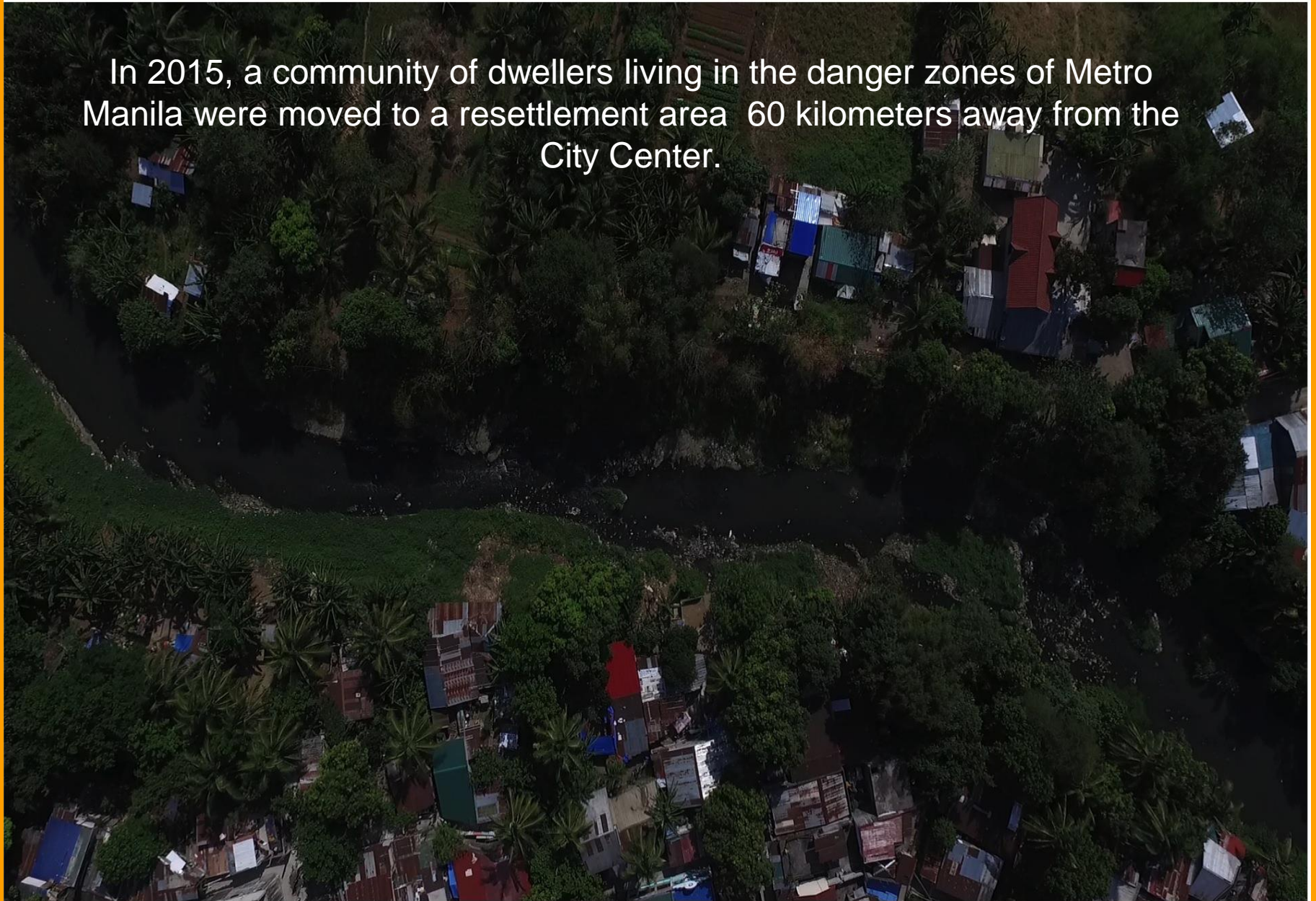


Powering Communities through Solar Energy

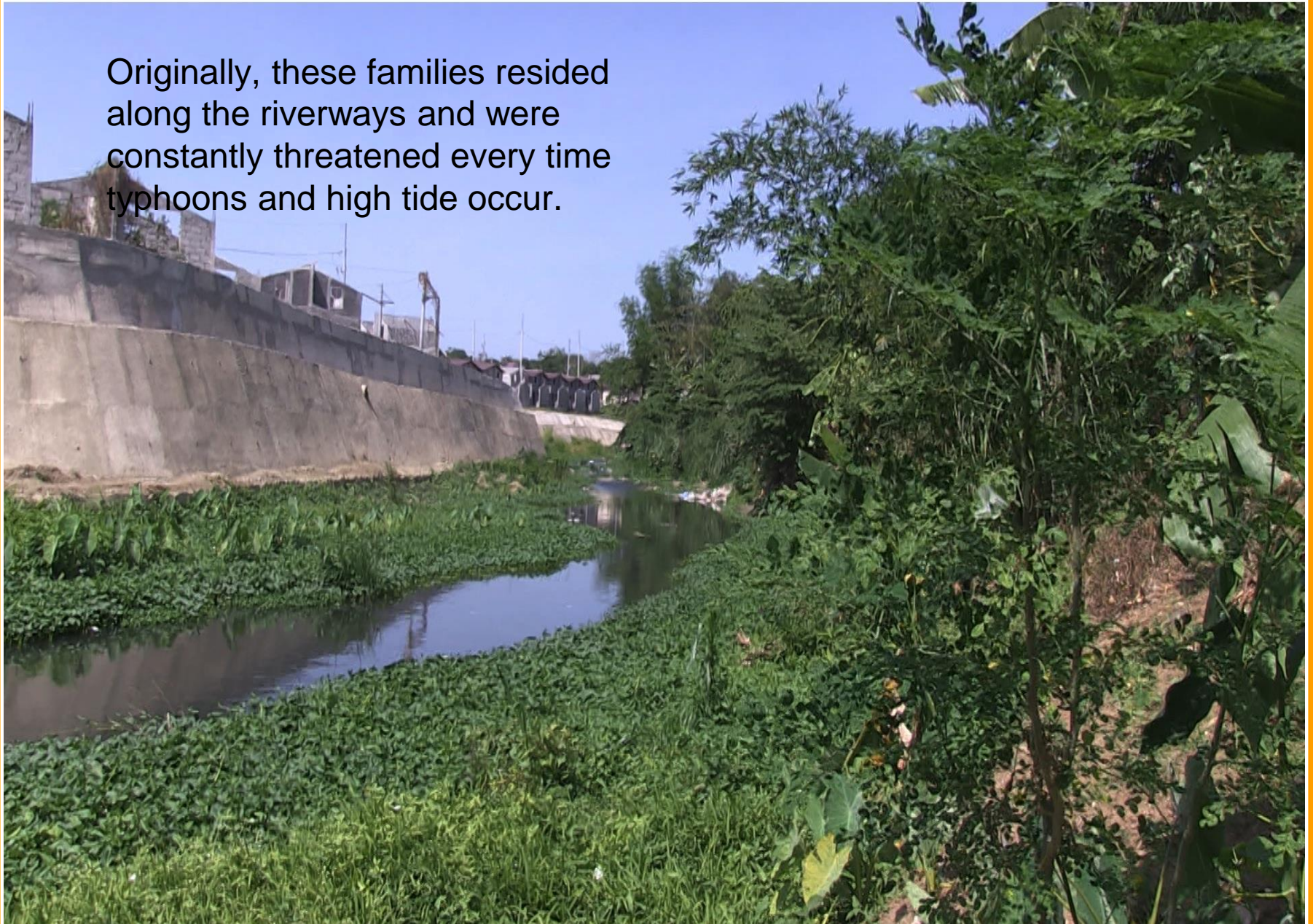


August 2018
Marco Polo Hotel, Cebu, Philippines

In 2015, a community of dwellers living in the danger zones of Metro Manila were moved to a resettlement area 60 kilometers away from the City Center.



Originally, these families resided along the riverways and were constantly threatened every time typhoons and high tide occur.



HOUSING SITE

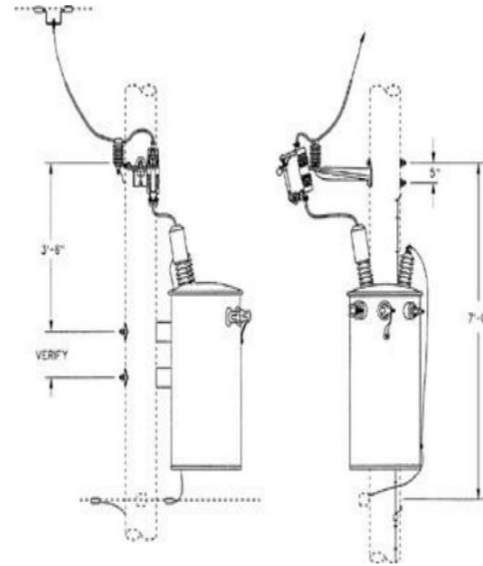
LOCATION	SAN JOSE DEL MONTE, BULACAN
Originator	Kilos Maralita/ALPAS
Funding Source	Socialized Housing Finance Corporation
Size per Lot	20 units : 280sq.m. 5 units : 250sq.m
Price/ Unit	Php450k/unit
No of Bldgs&Units	26 Buildings 21 units/bldg 570 residents





Sadly, for a long time, families were unable to occupy the homes.
They have no idea when they can move in...

WHY?



Socialized housing units generally have no provisions for utilities such as water and electricity because these services are provided by private companies requiring upfront payments.



Many newbuilt socialized homes remain un-occupied because settlers do not have the resources to pay for the upfront costs.

WHAT IF WE CHANGE THE WAY ELECTRICITY IS DELIVERED?

Community Solar A Case Study

- ✓ SINAG HOMES is a non-for-profit entity dedicated towards building a small distribution network to deliver clean energy.
- ✓ It is a partnership among housing cooperatives, private sector and civil society for the delivery of services associated with providing clean electricity on-site.
- ✓ SINAG HOMES mobilizes private capital and equity contribution from housing cooperatives build the community infrastructure for clean energy.
- ✓ Assets in the Community Network such as lines, wires, switchboards, electrical infrastructure, ducts, meters, and others belong to the SINAG HOMES.



How It Works



- ✓ SINAG HOMES serves as the Community Network Operator.
- ✓ A Central Meter is installed in the Community.
- ✓ Electricity is purchased for the Community and delivered on-site.

The Technology Smart Grid

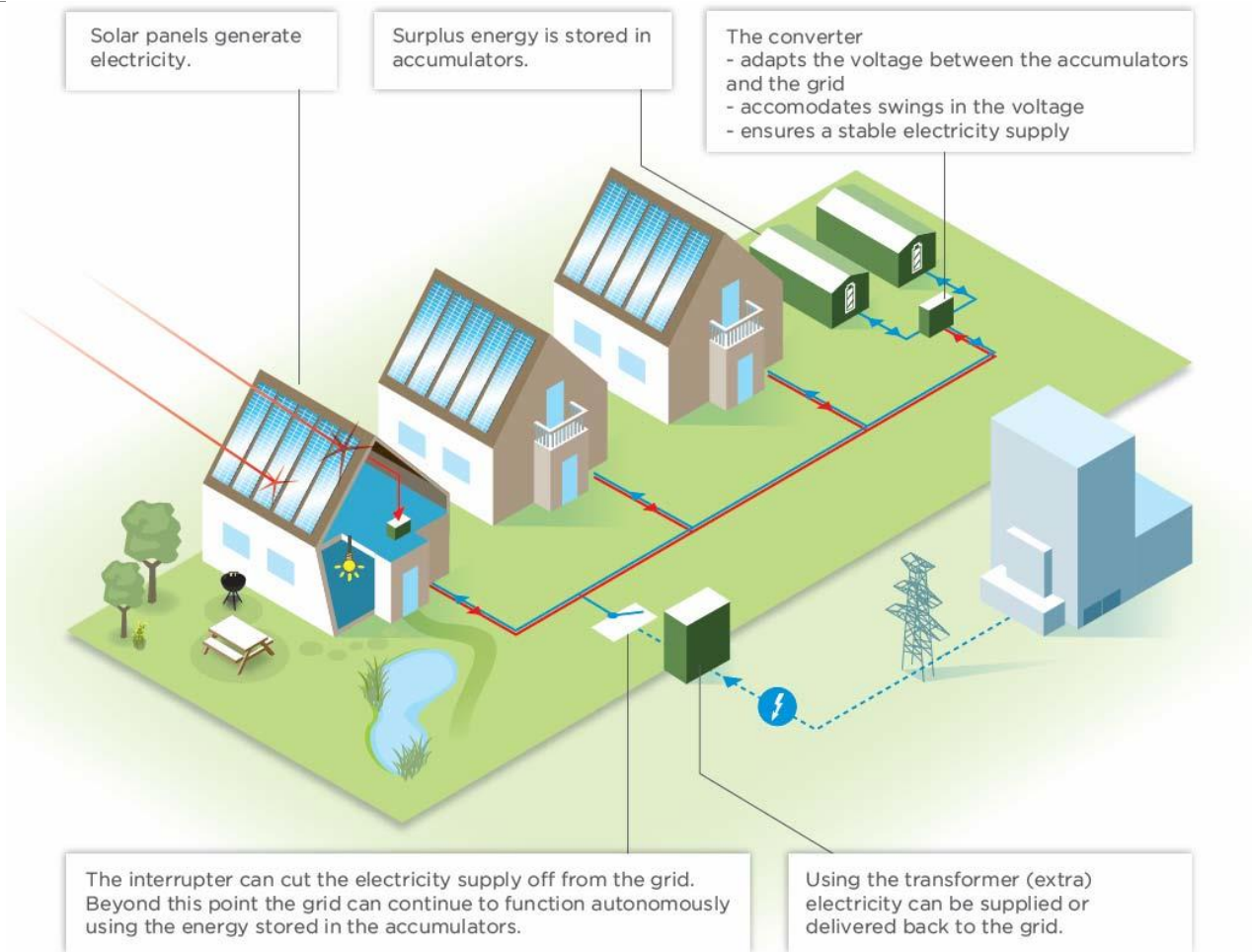
Pay-What-You-Can-Afford...



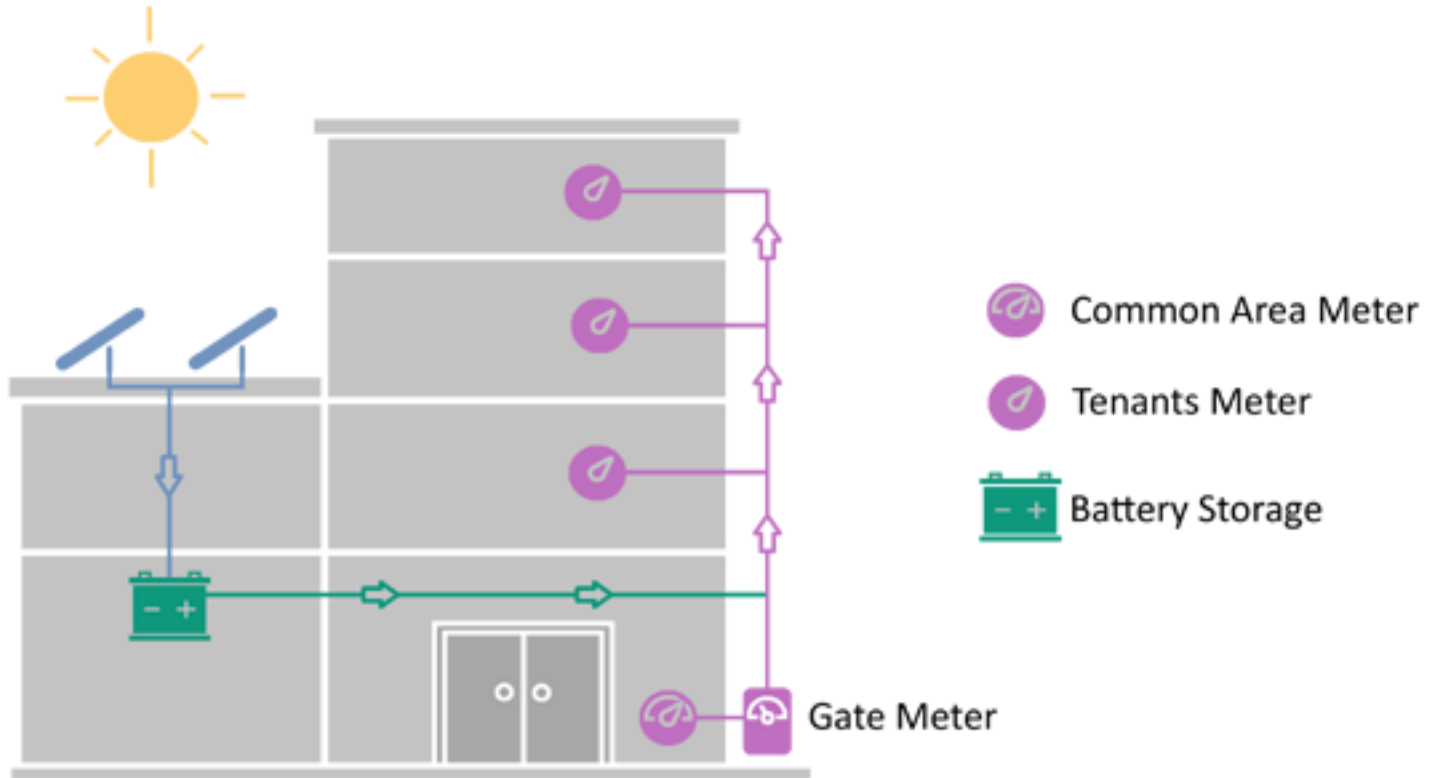
- Pay-As-You-Go Meter System is installed in individual homes.
- Homeowners adjust electricity expenses to daily consumption.
- Reloads what they can afford.
- Tracks current load balance
- Monitors consumed electricity.
- Receives notifications when low in balance

How It Works

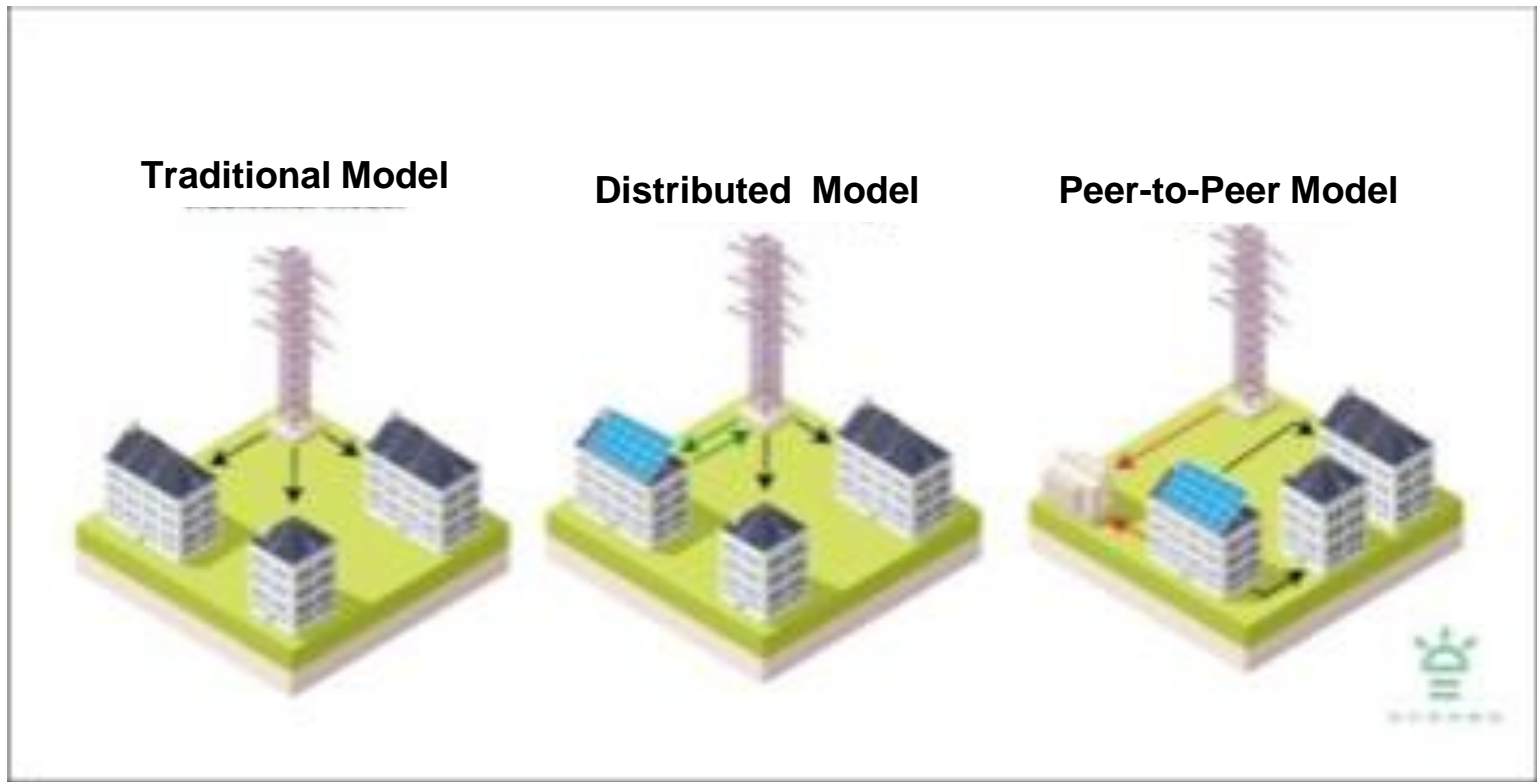
Shared Solar Energy



How It Works Shared Solar Energy



The Future Peer-to-Peer Energy Trading

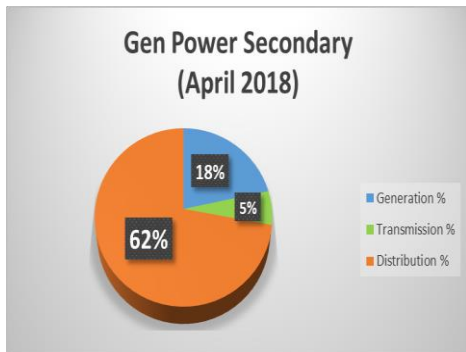


SunASIA is in partnership with ENERGO LABS to realize this innovation.

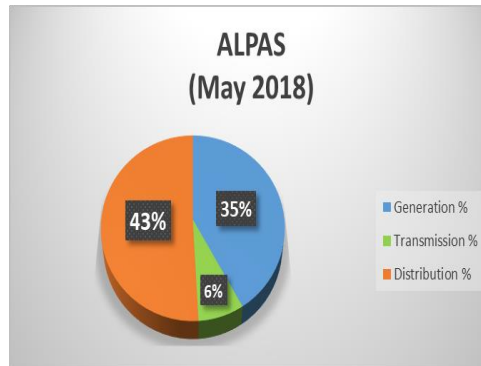
DID COMMUNITY SOLAR HELP
END-USERS

**MICROGRID AGGREGATES LOAD ENABLING COMMUNITY TO PURCHASE
POWER AT BULK RATE.**

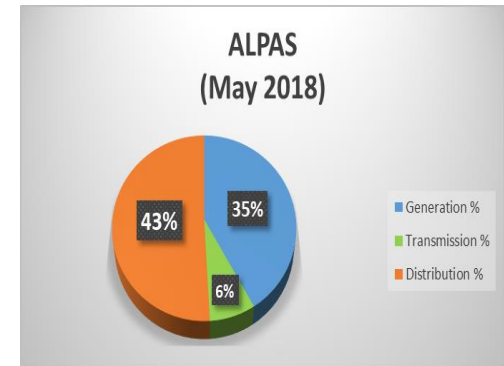




US\$0.55/kwh
Php29.59/kwh



Php14.46/kwh
US\$0.27/kwh



Php11.20/kwh
US\$0.21/kwh

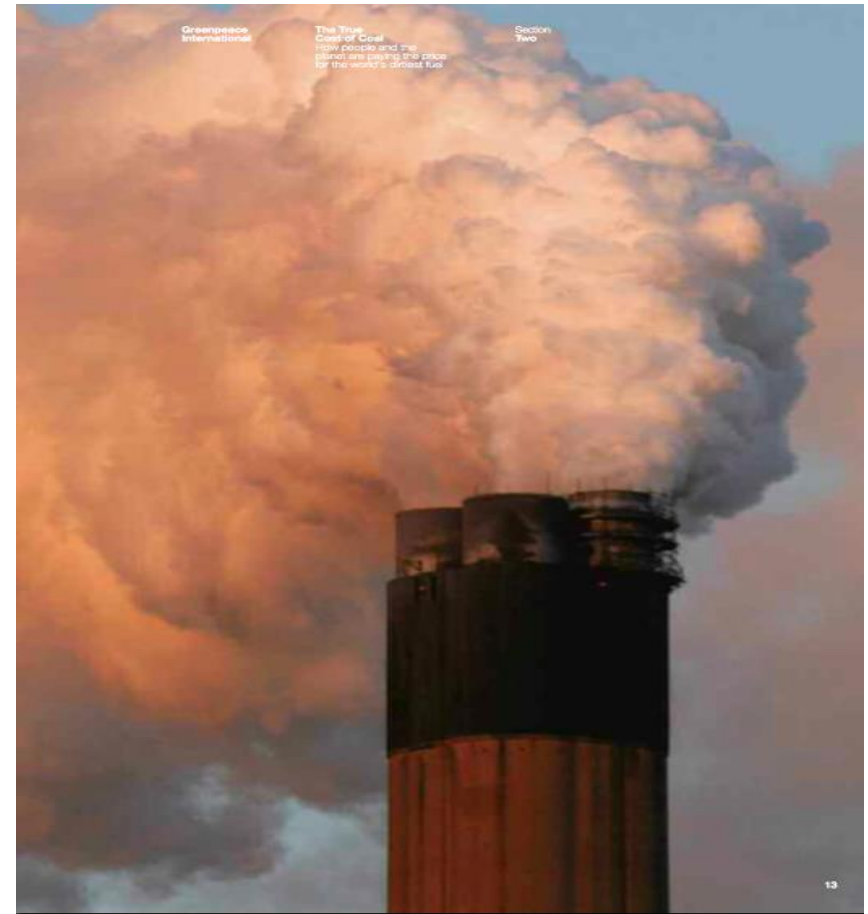
RATE REDUCTION IN JUST THREE MONTHS.....

HOMEOWNERS ASSOCIATION ALLOWS RESIDENTS TO MONITOR CONSUMPTION AND MANAGES LOAD...



Planet in Peril...

- United Nations predicted a rise in Earth's temperature to as much as 3.5degree Celsius.
- Energy-related emissions account for 80 percent of CO2 released in the atmosphere
- According to WRI, 34% rise in energy use for period 1993-2010 caused 30% increase in emissions



WHAT NEXT?



Philippine Solar Power Alliance

- Not-for-Profit association comprised by manufacturers, project developers, rooftop installers, EPC Contractors, and Utility Companies;
- Since 2010, the Alliance serves as a dialogue partner of government;
- Platform of the global movement for solar energy use;
- Builds local capacity through our regular training;
- Facilitator of technology exchange thru conferences , exhibitions and international partnership.



Service Contracts Provide Incentives to Renewable Energy BUT...

1. Incentives Available Only to Big Developers...
2. Small Developers Do Not Enjoy Any Incentives
3. Net Metering is Accessible to 100kw and below

IRR with Incentives

14%

IRR without Incentives

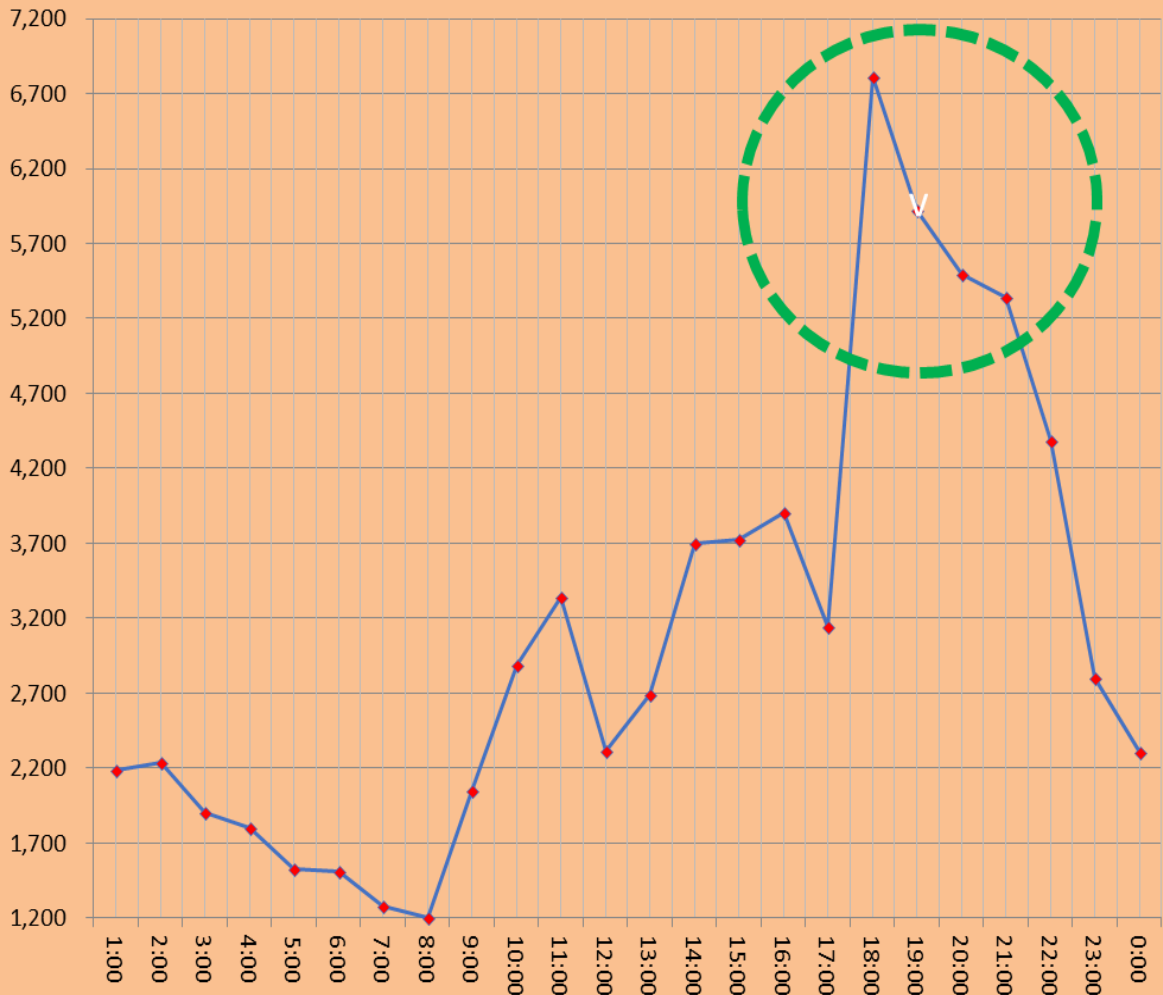
10%

Eligibility of Community Solar to Access PAG-IBIG FUNDS



ARCHITECT'S PERSPECTIVE

Time-Of-Use Tariff for Socialized Housing to Enable Reduction of Electricity Prices



Green Energy Option Allows End-Users to Contract Directly to RE Suppliers, BUT...



Republic of the Philippines
DEPARTMENT OF ENERGY
(Kagawaran ng Enerhiya)

DEPARTMENT CIRCULAR NO. DC2018- 07 - 0019

PROMULGATING THE RULES AND GUIDELINES GOVERNING THE
ESTABLISHMENT OF THE GREEN ENERGY OPTION PROGRAM
PURSUANT TO THE RENEWABLE ENERGY ACT OF 2008

- 1. Only 100kw up to 300Kw End-Users are eligible.**
- 2. Only available in Luzon & Visayas.**
- 3. Below 100KW End-Users require DOE approval.**
- 4. Renewable Energy Certificates are Earned by the DUs.**
- 5. DUs will charge wheeling rates.**

100

MW

of community
Solar were installed in
2015

100

MW

of community
Solar were added
in 2017

50%

of the distributed
solar market in
2020 will be
community solar

**WE ARE BUT A SPECK IN THE
UNIVERSE.....**

Connect to our World.



Unit 1402, Paragon Plaza,
EDSA cor. Reliance St.
Mandaluyong City, Metro Manila, Philippines

