | 20 | 13 |
| Completed High School | 12 | 14 | 17 | 10 |
| Some College | 7 | 6 | 5 | 8 |
| Completed College | 5 | 4 | 2 | 7 |
| Vocational/ Technical | 1 | 1 | 0 | 1 |
| No formal education | 2 | 1 | 1 | 4 |
| Not studying yet | 12 | 12 | 14 | 13 |
| No Response | 1 | 1 | 0 | 0 |

Number of Income Earners/HH

| | TOTAL | GRID | MINI-GRID | SOLAR |
|-------------------------|-------|------|-----------|-------|
| Base - Total interviews | 1160 | 670 | 89 | 401 |
| | % | % | % | % |
| 1 | 42 | 43 | 57 | 38 |
| 2 | 33 | 32 | 25 | 35 |
| 3 | 13 | 14 | 8 | 14 |
| 4 | 7 | 6 | 5 | 8 |
| 5 | 2 | 2 | 0 | 2 |
| 6 | 1 | 1 | 0 | 1 |
| 7 | 1 | 1 | 1 | 1 |
| 8 | 0 | 0 | 1 | 0 |
| No Response | 1 | 0 | 3 | 2 |
| | | | | |
| Average | 2 | 2 | 1.7 | 2.1 |

Occupation/Employment Modes

| | TOTAL | GRID | MINI-GRID | SOLAR |
|----------------------------------|-------|------|-----------|-------|
| Base: Total Household Members | 6516 | 3539 | 476 | 2501 |
| | % | % | % | % |
| UNEMPLOYED | 33 | 33 | 33 | 32 |
| STUDENT | 32 | 29 | 36 | 35 |
| FARMING | 15 | 18 | 10 | 12 |
| HAS BUSINESS | 4 | 4 | 2 | 5 |
| UNSKILLED JOB | 4 | 5 | 5 | 2 |
| Fishing / Crab Hunter | 4 | 2 | 8 | 4 |
| SKILLED JOB | 2 | 3 | 2 | 1 |
| BRGY OFFICIAL* | 2 | 2 | 2 | 2 |
| PROFESSIONAL* | 2 | 1 | 1 | 3 |
| OFW* | 1 | 1 | 0 | 2 |
| EMPLOYED - Private Establishment | 1 | 1 | 0 | 1 |
| GOVERNMENT EMPLOYEE | * | 0 | 0 | 1 |

Livelihood Activities/ Other Sources of Income

| | TOTAL | GRID | MINI-GRID | SOLAR |
|----------------------------------|-------|------|-----------|-------|
| Base: Total Interviews | 1160 | 670 | 89 | 401 |
| | % | % | % | % |
| Crop Production | 18 | 17 | 17 | 21 |
| Business | 17 | 16 | 11 | 20 |
| Employment | 10 | 12 | 4 | 7 |
| Livestock | 9 | 10 | 0 | 9 |
| Fishing | 6 | 4 | 8 | 10 |
| Subsidy from Phil base relatives | 1 | 1 | 0 | 2 |
| Subsidy from Abroad | 1 | 1 | 1 | 1 |
| Pension | 1 | 1 | 0 | 0 |
| Allowances | * | 0 | 0 | 0 |
| Mining | * | 0 | 0 | 0 |
| Barangay Incentive | * | 0 | 0 | 1 |
| Civil Servant | * | 0 | 0 | 0 |
| NONE | 49 | 50 | 61 | 45 |

Monthly HH Income

| | TOTAL | GRID | MINI-GRID | SOLAR |
|-------------------------|-------|-------|-----------|--------|
| Base - Total interviews | 1160 | 670 | 89 | 401 |
| | % | % | % | % |
| Below P2,000 | 23 | 27 | 21 | 15 |
| P2,001 - 4,000 | 26 | 34 | 24 | 15 |
| P4,001 - 5,000 | 10 | 10 | 13 | 10 |
| P5,001 - 6,000 | 7 | 6 | 9 | 7 |
| P6,001 - 7,000 | 4 | 3 | 6 | 4 |
| P7,001 - 8,000 | 4 | 4 | 4 | 3 |
| P8,001 - 15,000 | 13 | 9 | 10 | 20 |
| P15,001 - 30,000 | 8 | 4 | 2 | 15 |
| P30,001 - 50,000 | 2 | 1 | 0 | 3 |
| P50,001 - 70,000 | 0 | 0 | 0 | 1 |
| P70,001 - 80,000 | 0 | 0 | 0 | 1 |
| P80,001 - 100,000 | 0 | 0 | 0 | 0 |
| More than P100,000 | 0 | 0 | 0 | 0 |
| No fixed income | * | 0 | 0 | 1 |
| Don't know | 1 | 0 | 1 | 1 |
| No Response | 3 | 2 | 8 | 2 |
| Average (P) | 7,126 | 5,504 | 4,956 | 10,373 |

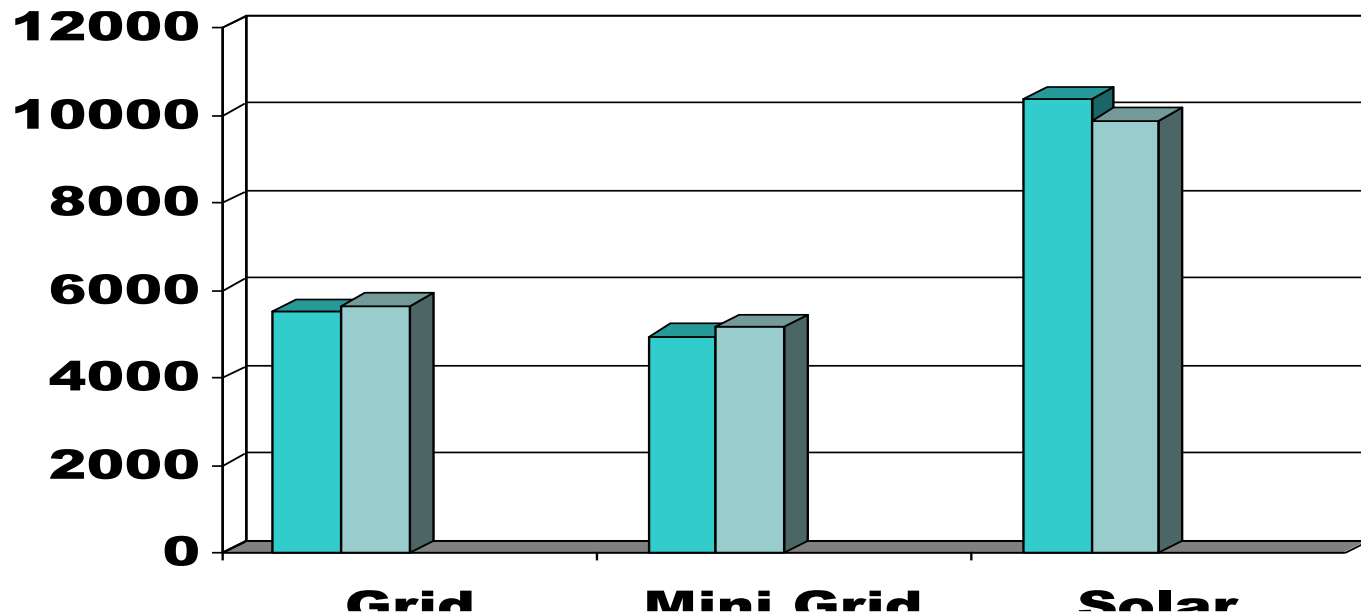
Monthly HH Expenses

| | TOTAL | GRID | MINI-GRID | SOLAR |
|-------------------------|-------|------|-----------|-------|
| Base - Total interviews | 1160 | 670 | 89 | 401 |
| | % | % | % | % |
| Below P1,000 | 4 | 4 | 0 | 6 |
| P1,000-2,000 | 15 | 18 | 17 | 10 |
| P2,001-3,000 | 17 | 22 | 13 | 9 |
| P3,001-4,000 | 12 | 14 | 12 | 8 |
| P4,001-5,000 | 10 | 10 | 17 | 8 |
| P5,001-6,000 | 8 | 7 | 13 | 9 |
| P6,001-7,000 | 4 | 3 | 4 | 4 |
| P7,001-8,000 | 5 | 5 | 6 | 5 |
| P8,001-15,000 | 16 | 11 | 12 | 23 |
| P15,001-30,000 | 8 | 5 | 2 | 14 |
| P30,001-50,000 | 2 | 1 | 0 | 3 |
| More than P50,000 | 1 | 0 | 0 | 1 |
| No Response | * | 0 | 1 | 0 |
| | | | | |
| Average (P) | 7084 | 5654 | 5162 | 9884 |

HH Expense Items

| | TOTAL | GRID | MINI-GRID | SOLAR |
|--|-------|------|-----------|-------|
| Base: Total Interviews | 1160 | 670 | 89 | 401 |
| | % | % | % | % |
| Food | 99 | 99 | 96 | 100 |
| Personal Care | 95 | 94 | 97 | 98 |
| Transportation | 71 | 76 | 49 | 67 |
| Light | 68 | 78 | 44 | 56 |
| School Allowance | 65 | 66 | 64 | 65 |
| Savings | 52 | 46 | 54 | 60 |
| Medical Care | 48 | 42 | 53 | 56 |
| Fuel | 42 | 32 | 74 | 51 |
| Livelihood Related (i.e. farming, livestock, etc.) | 36 | 41 | 27 | 31 |
| Clothing, Footwear and Other wear | 25 | 19 | 10 | 39 |
| Communication (cell phone card/load, etc.) | 25 | 26 | 25 | 23 |
| Education | 20 | 17 | 12 | 27 |
| Recreation / Relaxation | 13 | 13 | 2 | 15 |
| Houseware (i.e. kitchen wares, bedding, etc.) | 13 | 9 | 7 | 22 |
| Amortization | 12 | 13 | 18 | 9 |
| School Board & Lodging | 7 | 6 | 7 | 10 |
| Water | 4 | 5 | 0 | 4 |
| House Maintenance and Minor Repairs | 4 | 3 | 4 | 5 |
| House Rent | * | 0 | 0 | 0 |

HH Income vs. Expense



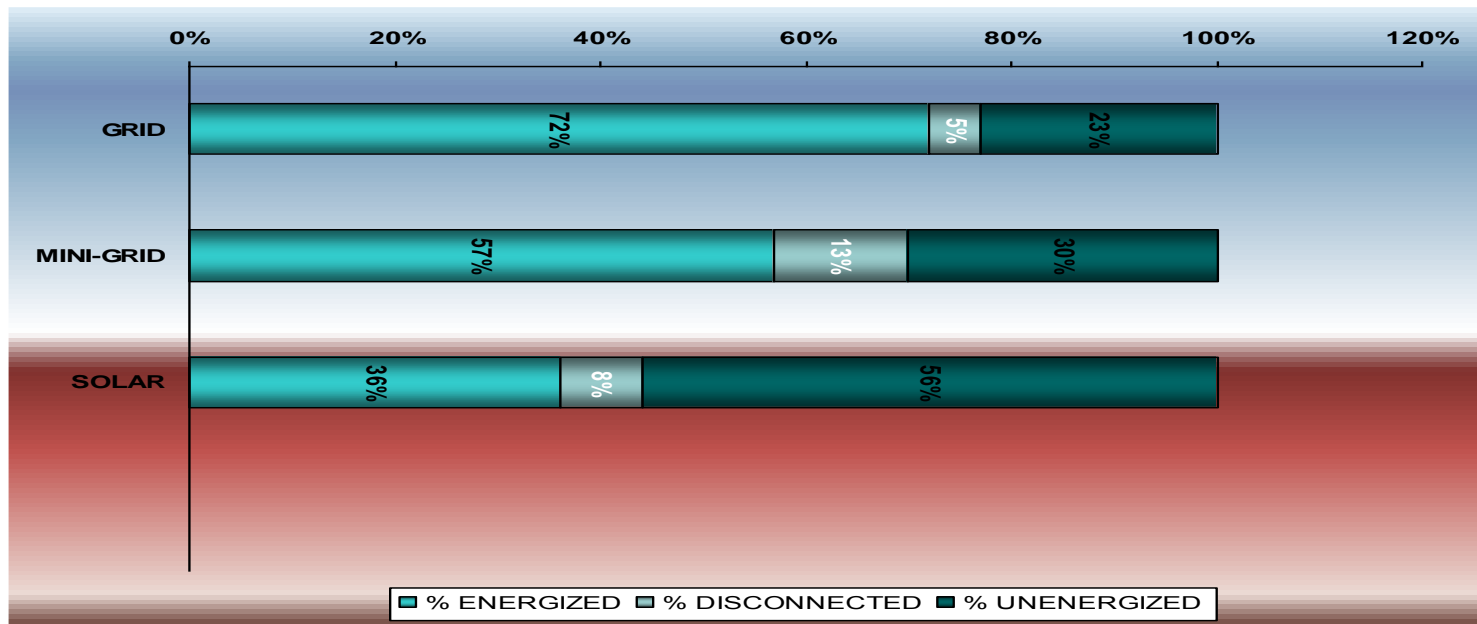
| | Income | Expenses | Net |
|-----------|--------|----------|-------|
| Grid | 5,504 | 5,654 | (150) |
| Mini Grid | 4,956 | 5,162 | (206) |
| Solar | 10,373 | 9,884 | 489 |



SERVICE DELIVERY PERFORMANCE

- HH Coverage
- Service Schedule
- Load Capacity
- Service Quality

HH Coverage



| | GRID | MINI-GRID | SOLAR |
|----------------|------|-----------|-------|
| % ENERGIZED | 72% | 56% | 36% |
| % DISCONNECTED | 5% | 12% | 8% |
| % UNENERGIZED | 23% | 30% | 56% |

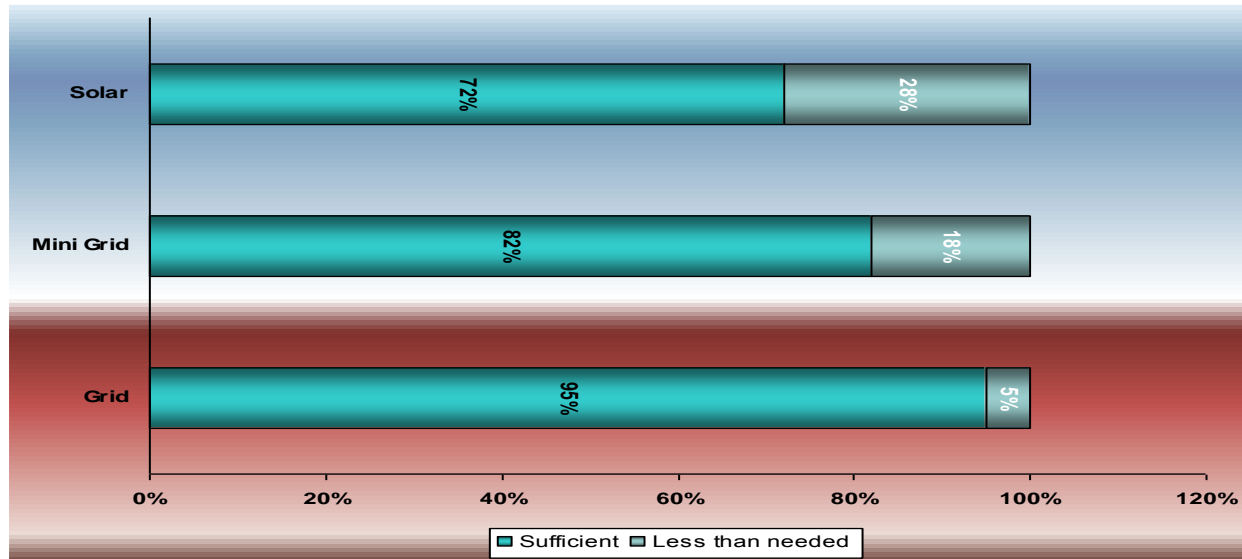
Operating Hours - Grid

| | TOTAL | IFELCO | CAGEL CO | ISEL O | QUEZE LCO | PALEC O | CANOR ECO | ALECO | MASEL CO | ILECO | ZAMSU RECO | SURNE CO |
|------------------------------------|-------|--------|-------------|-----------|--------------|------------|--------------|-------|-------------|-------|---------------|-------------|
| Base: Total Grid Connections | 470 | 21 | 50 | 49 | 42 | 42 | 35 | 105 | 21 | 49 | 28 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Continuous | 95 | 100 | 98 | 100 | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 86 |
| Scheduled | 6 | 0 | 2 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 14 |

Operating Hours – Mini Grid

| | TOTAL | CAGELCO | PALECO | DIELCO |
|---|------------|------------|------------|------------|
| Base : Total Energized and disconnected | 61 | 13 | 20 | 28 |
| | % | count | % | % |
| SCHEDULED | 100 | 13 | 100 | 100 |
| DAILY | 100 | 13 | 100 | 100 |
| | | | | |
| <u>TIME</u> | | | | |
| <u>AM</u> | 10 | 0 | 30 | 0 |
| 4:01 - 5:00 | 10 | 0 | 30 | 0 |
| 5:01 - 6:00 | 10 | 0 | 30 | 0 |
| 6:01 - 7:00 | 3 | 0 | 10 | 0 |
| <u>PM</u> | 100 | 100 | 100 | 100 |
| 5:01 - 6:00 | 2 | 1 | 0 | 0 |
| 6:01 - 7:00 | 95 | 10 | 100 | 100 |
| 7:01 - 8:00 | 98 | 12 | 100 | 100 |
| 8:01 - 9:00 | 98 | 12 | 100 | 100 |
| 9:01 - 10:00 | 90 | 9 | 100 | 93 |
| 10:01 - 11:00 | 10 | 0 | 30 | 0 |

Adequacy of Load Capacity



| | Grid | Mini Grid | Solar |
|------------------------------|------|-----------|-------|
| Base: Total Grid Connections | 470 | 61 | 281 |
| Sufficient | 95% | 82% | 72% |
| Less than needed | 5% | 18% | 18% |



Service Patronage

Connections

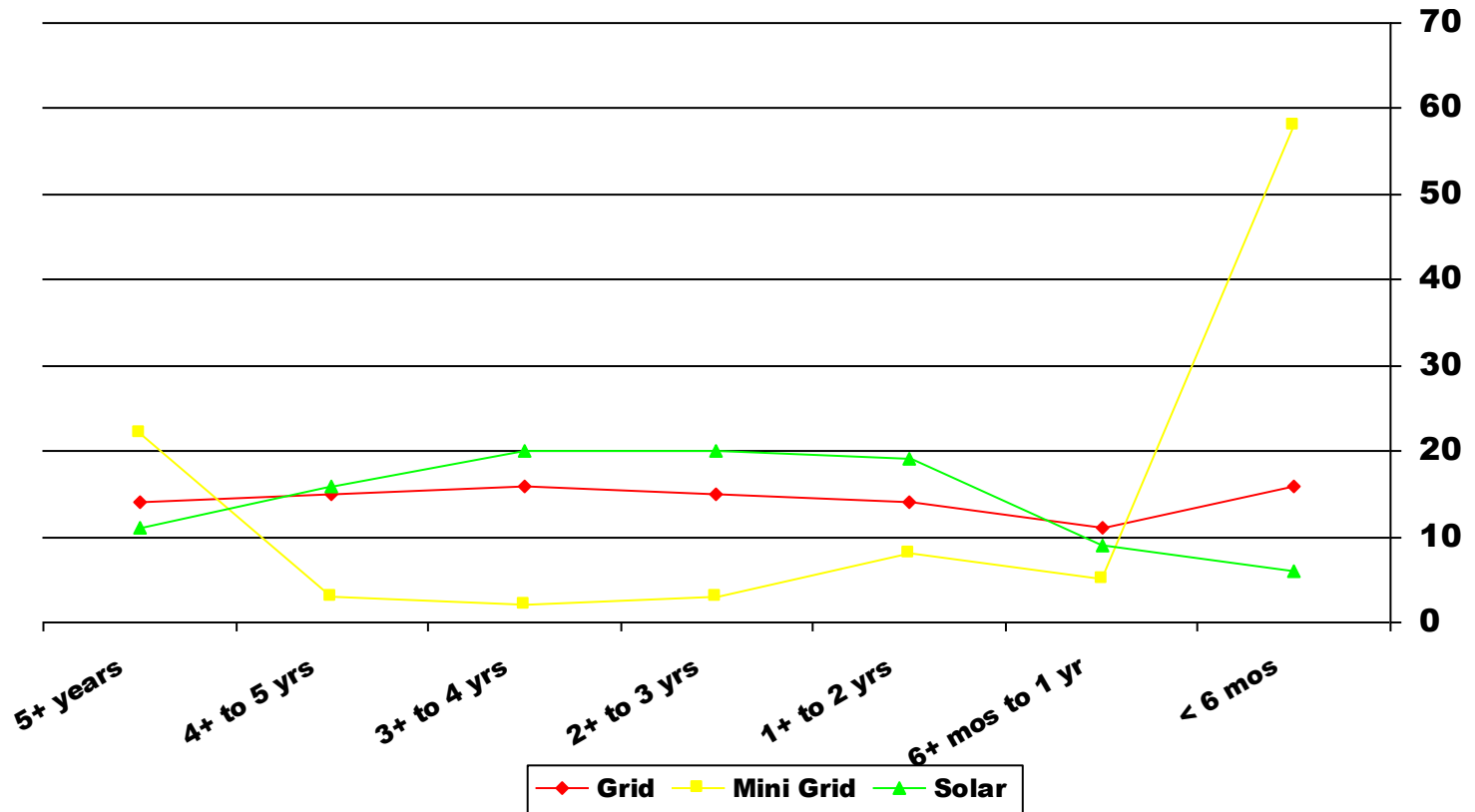
Disconnections

Line Tapping

Customer Tenure

| | GRID | MINI GRID | SOLAR |
|--------------------------------------|------|--|--|
| Base: Total Energized & Disconnected | 470 | 61 | 281 |
| | % | % | % |
| Below 6 months | 16 | 58 | 6 |
| More than 6 months - 1 year | 11 | 5 | 9 |
| More than 1-2 yrs | 14 | 8 | 19 |
| More than 2-3 yrs | 15 | 3 | 20 |
| More than 3-4 yrs | 16 | 2 | 20 |
| More than 4 - 5 Yrs | 15 | 3 | 16 |
| More than 5 yrs | 14 | 22 | 11 |
| | | Customers with less than 6 months mainly from PALECO | Customers with 1-4 years of service from AMORE service areas |

Consumer Tenure



Expectations/Reasons for Availment - Grid

| | Total | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALCO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURCO | SURNECO |
|---|-------|--------|---------|--------|----------|-------|----------|-------|---------|-------|----------|---------|
| Base - Total Interviews | 470 | 21 | 50 | 49 | 42 | 42 | 35 | 105 | 21 | 49 | 28 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Provides better quality of light (i.e. Mas lumiliwanag ang bahay, Hindi namamatay) | 47 | 71 | 60 | 57 | 31 | 41 | 51 | 46 | 43 | 35 | 46 | 46 |
| Less Cost, Can save because kerosene is expensive | 39 | 29 | 54 | 47 | 24 | 45 | 29 | 38 | 24 | 41 | 39 | 46 |
| Can use electric appliances (i.e. radio, TV, plantsa) | 31 | 0 | 44 | 41 | 50 | 31 | 26 | 26 | 19 | 29 | 39 | 14 |
| Can do work at night (i.e. livelihood & household chores) | 15 | 48 | 8 | 8 | 14 | 5 | 31 | 16 | 10 | 25 | 4 | 11 |
| News & Entertainment (i.e. Can watch TV/DVD, Updated on News, Have electricity for occasions like fiesta, etc.) | 15 | 29 | 16 | 20 | 21 | 12 | 17 | 10 | 24 | 14 | 4 | 7 |
| Children can study at night, makes them more interested to study | 9 | 19 | 6 | 4 | 7 | 2 | 20 | 13 | 0 | 12 | 4 | 7 |

Expectations/Reasons for Availment - Grid (cont'n)

| | Tota I CO | IFEL CO | CAG ELC O | ISEL CO | QUE ZEL CO | PAL ECO | CAN ORE CO | ALE CO | MAS ELC O | ILEC O | ZAM SUR ECO | SUR NEC O |
|---|-----------------|------------|-----------------|------------|------------------|------------|------------------|-----------|-----------------|-----------|-------------------|-----------------|
| Base - Total Interviews | 470 | 21 | 50 | 49 | 42 | 42 | 35 | 105 | 21 | 49 | 28 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| More convenient to do work at night (i.e. no need to hold light/ gasera) | 5 | 5 | 2 | 0 | 7 | 10 | 9 | 6 | 5 | 8 | 4 | 4 |
| Influenced by Barangay Officials/Organization | 5 | 0 | 0 | 0 | 31 | 2 | 20 | 1 | 0 | 0 | 0 | 4 |
| Mas magaan dati dinadala ang lumber sa barangay ngayon dito na lang sa amin | 4 | 5 | 0 | 0 | 0 | 2 | 3 | 12 | 10 | 4 | 0 | 0 |
| Can have business (i.e. Ice, ice candy, sari-sari, welding shop, videoke, sell frozen food) | 4 | 0 | 4 | 4 | 5 | 7 | 3 | 1 | 5 | 8 | 7 | 4 |
| Convenient source of light - "Pindutin lang may ilaw na" | 3 | 10 | 0 | 10 | 0 | 2 | 0 | 2 | 0 | 2 | 4 | 0 |
| Safe from fire/ accidents | 2 | 0 | 2 | 2 | 0 | 2 | 0 | 3 | 5 | 2 | 4 | 4 |
| Hindi na maiinitan kasi may electricfan (hindi na mapapagod sa pagpaypay) | 1 | 0 | 2 | 0 | 2 | 0 | 3 | 0 | 0 | 4 | 0 | 0 |

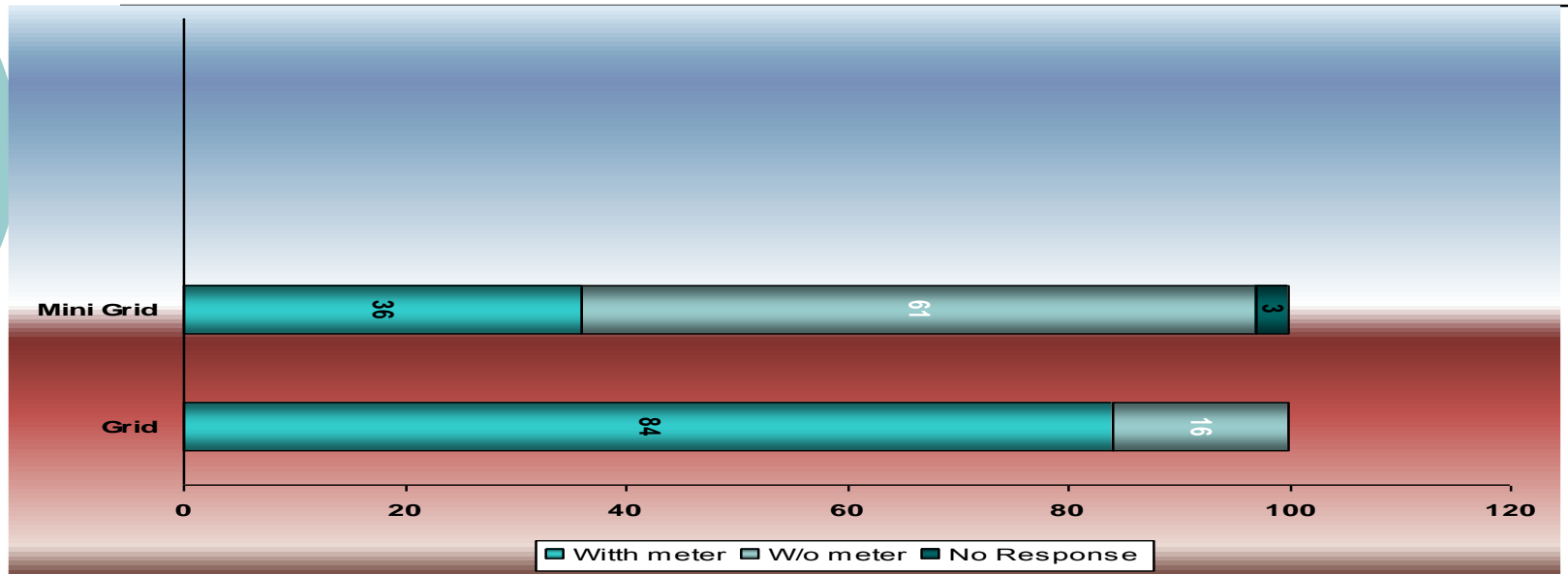
Expectations/Reasons for Availment – Mini Grid

| | TOTAL | CAGEL CO | PALEC O | DIELC O |
|---|-------|-------------|------------|------------|
| Base: Total Energized & Disconnected | 61 | 13 | 20 | 28 |
| | % | Count | % | % |
| Quality of lighting (i.e. mas maliwanag ang ilaw) | 64 | 10 | 55 | 64 |
| Less Expenses/Cost | 18 | 6 | 15 | 7 |
| Covenient (i.e can use electric appliances) | 18 | 0 | 30 | 18 |
| News & Entertainment (i.e. can watch TV, nakakapag relax) | 8 | 4 | 0 | 4 |
| Nagkaroon ng appliances (radio,TV,ref,electricfan,flat iron) | 7 | 1 | 15 | 0 |
| Can do work/ livelihood at night | 3 | 0 | 10 | 0 |
| Children can study at night | 3 | 0 | 0 | 7 |
| Gustong magkaroon ng appliances / makapundar ng appliances | 3 | 0 | 10 | 0 |
| ANgakitbahay kumuha kaya kumuha na rin/barangay | 3 | 0 | 0 | 7 |
| More safe | 2 | 0 | 0 | 4 |
| Nagpupulong na sa gabi ang mga opisyal dahil maliwanag naman | 2 | 1 | 0 | 0 |
| Can sell ice candy | 2 | 0 | 5 | 0 |
| Mahirap magbusiness kapag walang kuryente | 2 | 0 | 0 | 4 |
| Libre sa barangay (operator ng generator ang asawa)/ libre sa mga kagawad | 2 | 0 | 0 | 4 |
| Maraming tao ang pumupunta sa aming lugar dahil may ilaw NA | 2 | 0 | 5 | 0 |
| Kinumbinsi ng biyenang at magulang kaya nagpakabit | 2 | 0 | 0 | 4 |
| Mas maunlad ang barangay | 2 | 0 | 5 | 0 |

Expectations/Reasons for Availment - Solar

| | TOTAL | IFELCO | QUEZELCO | AMORE |
|--|-------|--------|----------|-------|
| Base: Total Energized & Disconnected | 281 | 42 | 22 | 217 |
| | % | % | % | % |
| Better quality of light (i.e. mas maliwanag ang ilaw kuryente) | 64 | 64 | 55 | 65 |
| Children can study, complete assignments at night | 16 | 38 | 0 | 13 |
| Convenient to use (i.e. easier to move around the house, can have appliances) | 11 | 21 | 18 | 8 |
| Influenced by Agent/Kapitan | 8 | 2 | 32 | 7 |
| Can do work at night (i.e. lesson plan, nakakapag-tinda sa gabi, can do handicrafts) | 7 | 12 | 9 | 6 |
| Entertainment (i.e. can watch TV, nakakakinig ng drama sa radyo, may paglilibangan) | 6 | 19 | 0 | 4 |
| Can do household chores at night (i.e. maglinis, maglaba, magluto, maghugas, mamalantsa, etc.) | 4 | 5 | 9 | 3 |
| Safe from fire/ accidents | 4 | 0 | 0 | 5 |
| Pwede na daw hulugan | 3 | 17 | 5 | 0 |
| Can own appliances (radio, TV, ref, electric fan, flat iron) | 1 | 0 | 0 | 1 |
| Kumuha ang kapitbahay kaya kumuha na rin | 1 | 0 | 14 | 0 |
| Influenced by relatives | 1 | 0 | 0 | 1 |
| Libre ang solar, electrician lang ang binabayaran | * | 0 | 5 | 0 |

Line Tapping Incidence



| | GRID | MINI GRID | |
|--------------------------------------|------|-----------|--|
| Base: Total Energized & Disconnected | 470 | 61 | |
| | % | % | |
| With Meter | 84 | 36 | |
| No Meter | 16 | 61 | |
| Refused | * | 3 | |

Energy Alternatives

| | GRID | | MINI GRID | | SOLAR | |
|-----------------------------------|------------|------------|-----------|------------|-------|------|
| | PRE | POST | PRE | POST | PRE | POST |
| Base: Energized Households | 442 | 21 | | | | |
| | % | % | | | | |
| Electricity | | 100 | | 100 | | |
| Kerosene | 95 | 6 | 73 | 3 | | |
| Generator | 11 | * | 15 | 3 | | |
| Batteries (Dry Cell) | 6 | * | | | | |
| Car battery | 2 | * | | | | |
| Solar Panel | * | * | | | | |
| none | | | | | | |



Usage and Consumption

Appliance Load

HH Expenses

Elec.Devices In Use - Grid

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURECO | SURNECO |
|--------------------------------------|-------|--------|---------|--------|----------|--------|----------|-------|---------|-------|-----------|---------|
| Base: Total Energized & Disconnected | 470 | 21 | 50 | 49 | 42 | 42 | 35 | 105 | 21 | 49 | 28 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Lighting | 98 | 100 | 98 | 98 | 100 | 98 | 100 | 96 | 100 | 100 | 96 | 100 |
| Entertainment | 81 | 76 | 84 | 94 | 81 | 83 | 77 | 77 | 43 | 96 | 79 | 71 |
| Electric fan | 50 | * | 60 | 82 | 69 | 41 | 63 | 51 | 29 | 45 | 29 | 29 |
| Refrigerator | 20 | 5 | 28 | 20 | 19 | 29 | 14 | 11 | 24 | 33 | 21 | 25 |
| Flat iron | 17 | 24 | 20 | 45 | 7 | 29 | 9 | 7 | 19 | 20 | 21 | * |
| Rice cooker | 5 | * | 10 | 10 | 5 | 5 | 3 | 2 | 10 | 8 | * | 4 |
| Washing machine | 5 | * | 8 | 16 | 2 | 17 | * | * | * | 2 | * | 7 |
| Cellphone | 3 | * | * | * | * | 14 | * | 1 | 5 | 8 | 11 | * |
| Amplifier/speaker | 2 | * | 8 | 4 | * | * | * | 1 | * | 6 | * | * |
| Oven toaster | 2 | * | 2 | * | 2 | 7 | * | * | * | 4 | * | * |
| Water dispenser | 1 | * | 4 | 4 | * | * | * | 1 | * | * | * | * |
| Others | 5 | 5 | 10 | 14 | * | 10 | 3 | 1 | 5 | 14 | * | * |

Elec. Devices in Use – Mini Grid

| | TOTAL | CAGELCO | PALECO | DIELCO |
|---|------------|------------|------------|------------|
| Base : Total Energized and disconnected | 61 | 13 | 20 | 28 |
| | % | % | % | % |
| <u>Lighting *</u> | 100 | 100 | 100 | 100 |
| Fluorescent lamps | 56 | 31 | 90 | 43 |
| Compact Fluorescent Lamps | 51 | 15 | 50 | 68 |
| Incandescent bulbs | 26 | 92 | 5 | 11 |
| <u>Entertainment*</u> | 49 | 62 | 45 | 46 |
| Color TV | 39 | 46 | 40 | 36 |
| VCD/ DVD player | 20 | 38 | 5 | 21 |
| Radio/ Transistor (AM/FM only) | 10 | 15 | 0 | 14 |
| Stereo/ Component | 5 | 0 | 0 | 11 |
| Black and White TV | 3 | 0 | 5 | 4 |
| Karaoke | 2 | 0 | 0 | 4 |
| <u>Others</u> | | | | |
| Electric fan | 7 | 15 | 5 | 4 |
| Refrigerator | 5 | 0 | 15 | 0 |
| Flat iron | 2 | 0 | 0 | 4 |
| Washing machine | 2 | 0 | 5 | 0 |

Elec. Devices in Use - Solar

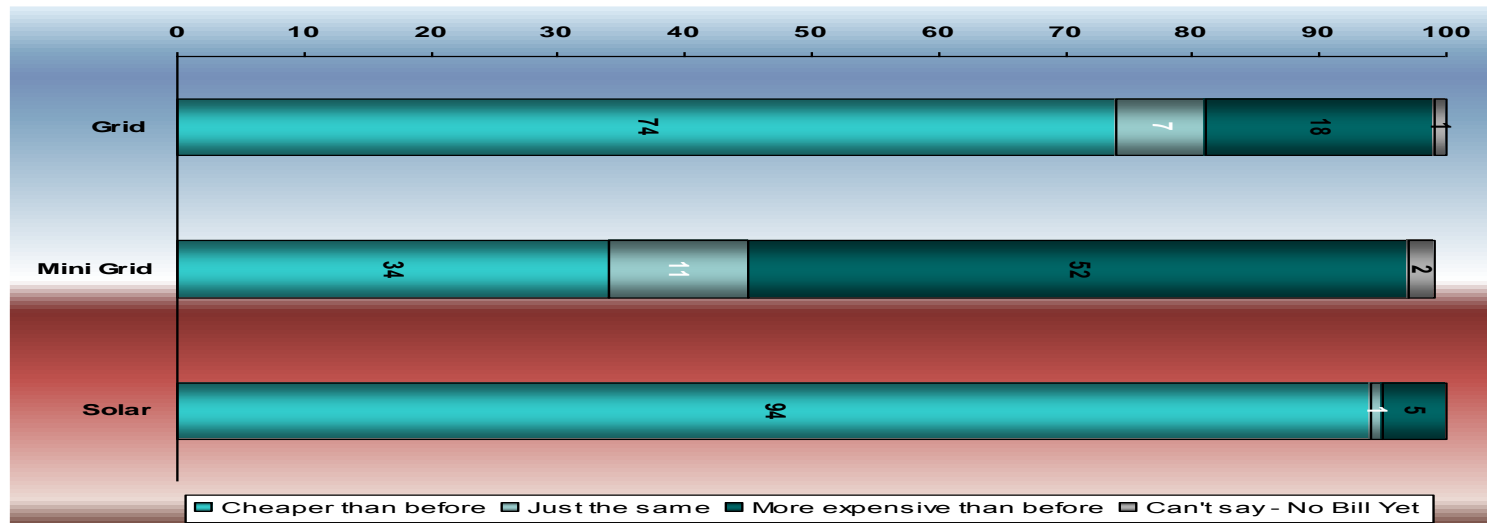
| | TOTAL | IFELCO | QUEZEL CO | AMORE |
|--------------------------------------|------------------|------------------|-------------------|------------------|
| Base: Total Energized & Disconnected | 281 | 42 | 22 | 217 |
| | % | % | % | % |
| <u>Lighting *</u> | <u>98</u> | <u>88</u> | <u>100</u> | <u>99</u> |
| Compact Fluorescent Lamps | 75 | 36 | 91 | 81 |
| Fluorescent lamps | 58 | 50 | 23 | 63 |
| Incandescent bulbs | 7 | 10 | 0 | 7 |
| | | | | |
| <u>Entertainment*</u> | <u>33</u> | <u>62</u> | <u>14</u> | <u>30</u> |
| Cassette recorder | 16 | 33 | 0 | 14 |
| Black and White TV | 11 | 5 | 5 | 12 |
| Radio/ Transistor (AM/FM only) | 7 | 12 | 9 | 6 |
| VCD/ DVD player | 5 | 5 | 0 | 5 |
| Karaoke | 4 | 2 | 0 | 4 |
| Color TV | 1 | 0 | 0 | 1 |
| Stereo/ Component | 1 | 5 | 0 | 0 |
| CD/ CD cassette | 1 | 5 | 0 | 0 |

| | TOTAL | IFELCO | QUEZE LCO | AMORE |
|--------------------------------------|-------|--------|--------------|-------|
| Base: Total Energized & Disconnected | 281 | 42 | 22 | 217 |
| | % | % | % | % |
| Cellphone | 4 | 0 | 0 | 5 |
| Electric fan | 2 | 0 | 14 | 1 |
| Electric Stove | 1 | 10 | 0 | 0 |
| Flat iron | * | 0 | 0 | 0.5 |
| Refrigerator | * | 0 | 0 | 0.5 |

Average Monthly Expense

| | GRID | MINI GRID | SOLAR |
|------------------------------|----------------|------------------------|------------------|
| Base: Total Grid Connections | 470 | 61 | 281 |
| | % | % | % |
| Less than 200 | 75 | 35 | 59 |
| 201-300 | 12 | 21 | 3 |
| 301-400 | 4 | 5 | 3 |
| 401-500 | 4 | 8 | 3*** |
| More than 500 | 11 | 20 | |
| Others | 2* | 5** | |
| No Response | 1 | 7 | 30 |
| | * new customer | ** share in fuel costs | ***more than 400 |

Comparative Costs



| | GRID | MINI GRID | SOLAR |
|--------------------------------------|------|-----------|-------|
| Base: Total Energized & Disconnected | 470 | 61 | 281 |
| | % | % | % |
| Cheaper than before | 74 | 34 | 94 |
| Just the same | 7 | 11 | 1 |
| More expensive than before | 18 | 52 | 5 |
| Can't say - No Bill Yet | 1 | 2 | |
| No answer | * | | |

Timeliness of Payment

| | GRID | MINI GRID | SOLAR |
|--|------|-----------|-------|
| Base: Total who received bill | 456 | 53 | |
| | % | % | |
| I pay my electric bill on time ALL THE TIME | 65 | 62 | |
| I pay on time MOST of the time | 14 | 19 | |
| There are months I pay on time and there are month I delay payment | 18 | 15 | |
| MOST of the time I am delayed in payment | 2 | 2 | |
| I am delayed ALL THE TIME | * | 2 | |
| No Response | 2 | | |

Reasons for Delays - Grid

| | TOTAL |
|--|-------|
| Base: Total who are delayed | 88 |
| | % |
| Walang Budget / walang pera | 38 |
| Insufficient budget to pay bill | 24 |
| Used money for day-to-day needs / expenses (i.e food, rental, clothing) | 13 |
| Budget was used for educational needs / expenses (i.e tuition fee, school allowance) | 7 |
| Hindi pa dumadating ang padalang pera ng (anak ko, nanay ko, asawa ko) | 7 |
| Mas mahal pa ang pamasaha kesa sa babayaran kung kuryente / mahal ang pamasaha | 6 |
| Budget was used for emergency situation (i.e naaksidente ang family member) | 6 |
| Delay Dumating ang perang pambayad | 3 |
| Irregular delivery of billing | 2 |
| Budget was used for other expenses (unspecified) | 2 |
| Sinasabay na after sahod | 2 |
| Pag Pumunta ang collector wala kami sa bahay | 2 |
| Wala pa yung pera yung nakikikabit sa akin ng kuryente | 1 |
| Pag maraming trabaho or may importanteng trabaho ang asawa ko | 1 |
| Naghihintay pa ng makakasabay sa oambayad para makaless sa pamasaha | 1 |
| Minsan nahuhuli ang sahod | 1 |
| Minsan lang ang hanapbuhay namin / Minsan walang hanapbuhay | 1 |

Reasons for Delays – Mini Grid

| | Total | CAGELCO | PALECO | DIELCO |
|---|-------|---------|--------|--------|
| Base - Total who experienced delayed payment | 10 | 0 | 1 | 9 |
| | % | % | % | % |
| Walang Budget / walang pera | 30 | 0 | 0 | 33 |
| Insufficient budget to pay bill | 10 | 0 | 100 | 0 |
| Budget was used for other expenses (unspecified) | 10 | 0 | 100 | 0 |
| Minsan lang ang hanapbuhay namin / Minsan walang hanapbuhay | 40 | 0 | 0 | 44 |
| Depende sa kita namin sa pangangisda | 10 | 0 | 0 | 11 |
| No answer | 10 | 0 | 0 | 11 |

Awareness of Penalties - Grid

| | GRID | | | MINI GRID | SOLAR |
|-----------------------------------|-------|------------|---------------|-----------|-------|
| | TOTAL | WITH METER | WITHOUT METER | | |
| Base: Total who have monthly bill | 456 | 386 | 69 | 53 | |
| | % | % | % | % | |
| Aware of Penalty | 64 | 69 | 36 | 57 | |
| Not Aware | 36 | 31 | 64 | 43 | |

Device Replacement

| | GRID | MINI GRID | SOLAR |
|------------------------------|-----------|-----------|-------|
| Base: Total Grid Connections | 470 | 61 | |
| | % | % | |
| Bulb | 59 | 21 | |
| Fuse | 22 | 3 | |
| Switches | 11 | 2 | |
| Wires | 3 | 5 | |
| Fluorescent | 3 | | |
| Socket/ female plug | 1 | | |
| Starter | 0 | 2 | |
| Kuntador | 0 | | |
| Ballast | 0 | | |
| | | | |
| NONE | 33 | | |

In-Charge of Maintenance - Grid (Only High Incidence Areas Shown)

| | TOTAL | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | ILECO |
|--------------------------------------|-------|---------|--------|----------|--------|----------|-------|-------|
| Base: Total who made replacements | 314 | 40 | 44 | 26 | 33 | 23 | 55 | 28 |
| | % | % | % | % | % | % | % | % |
| Family Members | | | | | | | | |
| Husband | 72 | 80 | 86 | 92 | 58 | 70 | 71 | 57 |
| Wife | 3 | 0 | 0 | 0 | 9 | 0 | 2 | 7 |
| Children | 6 | 10 | 5 | 4 | 6 | 9 | 4 | 11 |
| Relatives | 7 | 5 | 0 | 0 | 15 | 4 | 5 | 11 |
| | | | | | | | | |
| External | | | | | | | | |
| Coop Electrician | 7 | 0 | 2 | 0 | 6 | 0 | 16 | 4 |
| Licensed Electrician | 6 | 3 | 7 | 4 | 9 | 13 | 11 | 4 |
| Friends/ Neighbors | 1 | 0 | 0 | 0 | 9 | 0 | 2 | 0 |
| Bgy Electrician/ Technician | 1 | 0 | 2 | 0 | 6 | 0 | 0 | 0 |
| Representative ng Coop | * | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Lineman | * | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Nakikabit lang, Yung may-ari ng lupa | * | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| Kapatid ng Electrician | * | 0 | 2 | 0 | 0 | 0 | 0 | 0 |

Distance to Supplier - Grid

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURECO | SURNECO |
|------------------------------|-----------|-----------|----------|-----------|----------|----------|----------|----------|----------|-----------|-----------|------------|
| Base: Total Grid Connections | 446 | 29 | 44 | 64 | 34 | 54 | 34 | 85 | 15 | 29 | 30 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Less than 1 KM | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 20 | 0 |
| 1-5KM | 21 | 7 | 43 | 23 | 9 | 0 | 21 | 29 | 80 | 21 | 13 | 0 |
| 6-10 KM | 15 | 0 | 20 | 9 | 38 | 24 | 9 | 21 | 0 | 3 | 7 | 0 |
| 11-15 KM | 15 | 10 | 14 | 3 | 15 | 15 | 47 | 16 | 13 | 31 | 0 | 0 |
| 16-20 KM | 9 | 14 | 9 | 22 | 6 | 6 | 15 | 7 | 0 | 14 | 0 | 0 |
| 21-30 KM | 11 | 28 | 0 | 19 | 3 | 20 | 0 | 14 | 0 | 14 | 3 | 0 |
| 31-35 KM | 3 | 0 | 0 | 5 | 12 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| More than 35 KM | 6 | 3 | 7 | 0 | 18 | 28 | 0 | 0 | 0 | 7 | 3 | 0 |
| | | | | | | | | | | | | |
| Don't know | 19 | 38 | 7 | 19 | 0 | 6 | 9 | 5 | 7 | 10 | 50 | 100 |

Travel Time to Supplier - Grid

| | TOTAL | IFELC O | CAGEL CO | ISELC O | QUEZE LCO | PALEC O | CANO RECO | ALECO | MASEL CO | ILECO | ZAMS URECO | SURNE CO |
|------------------------------|-------|------------|-------------|------------|--------------|------------|--------------|-------|-------------|-------|---------------|-------------|
| Base: Total Grid Connections | 446 | 29 | 44 | 64 | 34 | 54 | 34 | 85 | 15 | 29 | 30 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| 2 | * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 5 | 2 | 0 | 0 | 0 | 0 | 2 | 12 | 1 | 0 | 0 | 10 | 0 |
| 10 | 2 | 10 | 5 | 2 | 0 | 0 | 0 | 2 | 20 | 0 | 0 | 0 |
| 10 minutes & Less | 5 | 10 | 5 | 2 | 0 | 2 | 12 | 4 | 20 | 0 | 13 | 0 |
| 11-20 | 7 | 0 | 9 | 11 | 0 | 6 | 9 | 11 | 27 | 7 | 0 | 0 |
| 21-30 | 22 | 34 | 36 | 9 | 12 | 52 | 6 | 29 | 20 | 7 | 7 | 0 |
| 31-40 | 2 | 0 | 9 | 0 | 0 | 0 | 0 | 1 | 13 | 0 | 0 | 0 |
| 41-50 | 4 | 14 | 0 | 3 | 15 | 4 | 12 | 0 | 7 | 3 | 0 | 0 |
| 51-60 | 25 | 17 | 25 | 19 | 18 | 30 | 29 | 25 | 0 | 28 | 30 | 43 |
| More than 60 Minutes | 17 | 24 | 9 | 34 | 44 | 6 | 15 | 7 | 0 | 28 | 3 | 18 |
| No Response | 19 | 0 | 7 | 22 | 12 | 2 | 18 | 24 | 13 | 28 | 47 | 39 |
| | | | | | | | | | | | | |
| Average (In Minutes) | 58 | 71 | 47 | 76 | 78 | 43 | 59 | 47 | 25 | 77 | 46 | 78 |

Modes of Transportation - Grid

| | TOTAL | IFEL CO | CAGE LCO | ISEL CO | QUEZ ELCO | PALE CO | CAN OREC O | ALEC O | MASE LCO | ILEC O | ZAM SURE CO | SURN ECO |
|------------------------------|-------|------------|-------------|------------|--------------|------------|------------------|-----------|-------------|-----------|-------------------|-------------|
| Base: Total Grid Connections | 446 | 29 | 44 | 64 | 34 | 54 | 34 | 85 | 15 | 29 | 30 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Jeep | 41 | 72 | 30 | 72 | 47 | 24 | 79 | 22 | 7 | 76 | 3 | 18 |
| Tricycle | 28 | 3 | 20 | 45 | 26 | 52 | 35 | 21 | 7 | 28 | 23 | 18 |
| Motorcycle/Habal -Habal | 18 | 0 | 0 | 0 | 0 | 15 | 0 | 40 | 80 | 34 | 53 | 0 |
| Motorboat/ pumpboat | 14 | 0 | 0 | 0 | 26 | 0 | 0 | 31 | 0 | 0 | 17 | 82 |
| Bangka/ Boat | 6 | 0 | 0 | 17 | 0 | 0 | 0 | 9 | 0 | 0 | 27 | 0 |
| Hiking/ Walking | 6 | 69 | 0 | 0 | 3 | 2 | 3 | 0 | 0 | 7 | 3 | 0 |
| Bus/ Mini bus | 4 | 21 | 5 | 2 | 12 | 7 | 0 | 0 | 0 | 3 | 7 | 0 |
| Kulig-lig | 4 | 0 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Van | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Lantsa | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 |
| Car | * | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Truck | * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| No Response | 1 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 13 | 0 | 7 | 0 |

Maintenance Cost (Past Year) - Grid

(Only High Incidence Areas Shown)

| | TOTAL | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | ILECO |
|-----------------------------------|-------|---------|--------|----------|--------|----------|-------|-------|
| Base: Total who made replacements | 314 | 40 | 44 | 26 | 33 | 23 | 55 | 28 |
| | % | % | % | % | % | % | % | % |
| Less than P200 | 57 | 5 | 9 | 19 | 0 | 26 | 0 | 0 |
| 201-300 | 18 | 3 | 5 | 0 | 3 | 4 | 15 | 11 |
| 301-400 | 4 | 0 | 2 | 4 | 0 | 0 | 0 | 0 |
| 401-500 | 8 | 0 | 2 | 0 | 0 | 0 | 5 | 0 |
| More than 500 | 7 | 8 | 2 | 0 | 3 | 4 | 15 | 7 |
| Can't recall | 1 | 0 | 0 | 0 | 3 | 0 | 2 | 0 |
| None | 4 | 3 | 20 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | |
| Average (P) | 228 | 249 | 154 | 130 | 166 | 164 | 248 | 366 |



User Awareness

Institutional Strategy

Maintenance Requirements

Customer Support/After Sales

Complaints Handling

Billing & Collection

Repayment Performance

Awareness of Service Provider - Grid

| | TOTAL | IFELCO | CAG ELC O | ISELCO | QUEZELCO | PAL ECO | CANORECO | ALECO | MAS ELC O | ILECO | ZAM SUR ECO | SUR NEC O |
|------------------------------|-------|--------|-----------|--------|----------|---------|----------|-------|-----------|-------|-------------|-----------|
| Base: Total Grid Connections | 470 | 21 | 50 | 49 | 42 | 42 | 35 | 105 | 21 | 49 | 28 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Electric Cooperative | 87 | 95 | 88 | 100 | 100 | 100 | 100 | 58 | 95 | 100 | 86 | 86 |
| Barangay/ LGU | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 14 |
| Barangay power Association | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 0 | 0 |
| Dont Know | 3 | 5 | 8 | 0 | 0 | 0 | 0 | 3 | 5 | 0 | 14 | 0 |

Awareness of Service Provider – Mini Grid

| | TOTAL | CAGELCO | PALECO | DIELCO |
|---|-------|---------|--------|--------|
| Base : Total Energized and disconnected | 61 | 13 | 20 | 28 |
| | % | % | % | % |
| Electric Cooperative | 42 | 77 | 5 | 53 |
| BAPA | 30 | 0 | 85 | 4 |
| Barangay/ LGU | 5 | 15 | 0 | 4 |
| Mirant Foundation | 2 | 0 | 0 | 4 |
| Mayor | 3 | 0 | 0 | 7 |
| Barangay Captain | 3 | 0 | 0 | 7 |
| Governor | 3 | 0 | 0 | 7 |
| Barangay Council | 3 | 8 | 0 | 4 |
| Barangay Kagawad | 2 | 0 | 0 | 4 |
| Congressman (Baham) / Congressman Fund | 2 | 0 | 0 | 4 |
| BHW | 2 | 0 | 0 | 4 |
| Don't Know | 7 | 0 | 10 | 7 |

Awareness of Service Provider - Solar

| | TOTAL | IFELCO | QUEZELCO | AMORE |
|--|-------|--------|----------|-------|
| Base: Total Energized/Disconnected | 281 | 42 | 22 | 217 |
| | % | % | % | % |
| Electric Cooperative/AMORE | 70 | 90 | 5 | 73 |
| BAPA | 4 | 0 | 0 | 5 |
| Shell / Shell Organization | 3 | 0 | 27 | 1 |
| Barangay/ LGU | 2 | 0 | 0 | 2 |
| BREACDA - Barangay Renewable Energy Community Dev't Assoc. | 1 | 0 | 0 | 2 |
| DOE | 1 | 2 | 0 | 1 |
| MUFTI - Muslim Upliftment Foundation of Tawi-Tawi Inc. | 1 | 0 | 0 | 1 |
| Barangay | 1 | 0 | 0 | 1 |
| Mirant Foundation | * | 0 | 5 | 0 |
| Dont Know | 17 | 7 | 64 | 14 |

Awareness of Operator - Grid

| | TOTAL | IFELC O | CAGEL CO | ISEL O | QUEZE LCO | PALEC O | CANO RECO | ALECO | MASEL CO | ILECO | ZAMS UREC O | SURNE CO |
|------------------------------|-------|------------|-------------|-----------|--------------|------------|--------------|-------|-------------|-------|-------------------|-------------|
| Base: Total Grid Connections | 470 | 21 | 50 | 49 | 42 | 42 | 35 | 105 | 21 | 49 | 28 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Electric Cooperative | 72 | 100 | 72 | 96 | 100 | 83 | 83 | 31 | 95 | 92 | 75 | 29 |
| Barangay power Association | 17 | 0 | 0 | 0 | 0 | 0 | 11 | 61 | 0 | 4 | 0 | 36 |
| Barangay/ LGU | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 4 | 4 |
| Barangay Captain | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| Brgy. Secretary | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Napocor | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kagawad | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Dont Know | 8 | 0 | 28 | 4 | 0 | 14 | 3 | 4 | 5 | 4 | 21 | 4 |

Awareness of Operator – Mini Grid

| | TOTAL | CAGELCO | PALECO | DIELCO |
|---|-------|---------|--------|--------|
| Base : Total Energized and disconnected | 61 | 13 | 20 | 28 |
| | % | % | % | % |
| Electric Cooperative | 50 | 70 | 10 | 68 |
| BAPA | 28 | 0 | 85 | 0 |
| Barangay Captain | 7 | 8 | 0 | 11 |
| Barangay/ LGU | 5 | 15 | 0 | 4 |
| Ex Barangay Kagawad | 4 | 0 | 0 | 8 |
| Barangay Council | 3 | 8 | 0 | 4 |
| Brgy. Officials | 2 | 0 | 0 | 4 |
| Neighbor | 2 | 0 | 0 | 4 |
| Don't Know | 2 | 0 | 5 | 0 |

Awareness of Installer

| | TOTAL | IFELCO | QUEZELC O | AMORE |
|--|-------|--------|--------------|-------|
| Base: Total Energized/Disconnected | 281 | 42 | 22 | 217 |
| | % | % | % | % |
| Electric Cooperative/AMORE | 69 | 98 | 18 | 68 |
| BAPA | 3 | 0 | 0 | 4 |
| Shell / Shell Organization | 3 | 0 | 27 | 1 |
| Electrician | 1 | 0 | 0 | 2 |
| MUFTI | 1 | 0 | 0 | 1 |
| Barangay/ LGU | 1 | 0 | 0 | 1 |
| Brgy. Electrician | 1 | 0 | 0 | 1 |
| BREACDA | 1 | 0 | 0 | 1 |
| MDFI (Maguindanao Dev't Foundation Inc.) | 1 | 0 | 0 | 1 |
| Barangay Captain | * | 0 | 0 | 0.5 |
| SAEE Employee | * | 2 | 0 | 0 |
| Barangay | * | 0 | 0 | 0.5 |
| Private | * | 0 | 0 | 0.5 |
| Dont Know | 17 | 0 | 55 | 17 |
| No Response | 1 | 0 | 0 | 2 |

Billing Schedule - Grid

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALCO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURCO | SURNECO |
|---------------------------------|-------|--------|---------|--------|----------|-------|----------|-------|---------|-------|----------|---------|
| Base: Total who received bill | 456 | 21 | 49 | 49 | 42 | 42 | 35 | 96 | 20 | 49 | 27 | 26 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Everyday | 1 | * | * | * | * | * | * | * | * | * | * | * |
| 1 st Wk of the month | 13 | * | 2 | 6 | 7 | 36 | 31 | 13 | 15 | 16 | 7 | 8 |
| 2nd Wk of the month | 9 | * | 6 | 2 | 21 | 7 | 11 | 7 | * | 33 | * | * |
| 3rd Wk of the month | 20 | 38 | 53 | 20 | 36 | 33 | 11 | 8 | * | 14 | * | * |
| Last week of the month | 40 | 5 | 33 | 12 | 26 | 17 | 43 | 68 | 70 | 16 | 74 | 81 |
| No particular date | 11 | 52 | 2 | 57 | * | 2 | * | * | * | 16 | 4 | 8 |
| Don't know - Nakikitap lang | 5 | 5 | 4 | 2 | 10 | 5 | 3 | 3 | 15 | 4 | 15 | 4 |

Billing Schedule – Mini Grid

| | Total | CAGELCO | PALECO | DIELCO |
|--------------------------------|-------|---------|--------|--------|
| Base - Total who received bill | 53 | 8 | 20 | 25 |
| | % | % | % | % |
| Every First week of the month | 2 | 0 | 5 | 0 |
| Every 2nd week of the month | 4 | 0 | 10 | 0 |
| Every 3rd week of the month | 15 | 13 | 35 | 0 |
| Last week of the month | 36 | 63 | 60 | 8 |
| Everyday | 42 | 13 | 0 | 84 |
| No particular date | 2 | 0 | 0 | 4 |
| No answer | 6 | 25 | 0 | 4 |

Awareness of Collector - Grid

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURECO | SURNECO |
|------------------------------|-------|--------|---------|--------|----------|--------|----------|-------|---------|-------|-----------|---------|
| Base: Total Grid Connections | 470 | 21 | 50 | 49 | 42 | 42 | 35 | 105 | 21 | 49 | 28 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Electric Cooperative | 56 | 95 | 82 | 74 | 93 | 98 | 69 | 23 | 62 | 0 | 75 | 11 |
| Barangay power Association | 32 | 0 | 0 | 25 | 0 | 0 | 14 | 64 | 0 | 100 | 0 | 54 |
| Barangay/ LGU | 3 | 0 | 0 | 2 | 0 | 0 | 14 | 4 | 0 | 0 | 4 | 4 |
| Teacher | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| BHW | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| Barangay Captain | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Municipal | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ex Barangay Kagawad | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Municipal Candidates | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| Treasurer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Kagawad | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Wala pang nangungulekta | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Don't Know | 8 | 5 | 16 | 0 | 5 | 2 | 3 | 8 | 38 | 0 | 22 | 4 |

Awareness of Collector – Mini Grid

| | TOTAL | CAGELCO | PALECO | DIELCO |
|--|-------|---------|--------|--------|
| Base : Total Energized and disconnected | 61 | 13 | 20 | 28 |
| | % | % | % | % |
| BAPA | 26 | 0 | 80 | 0 |
| Electric Cooperative | 46 | 62 | 5 | 11 |
| BHW | 5 | 0 | 0 | 11 |
| Barangay/ LGU | 2 | 8 | 0 | 0 |
| Collecting Officer | 2 | 0 | 5 | 0 |
| Barangay Captain | 2 | 8 | 0 | 0 |
| Ex Barangay Kagawad | 2 | 0 | 0 | 4 |
| Barangay Council | 2 | 0 | 0 | 4 |
| President of PCTA -School | 2 | 8 | 0 | 0 |
| Treasurer | 2 | 0 | 5 | 0 |
| Kagawad | 2 | 0 | 0 | 4 |
| Bibili lang kami ng krudo para magka-ilaw | 2 | 8 | 0 | 0 |
| Mga tao lang sa barangay ang bibili ng krudo | 2 | 8 | 0 | 0 |
| Neighbor | 2 | 0 | 0 | 4 |
| Don't Know | 5 | 0 | 5 | 7 |

Payment Channels - Grid

| | TOTAL | IFELCO | CAG ELC O | ISELCO | QUE ZELCO | PALECO | CANORECO | ALECO | MAS ELC O | ILECO | ZAM SUR ECO | SUR NEC O |
|-------------------------------------|-------|--------|-----------|--------|-----------|--------|----------|-------|-----------|-------|-------------|-----------|
| Base - Total who have monthly bill | 456 | 21 | 49 | 49 | 42 | 42 | 35 | 96 | 20 | 49 | 27 | 26 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Through BAPA | 33 | 0 | 0 | 43 | 0 | 0 | 11 | 65 | 0 | 96 | 0 | 54 |
| Cooperative office | 28 | 10 | 10 | 4 | 69 | 93 | 54 | 8 | 75 | 0 | 37 | 0 |
| Through a collector | 25 | 81 | 59 | 53 | 14 | 2 | 14 | 15 | 0 | 0 | 41 | 23 |
| Nakikitap lang -Pay sa Pinagkabitán | 8 | 5 | 8 | 2 | 12 | 2 | 9 | 12 | 25 | 4 | 15 | 4 |
| Barangay/ LGU | 3 | 5 | 8 | 0 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | 8 |
| Sa Centro (gymnasium) | 1 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Meter Reader | * | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B.H.W | * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Bayad Center | * | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Munisipyo | * | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sports Complex | * | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Teacher | * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Councilor / Konsehal | * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| No Response | * | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 |

Payment Channels – Mini Grid

| | Total | CAGELCO | PALECO | DIELCO |
|--|-------|---------|--------|--------|
| Base - Total who received bill | 53 | 8 | 20 | 25 |
| | % | % | % | % |
| Through BAPA | 36 | 0 | 95 | 0 |
| Through a collector | 32 | 13 | 5 | 60 |
| Cooperative office | 2 | 0 | 0 | 4 |
| Barangay/ LGU | 4 | 25 | 0 | 0 |
| President ng PCTA ng School | 2 | 13 | 0 | 0 |
| Pangalan ng representative ang nakalagay | 8 | 25 | 0 | 8 |
| kamag-anak ni cap (nanay) | 2 | 13 | 0 | 0 |
| B.H.W | 4 | 0 | 0 | 8 |
| Treasurer | 4 | 0 | 0 | 8 |
| Councilor / Konsehal | 2 | 0 | 0 | 4 |
| Hinahatid ko na lang sa bahay nila | 2 | 13 | 0 | 0 |
| Nakikitap lang | 8 | 0 | 0 | 16 |

Payment Lead Time - Grid

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURECO | SURNECO |
|---|-------|--------|---------|--------|----------|--------|----------|-------|---------|-------|-----------|---------|
| Base: Total who received bill | 456 | 21 | 49 | 49 | 42 | 42 | 35 | 96 | 20 | 49 | 27 | 26 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Within 1 week | 44 | 19 | 12 | 6 | 86 | 62 | 63 | 40 | 20 | 55 | 52 | 81 |
| Within 2 weeks | 8 | 5 | 4 | 16 | 2 | 14 | 14 | * | 5 | 18 | 4 | * |
| Within 3 weeks | 2 | * | * | * | * | 7 | 3 | 2 | * | 2 | 4 | * |
| Within 1 month | 10 | 10 | 27 | 14 | 2 | 2 | 3 | 13 | 10 | 6 | 15 | * |
| Within 2 Months | 9 | 10 | 8 | 22 | * | 7 | 3 | 19 | 5 | * | * | 4 |
| Within 3 months | 14 | 43 | 35 | 37 | * | 5 | 3 | 14 | 10 | * | 4 | * |
| None (Maaring makipag-usap sa collector/Kasi wala talaga/pwede utang) | 4 | 5 | 2 | 2 | * | 2 | * | 13 | 15 | * | * | 8 |
| 3 bills bago putulan | * | * | * | * | * | * | * | 1 | * | * | * | * |
| After 2x makapunta ang collector at hindi makabayad | * | 5 | * | * | * | * | * | * | * | * | * | * |
| Don't Know | 8 | 5 | 10 | 2 | 10 | * | 12 | * | 35 | 18 | 22 | 8 |

Payment Lead Time – Mini Grid

| | Total | CAGELCO | PALECO | DIELCO |
|---|-------|---------|--------|--------|
| Total who received bill | 53 | 8 | 20 | 25 |
| | % | % | % | % |
| Within 1 week | 49 | 13 | 85 | 32 |
| > 1 week - 2 weeks | 2 | 0 | 5 | 0 |
| > 2 weeks - 3 weeks | 4 | 0 | 10 | 0 |
| >3 weeks - 1 month | 2 | 13 | 0 | 0 |
| No answer | 2 | 0 | 0 | 4 |
| NONE (Maaring makipag-usap sa collector/Kasi wala talaga/pwede utang) | 42 | 75 | 0 | 64 |
| | | | | |
| Mean | 7 | 19 | 7 | 3 |
| | | | | |



User Satisfaction

Services

Service Provider

Common Problems

Incidence of Problems with Service Provider - Grid

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURECO | SURNECO |
|------------------------------|-------|--------|---------|--------|----------|--------|----------|-------|---------|-------|-----------|---------|
| Base: Total Grid Connections | 470 | 21 | 50 | 49 | 42 | 42 | 35 | 105 | 21 | 49 | 28 | 28 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Encountered Problems | 32 | 52 | 62 | 20 | 69 | 29 | 49 | 25 | 14 | 2 | 21 | 11 |
| Did Not Encounter Problems | 68 | 48 | 38 | 80 | 31 | 71 | 51 | 74 | 86 | 98 | 79 | 89 |

Problems with Service Provider - Grid (Among High Incidence Coop)

| | TOTAL | CAGELC O | QUEZEL CO | ALECO |
|--|-----------|-------------|--------------|-----------|
| Base: Total who encountered Problems | 149 | 31 | 29 | 26 |
| | % | % | % | % |
| Brownout | 73 | 97 | 97 | 19 |
| Inconsistent ang billing nila sa kilowatts na ginagamit | 7 | 0 | 0 | 8 |
| Disconnection | 5 | 0 | 3 | 23 |
| Fluctuation (i.e putul-putol ang supply, mahina) | 5 | 0 | 3 | 15 |
| Transformer problem (i.e pumutok ang transformer) | 3 | 0 | 0 | 8 |
| No billing delivered | 2 | 0 | 0 | 12 |
| Service provider did not remit payment | 1 | 0 | 0 | 8 |
| Yung may schedule ang supply ng kuryente | 1 | 0 | 0 | 8 |
| Hindi na pumupunta ang collector para maningil ng bill | 1 | 3 | 0 | 0 |
| Nagbigay agad ng disconnection notice | 1 | 0 | 0 | 4 |
| Reading nasosobrahan ang pag reading kasi nacocompute na naman namin | 1 | 3 | 0 | 0 |
| No Response | 1 | 0 | 0 | 4 |

Problem Reporting - Grid

| | TOTAL | CAGELCO | QUEZELCO | ALECO |
|----------------------------------|-------|---------|----------|-------|
| Base: Total Problems Encountered | 158 | 32 | 30 | 28 |
| | % | % | % | % |
| Reported Problems Encountered | 65 | 53 | 47 | 96 |
| Did not Report | 35 | 47 | 53 | 4 |

| | TOTAL |
|---|------------------|
| Base - Among who raised problem on Service Provider | 102 |
| | % |
| <u>PERSONAL VISIT/ FILING OF COMPLAINT (NET)</u> | <u>47</u> |
| Coop Office | 25 |
| Barangay Captain | 13 |
| Went to office (Unspecified) | 7 |
| BAPA | 2 |
| Pumunta ako sa lineman | 1 |
| | |
| <u>THROUGH CALLS (Cellphone/ Landline) (NET)</u> | <u>10</u> |
| Cooperative | 9 |
| Lineman | 1 |

| <u>THROUGH TEXT (NET)</u> | <u>26</u> |
|---|------------------|
| Coop/ went to the coop office | 14 |
| Nag-text unsp. | 9 |
| Nag-text barangay official | 2 |
| BAPA | 1 |
| | |
| Complained through collector | 12 |
| Pag may pumupunta dito (collector sinasabi namin | 3 |
| Nung nag reading yung empleyado | 2 |
| Sent a Letter to Coop | 1 |
| During barangay assemble | 1 |

Incidence of Problems Encountered with Service – Mini Grid

| | TOTAL | CAGELCO | PALECO | DIELCO |
|---|-------|---------|--------|--------|
| Base : Total Energized and disconnected | 61 | 13 | 20 | 28 |
| | % | % | % | % |
| Encountered Problems | 7 | 8 | 0 | 11 |
| Did not Encounter Problems | 93 | 92 | 100 | 89 |

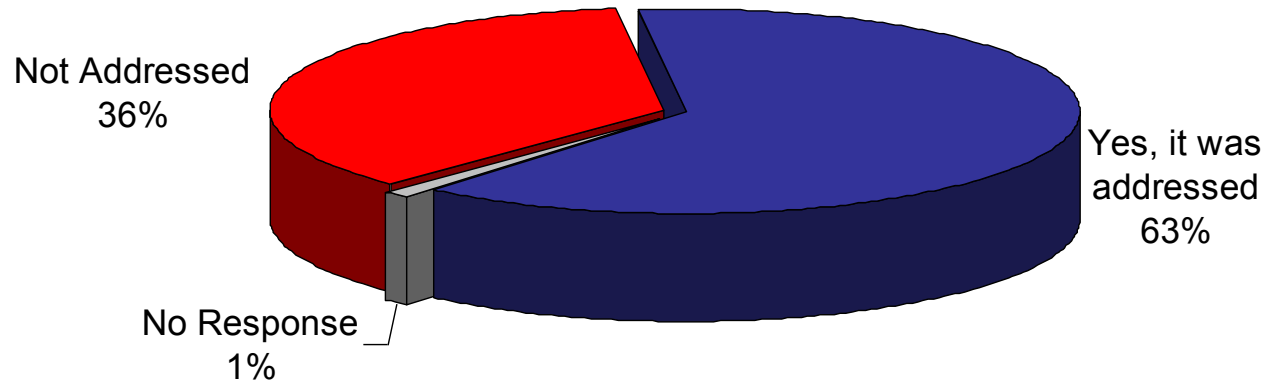
Incidence of Problem Encounter with Solar Panel System

| | TOTAL | IFELCO | QUEZELCO | AMORE |
|------------------------------------|-------|--------|----------|-------|
| Base: Total Energized/Disconnected | 281 | 42 | 22 | 217 |
| | % | % | % | % |
| Encountered Problems | 51 | 71 | 50 | 47 |
| Did not encounter problems | 49 | 29 | 50 | 53 |

Problems Encountered - Solar

| | TOTAL | IFELCO | QUEZELCO | AMORE |
|--|-------|--------|----------|-------|
| Base: Total who encountered problems | 142 | 30 | 11 | 101 |
| | % | % | Count | % |
| Battery does not charge properly/Mahina na | 69 | 67 | 11 | 66 |
| Napundi ang ilaw / "Bulb" | 32 | 53 | 1 | 29 |
| Nasira yung controller | 5 | 0 | 1 | 6 |
| Nasira ang diode / "dayod" | 3 | 0 | 0 | 4 |
| Nasira ang inverter | 1 | 0 | 0 | 2 |
| Nasira Voltage Controller | 1 | 0 | 0 | 1 |
| Nasira ang solar panel (Di na makacharge) | 1 | 3 | 0 | 0 |

Service Provider Response - Grid



Base: Total who raised problems - 102

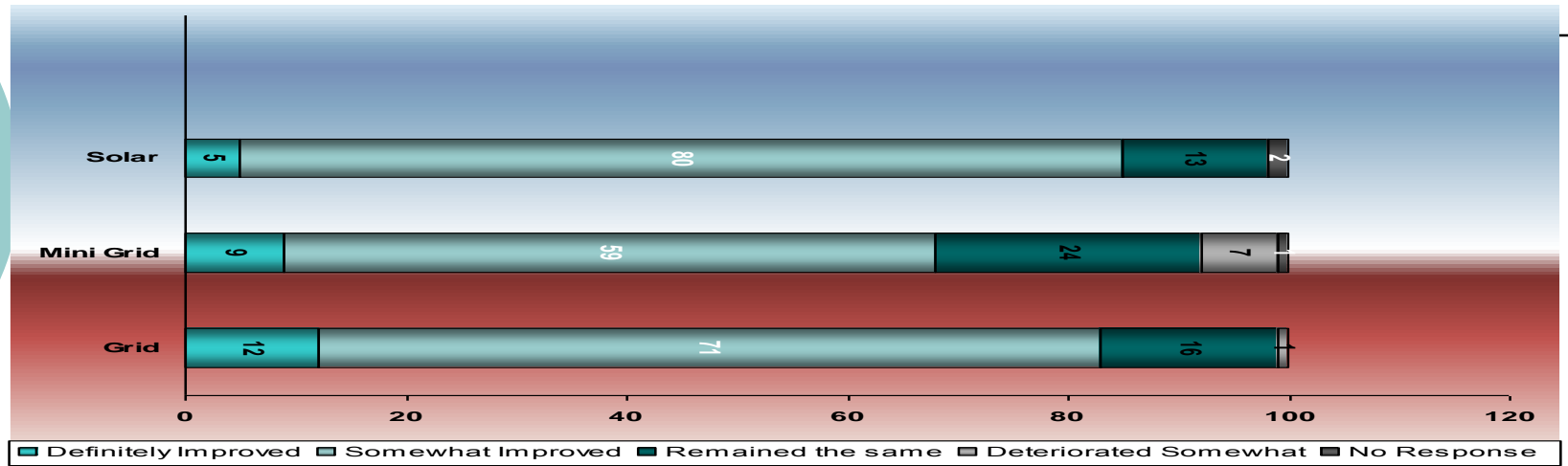
Overall Satisfaction with Service Provider - Grid

| | GRID | MINI GRID |
|------------------------------|------|-----------|
| Base: Total Grid Connections | 470 | 61 |
| | % | % |
| Very satisfied | 31 | 31 |
| Somewhat satisfied | 43 | 44 |
| Can't Say | 7 | 2 |
| Somewhat dissatisfied | 14 | 8 |
| Very dissatisfied | 5 | 15 |
| NO Response | 0 | 0 |



PERCEIVED IMPACT

Disposition Towards Quality of Life (After Electrification)



| | GRID | MINI GRID | SOLAR |
|------------------------|------|-----------|-------|
| Base: Total Interviews | 670 | 89 | 60 |
| | % | | |
| Definitely Improved | 12 | 9 | 5 |
| Somewhat Improved | 71 | 59 | 80 |
| Remained the same | 16 | 24 | 13 |
| Deteriorated Somewhat | 1 | 7 | |
| No Response | * | 1 | 2 |

Impact on Household – Grid

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURECO | SURNECO |
|---|-------|--------|---------|--------|----------|--------|----------|-------|---------|-------|-----------|---------|
| Base: Total Interviews | 670 | 30 | 70 | 70 | 60 | 60 | 50 | 150 | 30 | 70 | 40 | 40 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| News & Entertainment (i.e. Can watch TV/DVD, May Mapaglibangan) | 47 | 37 | 63 | 71 | 65 | 28 | 64 | 36 | 37 | 39 | 35 | 38 |
| Better quality of light (i.e. Mas Maliwanag) | 31 | 13 | 34 | 29 | 18 | 40 | 34 | 35 | 47 | 16 | 33 | 50 |
| Children can study at night | 29 | 80 | 19 | 39 | 53 | 12 | 26 | 29 | 13 | 26 | 23 | 3 |
| Can do household chores at night (i.e. maglinis, maglaba, magluto, maghugas ng pinagkainan, mamalantsa, etc.) | 19 | 30 | 14 | 31 | 22 | 15 | 32 | 17 | 10 | 11 | 20 | 8 |
| Mas madaling kumilos sa bahay dahil sa ilaw / maayos kumilos sa gabi | 10 | 0 | 0 | 0 | 3 | 17 | 12 | 19 | 30 | 9 | 18 | 3 |
| Can use electronic appliances (i.e. radio, TV, plantsa) | 9 | 10 | 14 | 16 | 15 | 10 | 8 | 7 | 13 | 3 | 5 | 5 |
| Can have appliances (radio, TV, ref, electric fan, flat iron) | 9 | 0 | 14 | 3 | 7 | 25 | 8 | 0 | 3 | 16 | 23 | 13 |
| Generally makes work and activities convenient | 9 | 7 | 13 | 1 | 12 | 10 | 6 | 16 | 3 | 10 | 8 | 10 |

Impact on Household - Grid (cont'n)

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURECO | SURNECO |
|---|-------|--------|---------|--------|----------|--------|----------|-------|---------|-------|-----------|---------|
| Base: Total Interviews | 670 | 30 | 70 | 70 | 60 | 60 | 50 | 150 | 30 | 70 | 40 | 40 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Can do work to augment income at night | 7 | 27 | 6 | 3 | 3 | 5 | 6 | 5 | 10 | 9 | 15 | 10 |
| Can have business (i.e. Ice, ice candy, sari-sari, videoke, etc.) | 6 | 7 | 7 | 7 | 12 | 5 | 4 | 3 | 3 | 13 | 10 | 3 |
| Hindi na maiinitan kasi may electricfan (hindi na mapapagod sa pagpaypay) | 6 | 0 | 13 | 0 | 15 | 0 | 10 | 8 | 10 | 4 | 0 | 0 |
| Can save cost from kerosene | 4 | 0 | 1 | 3 | 0 | 10 | 0 | 8 | 13 | 1 | 0 | 0 |
| Can bond/get together at night | 4 | 3 | 3 | 0 | 2 | 2 | 8 | 5 | 3 | 1 | 8 | 10 |
| Nakakainom ng malamig na tubig /softdrinks may ref/ nakakabili ng yelo | 3 | 0 | 4 | 3 | 12 | 0 | 0 | 1 | 7 | 0 | 3 | 0 |
| Safer from fire/accidents | 2 | 0 | 1 | 3 | 0 | 3 | 2 | 3 | 3 | 0 | 0 | 5 |
| Easier to do household chores, wala ng gaserang hinahawakan | 2 | 0 | 4 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 5 | 5 |
| I switch lang magkakailaw na | 2 | 0 | 0 | 1 | 3 | 3 | 0 | 1 | 3 | 4 | 0 | 5 |
| Kumonte ang lamok sa loob ng bahay /nabawasan ang lamok | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 |
| Can sleep well at night because of electric fan | 1 | 0 | 3 | 0 | 7 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

Impact on Household – Mini Grid

| | TOTAL | CAGELCO | PALECO | DIELCO |
|--|-------|---------|--------|--------|
| Base: Total Interviews | 89 | 20 | 29 | 40 |
| | % | % | % | % |
| Quality of lighting (i.e. mas lumiliwanag ang buong bahay) | 40 | 35 | 38 | 45 |
| Convenience (i.e. easy to work at home) | 29 | 15 | 38 | 30 |
| News & Entertainment (i.e. can watch TV, nakaka-relax, updated on events) | 29 | 55 | 10 | 30 |
| Children can study at night | 15 | 40 | 0 | 13 |
| Nagkaroon ng appliances (radio,TV,ref,electricfan,flat iron) | 10 | 0 | 10 | 15 |
| Can do household chores at night (i.e. maglinis, maglaba, magluto, maghugas ng pinagkainan, mamalantsa, etc.) | 6 | 5 | 7 | 5 |
| Safety & Security (i.e safe from fire, safer at night) | 6 | 5 | 14 | 0 |
| Nakakain sa gabi kasi maliwanag | 4 | 20 | 0 | 0 |
| Can work at night/ Nakakapagtinda | 3 | 0 | 3 | 5 |
| Sari sari store/ dumami ang tindahan / tindahan | 3 | 0 | 3 | 5 |
| Less cost/ expense | 2 | 0 | 3 | 3 |
| We have more time to sit together /magbonding because theres a light | 2 | 5 | 3 | 0 |
| Nakakapaglaro na ang mga bata (chess) | 2 | 5 | 0 | 3 |
| Gustong magkaroon ng appliances / makapundar ng appliances | 1 | 0 | 0 | 3 |
| Nakakapagkwentuhan sa gabi/chismisan | 1 | 0 | 3 | 0 |

Impact on Household - Solar

| | TOTAL | IFELCO | QUEZELCO | AMORE |
|--|-------|--------|----------|-------|
| Base: Total Interviews | 401 | 60 | 31 | 310 |
| | % | % | % | % |
| Quality of lighting (i.e. mas maliwanag) | 48 | 30 | 52 | 51 |
| Children can study and make their assignments at night | 47 | 68 | 45 | 44 |
| Can do household chores at night (i.e. maglinis, maglaba, magluto, nakakapagtahi, nakakapagsalok ng tubig, napapakain ang baboy, etc.) | 26 | 38 | 23 | 24 |
| Can do work/livelihood at night (Nakakapagtrbaho, nakakagawa ng lesson plan, nakakapagbayo, handicrafts - basket, softbroom, etc.) | 22 | 25 | 16 | 22 |
| News & Entertainment (i.e. can watch TV, listen to radio, nakaka-relax, may napapaglibangan) | 18 | 22 | 16 | 18 |
| Convenient to yse (i.e. easier to move around the house, can use appliances, easy switching on, etc.) | 14 | 5 | 26 | 15 |
| Security & Safety (i.e. safe from fire, safe to walk at night) | 4 | 2 | 0 | 5 |
| Nakakapaglaro na ang mga bata (chess) | 4 | 2 | 0 | 5 |
| Can own electric appliances | 4 | 0 | 3 | 5 |
| Less Expense/Cost | 3 | 3 | 3 | 4 |
| Hindi na nangingitim ang ilong, mas malinis ang bahay | 3 | 3 | 13 | 2 |
| Additional Source of Income/Livelihood (i.e. sari-sari store, videoke, etc.) | 2 | 0 | 10 | 1 |
| Nakakapagkwentuhan sa gabi/chismisan | 2 | 0 | 3 | 2 |

Perceived Negative Effects On Households - Grid

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURECO | SURNECO |
|---|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|
| Base: Total Interviews | 670 | 30 | 70 | 70 | 60 | 60 | 50 | 150 | 30 | 70 | 40 | 40 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| PERCEIVED NEGATIVE EFFECTS | 16 | 13 | 19 | 9 | 10 | 12 | 14 | 20 | 0 | 19 | 17 | 30 |
| | | | | | | | | | | | | |
| Sleeping late because of TV/ Lack of sleep | 7 | 3 | 4 | 6 | 5 | 3 | 8 | 8 | | 11 | 13 | 10 |
| Umiingay dahil sa inuman, lasing, sing-along, VCD, Radio, TV, Nagkukuwentuhan | 2 | | 1 | | 2 | | | 1 | | 4 | 5 | 10 |
| Hindi nakakapag-aral ang mga bata kasi mas inuuna manood ng TV | 2 | | 3 | | 2 | 5 | 2 | 1 | | 1 | | 3 |
| Children get to watch adult programs / porn | 1 | | 1 | | | 2 | | 3 | | 1 | | |
| Mga bata Nagiging tamad na magtrabaho sa bahay dahil sa panunuod ng TV | 1 | 3 | | 1 | | | 2 | 1 | | | | |
| Hindi nakakapagtrabaho ng maayos sa bahay dahil sa TV / napapabayaang trabaho | 1 | | 6 | | | | 2 | | | | | |
| Lumaki ang konsumo, Lumaki ang bayaran | 1 | | | | | 2 | | 2 | | 1 | | |

Perceived Negative Effects On Households – Grid (cont'n)

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURECO | SURNECO |
|---|-------|--------|---------|--------|----------|--------|----------|-------|---------|-------|-----------|---------|
| Base: Total Interviews | 670 | 30 | 70 | 70 | 60 | 60 | 50 | 150 | 30 | 70 | 40 | 40 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| Naglalakwatsa sa gabi, late na umuwi | * | | | | | | | 1 | | | 3 | |
| Dumadami ang naglalasing sa gabi / nagiinuman | * | | | | | | | | | 1 | 5 | |
| Kapag nasobrahan ang gamit sa kuryente (magastos, lumalaki ang gastos, bayaran | * | | | | | 2 | 2 | 1 | | | | |
| Nakakapanood ng malalawang palabas / porn, may mga naging maniac | * | | | | 3 | | | | | | | |
| Nagkaroon ng iringan /Nag aaway dahil hindi mag kasundo kung ano ang panonoorin | * | | 3 | | | | | | | | | |
| Dagdag gastos dahil may monthly bill na binabayaran | * | | | 1 | | | | 1 | | | | |
| Dumami ang lamok at iba pang insekto dahil naakit sa ilaw | * | 7 | | | | | | | | | | |
| Naging madamot sila, kapag gusto makinood ng TV nagsasara sila ng pintuan/ sumama yung ugali kalamo kung sino | * | | 1 | | | | | | | 1 | | |

Perceived Negative Effects On Households – Mini Grid

| | TOTAL | CAGELCO | PALECO | DIELCO |
|--|-----------|-----------|------------|-----------|
| Base: Total Interviews | 89 | 20 | 29 | 40 |
| | % | % | % | % |
| PERCEIVED NEGATIVE CHANGES | 17 | 10 | 0 | 33 |
| Children sleep late because of TV / napupuyat | 6 | 0 | 0 | 13 |
| Naglalakwatsa sa gabi, late na umuwi | 1 | 0 | 0 | 3 |
| Hindi nakakapag-aral ang mga bata kasi mas inuuna manood ng TV | 1 | 0 | 0 | 3 |
| Ang mga bata nasanay na sa malamig na inumin | 1 | 0 | 0 | 3 |
| Gabi na matulog ang mga tao | 1 | 0 | 0 | 3 |
| Napupuyat kakapanood ng TV | 1 | 0 | 0 | 3 |
| Umiingay dahil sa (inuman, lasing, sing-along, VCD, Radio, Generator, TV, Nagkukuwentuhan) | 4 | 5 | 0 | 8 |
| Nagiging crowded ang loob ng bahay dahil yung walang TV nakikipanood | 1 | 5 | 0 | 0 |
| Hindi nakakasave napupunta na lang sa pambayad sa kuryente | 1 | 0 | 0 | 3 |
| Ang ibang bahay may ilaw, ang ibang bahay wala | 1 | 0 | 0 | 3 |
| | | | | |
| NO NEGATIVE CHANGES PERCEIVED | 83 | 90 | 100 | 68 |

Perceived Negative Effects On Households - Solar

| | TOTAL | IFELCO | QUEZELCO | AMORE |
|---|-----------|-----------|------------|-----------|
| Base: Total Interviews | 401 | 60 | 31 | 310 |
| | % | % | % | % |
| PERCEIVED NEGATIVE EFFECTS | 14 | 10 | 0 | 17 |
| Children sleep late/ napupuyat because of TV, Nagiging Tamad | 8 | 2 | 0 | 10 |
| Gabi na nakakatulog, napupuyat ang pamilya | 2 | 0 | 0 | 3 |
| Gabi na matulog ang mga tao | 0 | 0 | 0 | 0 |
| Nakakapanood ng malalasang palabas / porn (may mga naging maniac | 0 | 0 | 0 | 0 |
| Napupuyat kakapanood ng TV | 2 | 0 | 0 | 2 |
| Maraming tambay kahit gabi | 0 | 0 | 0 | 0 |
| Umiingay/ gumugulo dahil sa (inuman, lasing, sing-along, VCD, Radio, TV, Nagkukuwentuhan) | 3 | 0 | 0 | 4 |
| Increase in expenses because of monthly bill | 1 | 8 | 0 | 0 |
| Others | 1 | 0 | 0 | 1 |
| No Response | 1 | 0 | 0 | 2 |
| | | | | |
| NO NEGATIVE EFFECTS PERCEIVED | 86 | 90 | 100 | 83 |

Impact on Community - Grid

| | TOT AL | IFEL CO | CAG ELC O | ISEL CO | QUE ZEL CO | PAL ECO | CAN ORE CO | ALE CO | MAS ELC O | ILEC O | ZAM SUR ECO | SUR NEC O |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|------------------|
| Base - Total Interviews | 670 | 30 | 70 | 70 | 60 | 60 | 50 | 150 | 30 | 70 | 40 | 40 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| <u>ACCESS TO SERVICES (NET)</u> | <u>36</u> | <u>30</u> | <u>33</u> | <u>43</u> | <u>78</u> | <u>50</u> | <u>32</u> | <u>29</u> | <u>23</u> | <u>33</u> | <u>18</u> | <u>10</u> |
| Nagkaroon na ng street lights/ dahil sa poste | 16 | 0 | 11 | 20 | 5 | 47 | 10 | 20 | 13 | 13 | 10 | 8 |
| Nagkaroon na ng ilaw sa barangay hall | 13 | 23 | 17 | 20 | 62 | 2 | 4 | 6 | 0 | 4 | 3 | 0 |
| Nagkaroon na ng kuryente sa school | 7 | 13 | 13 | 13 | 8 | 2 | 2 | 6 | 3 | 4 | 5 | 3 |
| Nagkaroon ng ilaw ang chapel (ermita) | 4 | 0 | 1 | 1 | 30 | 0 | 0 | 1 | 0 | 1 | 0 | 3 |
| Nagkaroon na ng ilaw sa health center | 2 | 13 | 3 | 0 | 5 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| Nagkaroon ng heath center | 1 | 0 | 0 | 0 | 5 | 0 | 10 | 0 | 3 | 0 | 0 | 0 |
| Nagkaroon ng computer sa barangay hall | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Nagpatayo ng bagong school | 1 | 0 | 1 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 |
| Nagkaroon ng ilaw ang basketball court / solar | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 1 | 0 | 0 |

Impact on Community - Grid (cont'n)

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALCO | CANORECO | ALECO | MAS ELC O | ILECO | ZAM SUR ECO | SUR NEC O |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|-----------|
| Base - Total Interviews | 670 | 30 | 70 | 70 | 60 | 60 | 50 | 150 | 30 | 70 | 40 | 40 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| ACCESS TO SERVICES (NET) (cont'n) | 36 | 30 | 33 | 43 | 78 | 50 | 32 | 29 | 23 | 33 | 18 | 10 |
| Nagkaroon ng computer sa school | * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| Nagkaroon na ng ilaw ang gymnasium | * | 0 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Napaganda nila ang daan nilagyan ng mga bato/graba | * | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| Nagkaroon ng palaruan (duyan duyan)/basketball court | * | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 |
| Dahil sa kuryente nadagdagan ang school sa barangay namin | * | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Nagkaroon ng plaza at may ilaw | * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| Naipaayos ang barangay hall | * | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Pwede ng manganak sa health center | * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Nagkaroon ng telepono ang baryo | * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Nagpatayo ng barangay | * | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Nagkaroon ng drainage sa barangay | * | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nagkaroon ng clinic | * | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |

Impact on Business Activity - Grid

| | TOTAL |
|---|------------------|
| Base: Total who mentioned Electricity encouraged businesses | 42 |
| | |
| <u>HAVE BUSINESS</u> | <u>33</u> |
| Sari-sari Store | 21 |
| Pampasada Motorboat | 2 |
| Handicraft | 2 |
| Buy and Sell (Ii.e. Scrap Metal, Abaka,uling,bolo, etc.) | 2 |
| Ice candy/ Yelo | 2 |
| Jeep operator | 2 |
| Nagpaparent ng Truck | 2 |
| Cellphone Charging | 2 |
| Operator ng Single Motor (Pinarerentahan) | 2 |
| Coconut Wine | 2 |
| | |

Impact on Community – Mini Grid

| | TOTAL | CAGEL CO | PALEC O | DIELC O |
|---|-------|-------------|------------|------------|
| Base: Total Interviews | 89 | 20 | 29 | 40 |
| | % | % | % | % |
| Better quality of lighting | 38 | 35 | 10 | 60 |
| News & Entertainment (i.e. can watch TV, nakapag-relax, listen to radio) | 34 | 80 | 3 | 33 |
| Safety & Security (i.e. hindi na nakakatakot sa gabi, hindi na nangangamba umuwi sa gabi, etc.) | 20 | 10 | 38 | 13 |
| Nagkaroon na ng street lights | 12 | 0 | 28 | 8 |
| Children can study at night | 8 | 10 | 0 | 13 |
| More convenient to do household chores | 7 | 0 | 3 | 13 |
| Nagkaroon ng appliances (radio,TV,ref,electricfan,flat iron) | 4 | 0 | 7 | 5 |
| Can do household chores at night (i.e.maglinis,maglaba,magluto,maghugas ng pinagkainan,mamalantsa,etc.) | 1 | 0 | 3 | 0 |
| Can sell ice / yelo | 1 | 0 | 3 | 0 |
| Mas maunlad ang barangay | 1 | 0 | 3 | 0 |
| Wala ng pagala gala sa gabi dahil may kuryente na | 1 | 0 | 3 | 0 |
| Medyo nagiba ang ayos ng mga dalaga kasi nakikita na nila ang makabagong uso / naging moderno | 1 | 0 | 3 | 0 |

Impact on Community - Solar

| | TOTAL | IFELCO | QUEZEL CO | AMORE |
|---|-----------|----------|--------------|-----------|
| Base: Total Interviews | 401 | 60 | 31 | 310 |
| | % | % | % | % |
| Better quality of lighting | 51 | 7 | 35 | 61 |
| Lumiliwanag ang buong bahay / napapaliwanag ang buong bahay /mas maliwanag ang bahay | 14 | 0 | 23 | 16 |
| Maliwanag ang daan/tulay | 11 | 0 | 0 | 14 |
| Maliwanag ang barangay / nagliwanag ang barangay / may ilaw ang brangay / komunidad | 9 | 0 | 0 | 12 |
| Lumiwanag ang paligid kapag gabi/ lumiwanag ang kapaligiran | 9 | 0 | 0 | 12 |
| Maliwanag sa gabi / mas maliwanag sa gabi / may ilaw sa gabi | 6 | 0 | 0 | 7 |
| Mas maliwanag ang ilaw kuryente / mas malinaw na ilaw | 2 | 0 | 0 | 3 |
| May ilaw na ang mosque | 2 | 0 | 0 | 2 |
| Hindi na gaanon madilim kapag lumalabas sa gabi | 1 | 0 | 6 | 0 |
| Maliwanag na sa centro | 1 | 0 | 3 | 0 |
| Nakikita na mula sa dagat ang kabuhayan/ madaling matunton mula sa dagat ang kabahayan dahil may ilaw na / hindi na mal | 1 | 0 | 3 | 0 |
| Nagagamit overnight ang ilaw kapag may okasyon | 1 | 2 | 0 | 1 |
| May ilaw na nagagamit sa barangay pag may meeting sa gabi | 1 | 2 | 0 | 1 |
| Para makailaw ang poultry,piggery | 0 | 0 | 3 | 0 |
| Others | 3 | 5 | 3 | 2 |

Impact of Electricity on Community – Solar (cont'n)

| | TOTAL | IFELCO | QUEZELCO | AMORE |
|---|------------------|-----------------|------------------|------------------|
| Base: Total Interviews | 401 | 60 | 31 | 310 |
| | % | % | % | % |
| Safety & Security (safer at night kasi maliwanag na) | 22 | 0 | 0 | 29 |
| | | | | |
| <u>Access to Services</u> | <u>20</u> | <u>7</u> | <u>81</u> | <u>17</u> |
| Nagkaroon na ng ilaw sa barangay hall | 6 | 2 | 48 | 3 |
| Nagkaroon na ng street lights/ dahil sa poste | 5 | 0 | 3 | 6 |
| Nagkaroon ng ilaw ang chapel | 5 | 0 | 65 | 0 |
| Nagkaroon na ng kuryente sa school | 4 | 3 | 0 | 5 |
| Nagkaroon ng ilaw ang stage | 1 | 2 | 6 | 0 |
| May ilaw ang day care center | 1 | 0 | 6 | 0 |
| Nagkaroon na ng ilaw sa health center | 1 | 0 | 6 | 0 |
| Nagkaroon ng computer sa school | 1 | 0 | 0 | 1 |
| May ilaw sa session hall | 1 | 0 | 6 | 0 |
| Napaganda nila ang daan nilagyan ng mga bato/graba | 1 | 0 | 3 | 0 |
| Nagkaroon ng plaza at may ilaw | * | 0 | 3 | 0 |
| Nagkaroon ng session hall ang barangay hall | * | 0 | 3 | 0 |
| May ilaw na sa parola | * | 0 | 3 | 0 |
| Nagkaroon ng palaruan (duyan duyan)/basketball court | * | 0 | 0 | 0 |
| Others | 4 | 0 | 0 | 5 |

Perceived Negative Effects On Community - Grid

| | TOTAL | IFELCO | CAGELCO | ISELCO | QUEZELCO | PALECO | CANORECO | ALECO | MASELCO | ILECO | ZAMSURECO | SURNECO |
|---|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|----------|----------|-----------|-----------|
| Base - Total Interviews | 670 | 30 | 70 | 70 | 60 | 60 | 50 | 150 | 30 | 70 | 40 | 40 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| <u>PERCEIVED NEGATIVE EFFECTS</u> | 18 | 3 | 29 | 11 | 7 | 12 | 16 | 21 | 7 | 9 | 28 | 50 |
| Umiingay dahil sa (inuman, lasing, sing-along, VCD, Radio, TV, Nagkukuwentuhan) | 13 | 0 | 26 | 9 | 3 | 10 | 6 | 13 | 3 | 6 | 18 | 43 |
| Dumadami ang naglalasing sa gabi | 3 | 0 | 4 | 3 | 3 | 2 | 4 | 4 | 0 | 0 | 5 | 10 |
| Dumami ang gulo dahil sa Inuman, sing-along, | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 5 | 5 |
| Children sleep late because of TV | 1 | 0 | 1 | 0 | 2 | 2 | 4 | 1 | 0 | 0 | 0 | 0 |
| Naglalakwatsa sa gabi, late na umuwi | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| Hindi nakakapag-aral ang mga bata kasi mas inuuna manood ng TV | 1 | 0 | 0 | 0 | 0 | 2 | 4 | 1 | 0 | 0 | 0 | 0 |

Perceived Negative Effects On Community – Mini Grid

| | TOTAL | CAGELCO | PALECO | DIELCO |
|---|-----------|-----------|-----------|-----------|
| Base: Total Interviews | 89 | 20 | 29 | 40 |
| | % | % | % | % |
| PERCEIVED NEGATIVE EFFECTS | 25 | 30 | 10 | 33 |
| Umiingay dahil sa (inuman, lasing, sing-along, VCD, Radio, Generator, TV, Nagkukuwentuhan | 15 | 15 | 3 | 23 |
| Children sleep late because of TV / napupuyat kakapanood ng TV / naglalaro sa labas | 2 | 5 | 0 | 3 |
| Dumadami ang naglalasing sa gabi / nagiinuman | 2 | 0 | 0 | 5 |
| Hindi nakakapag-aral ang mga bata kasi mas inuuna manood ng TV | 1 | 5 | 0 | 0 |
| Ang mga bata naglalasing, natuto mag inom | 1 | 0 | 0 | 3 |
| Gabi na matulog ang mga tao | 1 | 0 | 3 | 0 |
| Dagdag gastos dahil may monthly bill na binabayaran | 1 | 0 | 0 | 3 |
| Nagkaroon ng utang kasi hulugan, nagkaroon ng obligasyon | 1 | 5 | 0 | 0 |
| Naghirap ang tao dahil mahal ang konsumo ng kuryente | 1 | 0 | 3 | 0 |
| Lumaki ang konsumo, Lumaki ang bayaran | 1 | 0 | 3 | 0 |
| NO NEGATIVE EFFECTS PERCEIVED | 75 | 70 | 90 | 68 |

Perceived Negative Effects On Community - Solar

| | TOTAL | IFELCO | QUEZELC O | AMORE |
|---|-----------|-----------|--------------|-----------|
| Base: Total Interviews | 401 | 60 | 31 | 310 |
| | % | % | % | % |
| PERCEIVED NEGATIVE EFFECTS | 13 | 3 | 0 | 16 |
| | | | | |
| Disruption of peace & order (i.e. umiingay dahil sa lasing, nagkakasugal, etc.) | 8 | 3 | 0 | 10 |
| Children sleep late because of TV / napupuyat, naglalakwatsa | 3 | 0 | 0 | 5 |
| Dumadami ang naglalasing sa gabi / nagiinuman/ tumtambay | 2 | 0 | 0 | 3 |
| Kung saan may ilaw doon nila nilalagay ang hayop nila para dumumi | 0 | 0 | 0 | 0 |
| | | | | |
| NO NEGATIVE EFFECTS PERCEIVED | 87 | 97 | 100 | 84 |
| No Response | 2 | 2 | 3 | 2 |

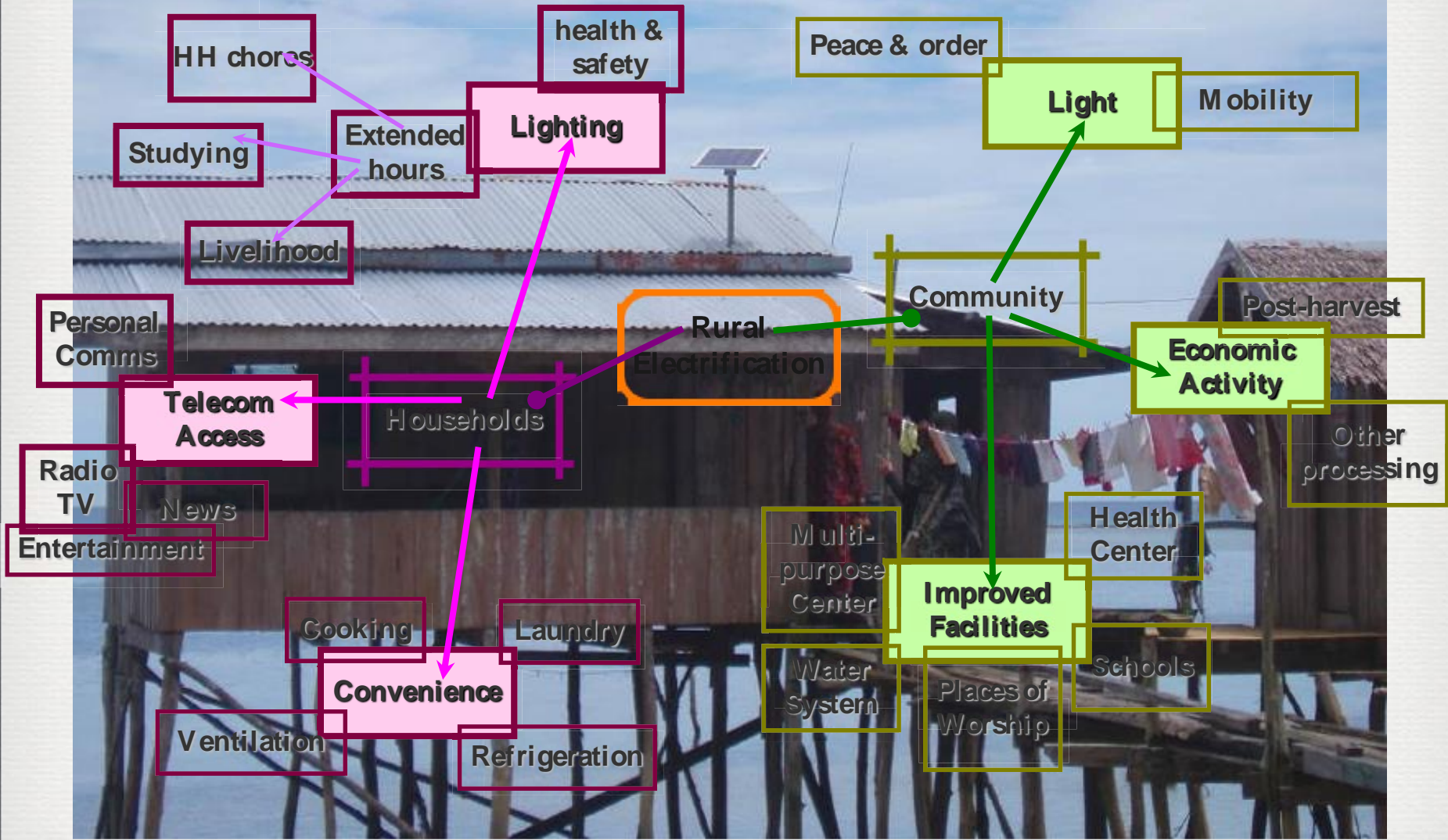
BEACON TO HEART AND SOUL : A PHILIPPINE STORY ON COMMUNITIES AND SOLAR POWER



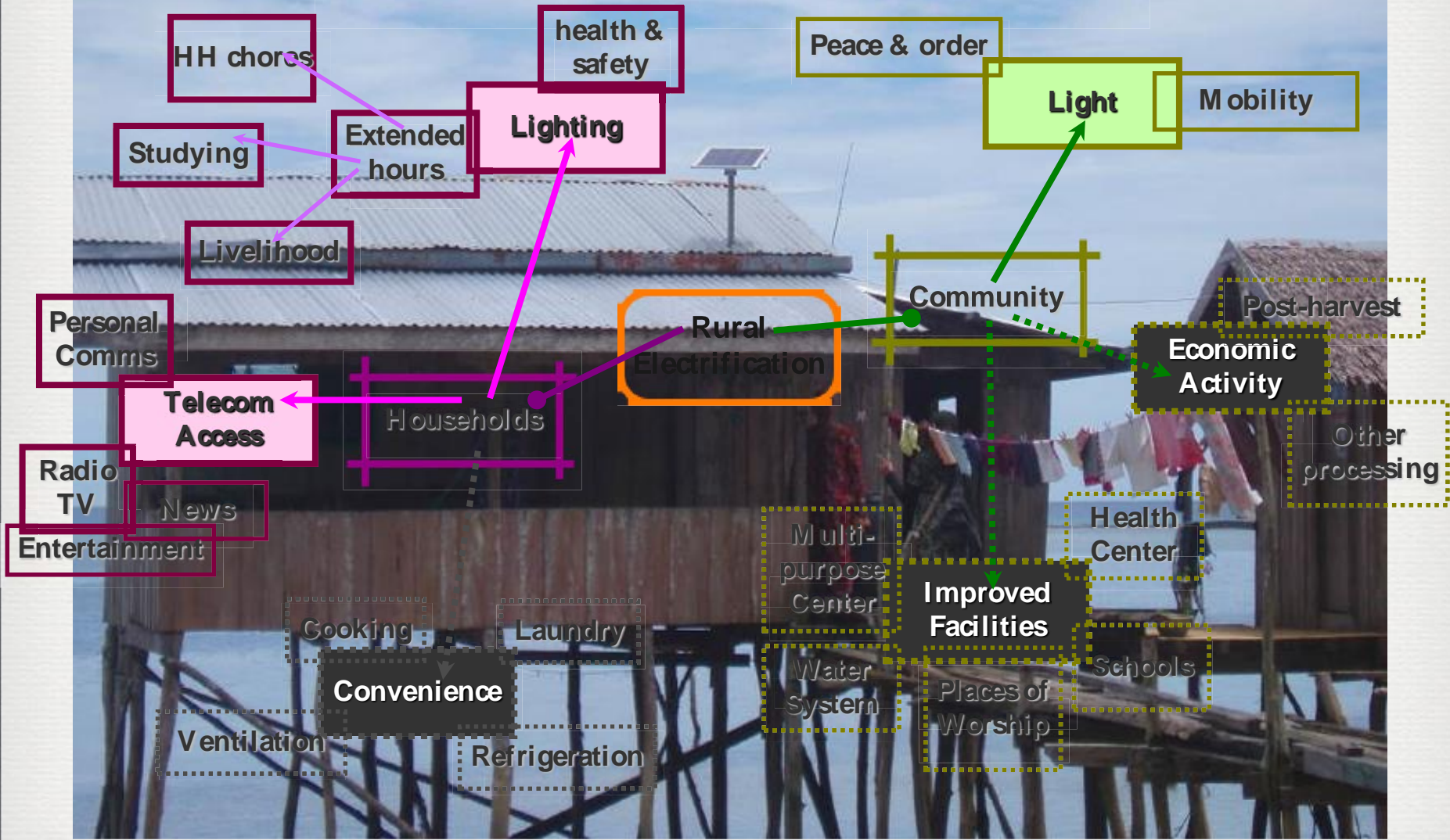
PROJECT **BEACON**

- Acronym for **B**aranggay (Village) **E**lectrification **A**ssistance for **C**ountryside **D**evel**O**pme**N**t
- Electrified 300,000 households through : (1) Grid Connection, (2) Diesel Generator Sets, (3) Solar (PV) Home Systems (25,000 households)
- Partnered with over 50 Distribution Utilities nationwide
- Created over 100 people' s organizations
- Partnered with USAID, the Dutch Government, The British Council
- Total Project Cost: US\$40Million

Conceptual Framework



What was Delivered



BEACON Key Results

- Energized the poorest barangays in the country
- Provided limited household and community benefits
- Initiated local participation and capacity building
- Piloted partnerships with government and other donors
- *Documented the program for all stakeholders*

Lessons Learned

- Development requires more than electrification. Donor agencies have to work together to ensure convergence of initiatives.
- Local institutional development and participation are crucial to relevance of electrification efforts.
- Sustainability of off-grid systems requires that the community be given competency training and continuing linkage with external support organizations.
- Some technology options need rethinking.

Recommendations

- Site-specific planning in lieu of generic target-setting and budgeting
 - Sustainability and the role of Renewable Energy
 - Technical and financial review of options
- Enhanced roles of local institutions at the community *and* municipal/ provincial/ regional levels
- New paths for *intra*-government and *multi*-donor partnership

Challenges to Sustainable Operation

| GRID | DIESEL MINI-GRID | SOLAR |
|-------------------------------|--|--|
| About 1/3 do not pay on time | High cost and difficult transport of diesel | Battery replacement |
| High System Losses for the EC | High cost of maintenance | Problematic battery charging station |
| Low Load Factor | Limited operating hours and very low Load Factor | Continuing technical support and after sales service |

Organizational Capacity



Alliance for Mindanao Off-grid Renewable Energy Program



USAID
FROM THE AMERICAN PEOPLE



Department of Energy

- Provide list of “barangays needing electrification

AM ORE

- Initial visit and assesment of selected barangays
- Selects barangays for electrification

Social Preparation

- Stakeholder’s Dialogue
- Barangay Electrification Plan Development
- Community Preparation Activities

SUSTAINABILITY

- Design of O & M Collection System
- Training and Local Capability Building

Systems Installation

- >Project Design
- Procurement
- installation

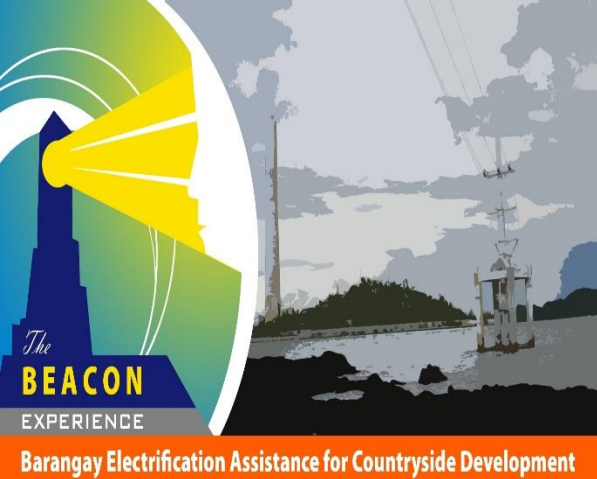
SUSTAINABLE SOLAR MARKET PACKAGES PROJECT OF THE WORLD BANK - **RURAL POWER PROJECT**

OBJECTIVES

- Create a market for solar products to bring down the cost of equipment
- Provide other applications of solar power other than light

RESULT OF THE PROJECT

- Failure. Definitely did not create the desired market
- Suppliers left the project with losses



- Community involvement is important
- Smart approach to determining technical requirement
- Every household/ community has its own unique requirement
- Importance of partnerships



- Communities are sustainability mechanisms
- Importance of values formation
- Be culture sensitive
- Importance of collaboration



- Do market development if the community can afford the market
- The importance of pre-project assessment
- Don't do a part 2 if you haven't even assessed part 1



VISION:

Productive Communities through Sustainable Rural Electrification

PERSPECTIVE

FINANCING

SOCIAL DEVELOPMENT PROGRAMS

POLICIES

STRATEGICAL AIMS

- Access to electrification for the remotest and poorest communities
- More households will benefit from the program
- Funding available for livelihood dev't and basic services enhancement

- Improved capacity to pay of communities
- Basic Services Enhancement : Education & Health
- Payment recovery for intensification

- Public-private Sector Partnerships
- Flexible sustainability models
- Subsidies from government and other funding agencies

CRITICAL SUCCESS FACTORS

- Involvement of Micro-financing institutions
- Access to commercial bank funding
- Micro-financing community organizing

- More programs on livelihood development
- Integrating programs on livelihood development and basic services enhancement to electrification

- Energy Family involvement in rural electrification (ERC,NPC,NEA)
- DOE led sustainable rural electrification projects: World Bank - RPP

STRATEGIC MEASURES

- Banks relaxes loan requirements for rural electrification programs
- More MFI's provide windows for rural electrification
- More Barangay power Associations (BAPA)

- Integrated development programs participated in by government, NGO's and the private sector
- Sustainability strategy adopted by beneficiary barangays or households

- Involvement of Energy Family in strategic planning for rural electrification
- DOE led sustainability programs existing

INPUTS

ACTIVITIES

OUTPUT

OLD

Hardware: Poles and Wires
Labor

Construction of Grid extension lines
Testing/Commissioning
Switch-on
Organizing Barangay Power Association
Turn-Over to Electric Cooperative

Barangays with electricity

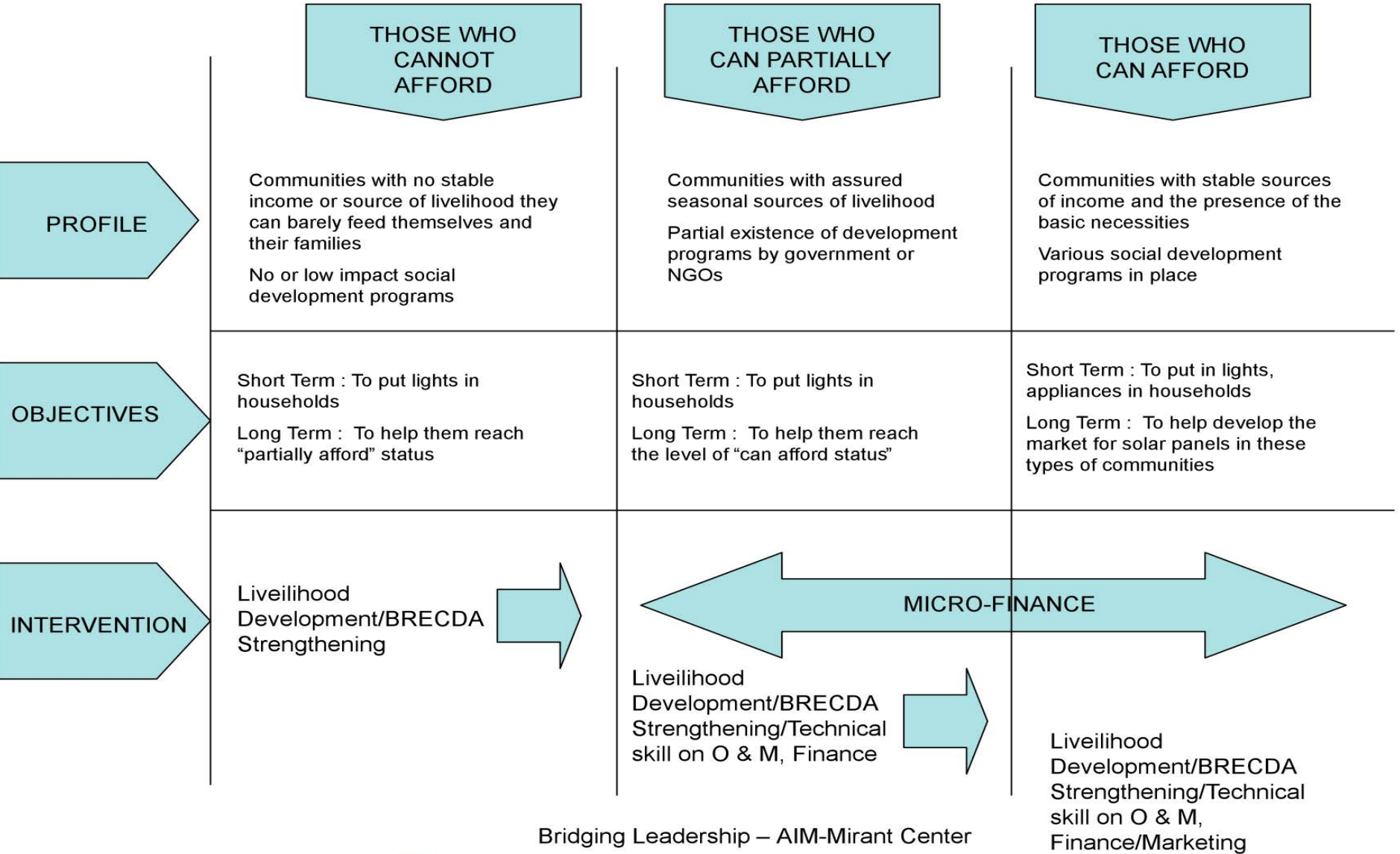
NEW

Hardware
Barangay Development Associations
Development financing
Subsidies
Social Development Programs

Construction of lines/installation of panels (Bayanihan)
Capacity Building on Livelihood and Basic Services enhancement
Development of sustainability and intensification strategy

Productive Communities

MARKET SEGMENTATION



SUSTAINABLE COMMUNITIES

**Sustainable
and Relevant
Programs**

**Economic
Development
Activities**

**Values
Formation**



Assistance through Renewable Technology and Social Preparation for the

Household Electrification

Upliftment of Lives

HEART & SOUL





TEAM ENERGY FOUNDATION

Empowering communities, Uplifting lives



THANK YOU!!

