SOLAR PHILIPPINES

PV-Storage and Microgrids: Our 24/7 Solar Future

August 3 2017, Solar Philippines

Our Dream:

Kuryenteng Mura, Maasahan, at Malinis

Para tapusin ang kahirapan sa Pilipinas

at magiging First World nation ang Pilipinas

Mission: Accelerate solar transition and end poverty worldwide

- SE Asia's only developer-investor-EPC-manufacturer, with 400 employees
- 300 MW operating or under construction
- 800 MW solar module factory
- Multi-GW pipeline in the Philippines on-grid, off-grid, utility, C&I segments; and SE Asia
- Pursuing off-grid and C&I opportunities in SE Asia and other emerging markets

Cheaper Than Coal: Dubai to Build World's Lowest-Cost Solar Plant

WRITTEN BY FORBES POSTED: 06/28/2016, 02:00PM

Forbes

World's biggest coal company closes 37 mines as solar power's influence grows

Solar Philippines offers to replace coal power plants with solar farms

5,000-MW Solar PH rollout plan to challenge energy mix

New Record Set for World's Cheapest Solar, Now Undercutting Coal

Bloomberg

Cheaper Solar in India Prompts Rethink for Coal

Solar Power Will Kill Coal Faster Than You Think

India Energy Minister, "Solar Is Now Cheaper Than Coal"

India Coal Plant Developer Switches to Solar

Coal Production Plummets to Lowest Level in 35 Years

By CLIFFORD KRAUSS JUNE 10, 2016

As Coal's Future Grows Murkier, Banks Pull Financing

By MICHAEL CORKERY MARCH 20, 2016

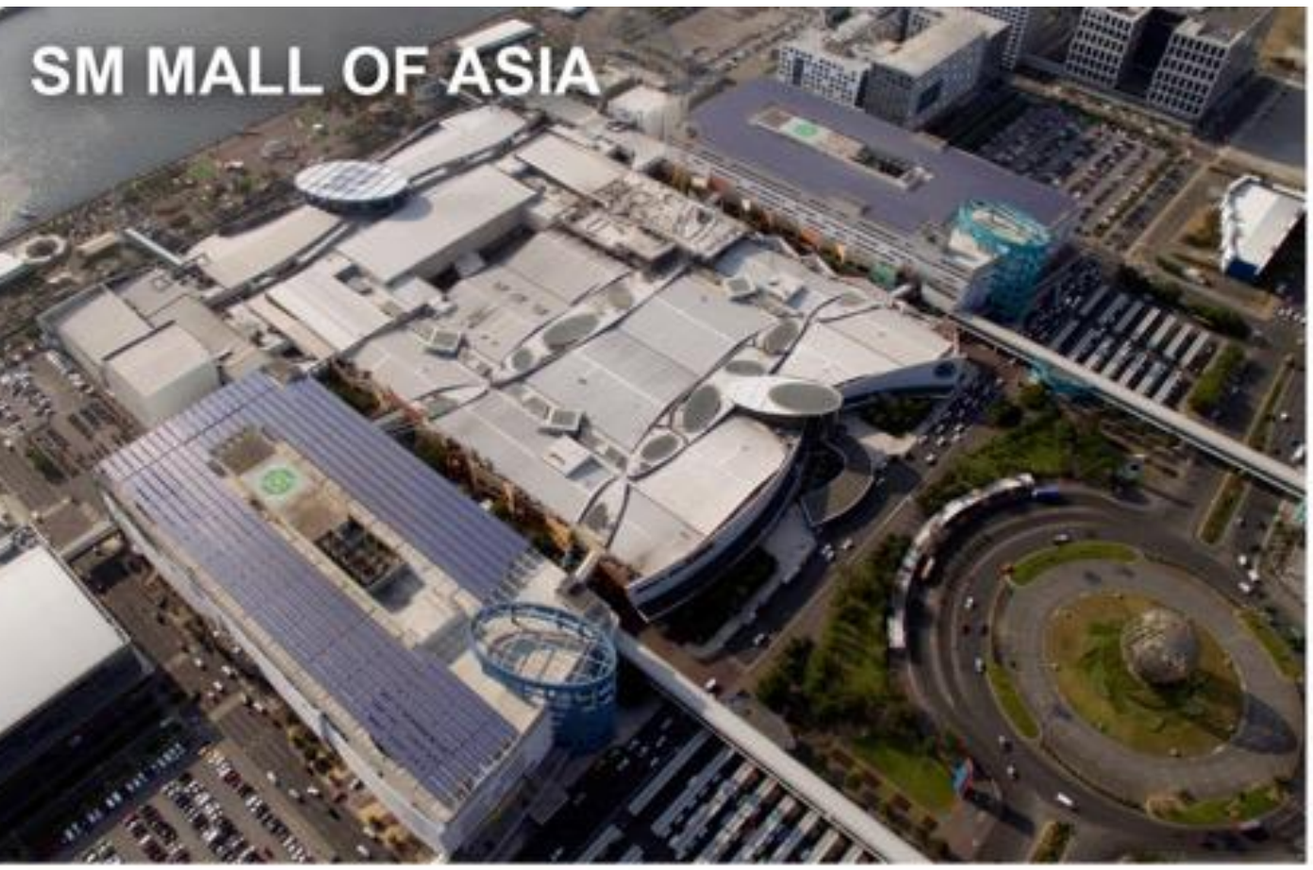
Peabody Energy, a Coal Giant, Seeks Bankruptcy Protection

By CLIFFORD KRAUSS APRIL 13, 2016

China Curbs Plans for More Coal-Fired Power Plants

The New York Times

Completed Projects



Completed Projects

Completed Projects

Completed Projects

Solar Philippines cordially invites you to the

CEREMONIAL GROUNDBREAKING OF THE CONCEPCION 150 MW SOLAR FARM

with Secretary Alfonso Cusi as Guest of Honor

SOLAR PHILIPPINES

The largest solar farm in the Philippines. The pride of Central Luzon.

Date: March 17, 2017, Friday
Time: 9:00 AM

Venue: Brgy. Sta. Rosa, Concepcion, Tarlac
Attire: Smart Casual

RSVP: Hazel Lafuente 0917.881.6684 • hazel@solarphilippines.ph Kindly confirm by March 14, 2017

First Philippine-Made Solar Panels

PV-Storage Projects in the Philippines

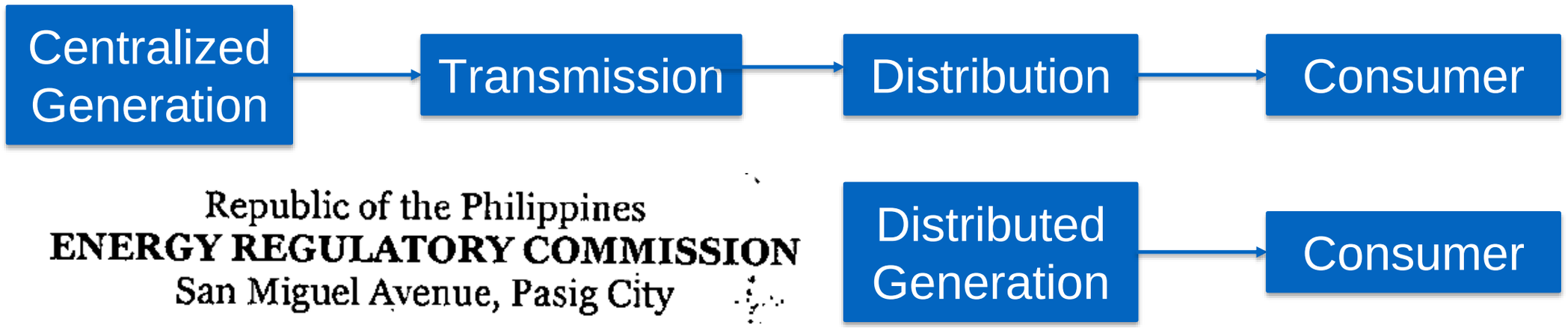
150 MW PV with 100 MWh of Storage for COD in Concepcion, Tarlac in H1 2018.

Pilot 4 MW PV, with 8 MWh of Storage for COD in Paluan, Mindoro in Q4 2017.

GOAL

PV-Storage to all 300 small island grids running on diesel in the Philippines.

Micro-Grid Regulations



Republic of the Philippines
ENERGY REGULATORY COMMISSION
San Miguel Avenue, Pasig City

LICENSING RULES FOR DISTRIBUTED ENERGY RESOURCES AND MICROGRID SYSTEMS
[ADDENDUM TO THE 2014 REVISED RULES FOR THE ISSUANCE OF CERTIFICATES OF COMPLIANCE (COCS) FOR GENERATION COMPANIES, QUALIFIED END-USERS AND ENTITIES WITH SELF-GENERATION FACILITIES]

b. **"Distributed Energy Resources (DERs)"** refer to smaller power sources that could be aggregated to provide power necessary to meet regular demand. These may also refer to demand- and supply-side resources that can be deployed throughout the system of a network service provider to meet the energy and reliability needs of the customers served by the system, including, but not, limited to renewable energy facilities, managed loads (including electric vehicle charging), energy storage, and other measures necessary to incorporate renewable generation resources, including load management and ancillary services, such as reserves, voltage control and reactive power and black start capabilities.

c. **"Distributed Generation Companies (DGCs)"** refer to entities owning and/or operating Distributed Energy Resources or microgrid systems serving a particular end-user under commercial agreements/arrangements identified herein.

d. **"End-User"** refers to any person or entity requiring the supply and delivery of electricity for its own-use.

e. **"Microgrid"** system refers to a group of interconnected loads and distributed energy resources with clearly defined electrical boundaries that acts as a single controllable entity with respect to the distribution or transmission grid, whichever is applicable and can connect and disconnect from the grid to enable it to operate in both grid-connected or island mode.

f. **"Retail Electricity Supplier (RES)"** refers to any Person or entity authorized by the ERC to sell, broker, market or aggregate electricity to the End-users.

g. **"Retail Electricity Supplier's (RES) License"** refers to the authority granted by the ERC to any person or entity to act as supplier of electricity to the Contestable Market.

Section 4. **Scope.** – There is hereby created an additional category of license covering facilities the supply of electricity, hereinafter referred to as COC-DER. The said requirement for a license shall apply to Distributed Generation Companies, owning or operating any of the following:

a. A DER or a microgrid system that is installed in the premises of, and directly connected to, the load side of an End-user with no interconnection to the transmission or distribution network, and dedicated to supply a portion or all of the requirements of an End-user under a sale, lease or other commercial arrangements: *Provided,* That the Distributed Generation Company and End-user are two (2) different juridical persons.

b. A DER or a microgrid system that is installed in the premises of an End-user with an existing interconnection to the transmission or distribution system with arrangements to supply a portion or all of the requirements of an End-user under a sale, lease or other commercial arrangements: *Provided,* That the Distributed Generation Company and End-user are two (2) different juridical persons: *Provided further,* That the installed capacity of the facilities should be greater than 100kW.

- **Build lines to connect solar-battery farm direct to consumers, charging below utility rates**
- **JV with coop: Royalty greater than the lost distribution revenue**
- **Prevent brown outs, by creating local, resilient, duplicate grid, RE, jobs, investment, tax**

Conclusions

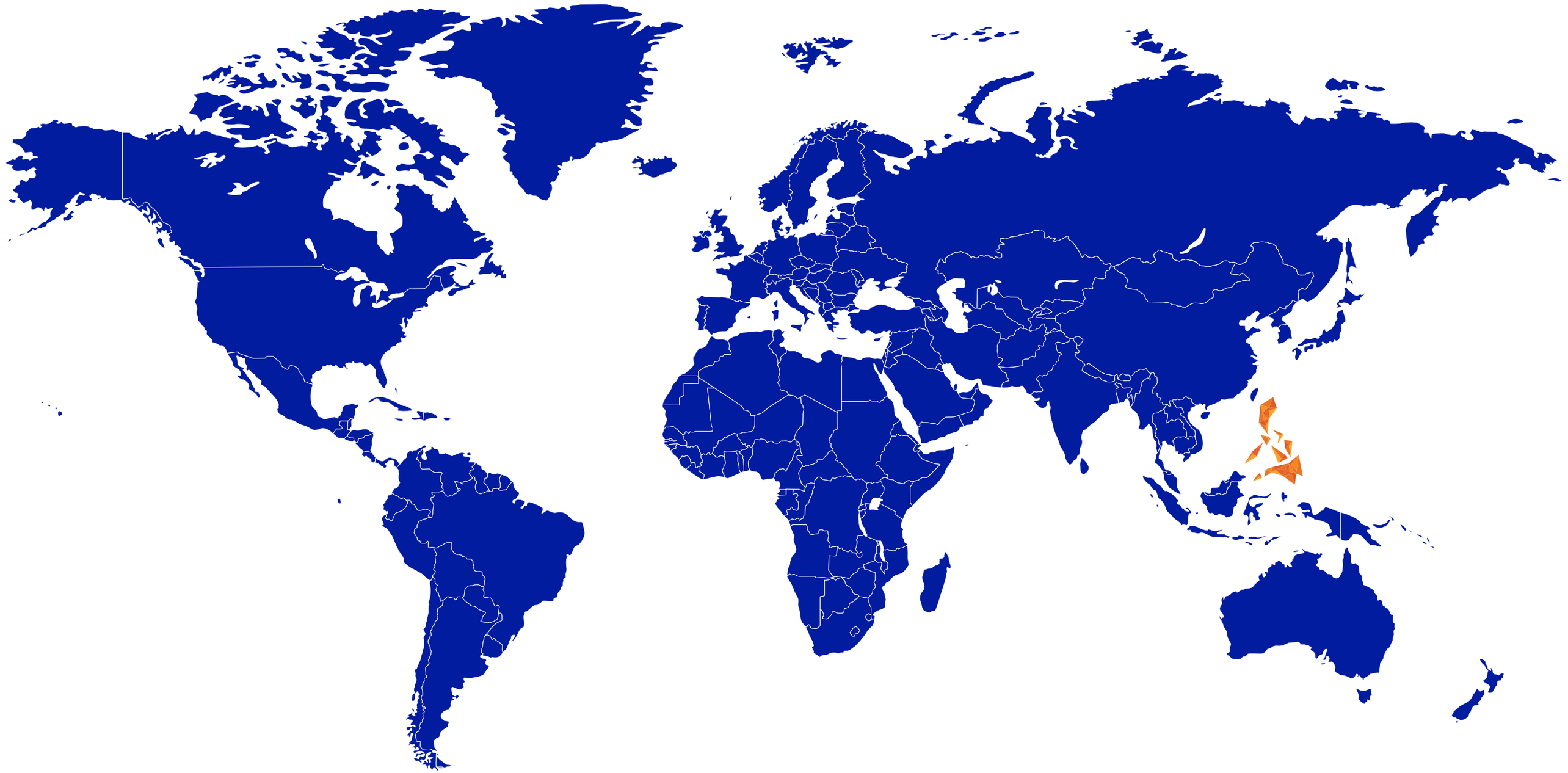
- DU's/EC's can now buy solar power w/o batteries at Php 3-5/kWh, w/ batteries at Php 5-7/kWh

- Solar is now the least cost for peaking, mid-merit, and baseload, and will lower power rates for EC's

- Rooftop can save 30-40% vs. utility rates, consumers can aggregate and contract with micro-grids

- We invite EC's to work with us to implement micro-grids in a win-win for the EC, supplier, and consumer

Let’s work to together make the Philippines the world leader in renewable energy



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