Power Sector Reforms

- Implementation Highlights -

E-Power Mo

Grand Xing Imperial Hotel, Iloilo City

9 October 2018

OUTLINE

Introduction

Privatization

Wholesale Electricity Spot Market

Retail Competition and Open Access

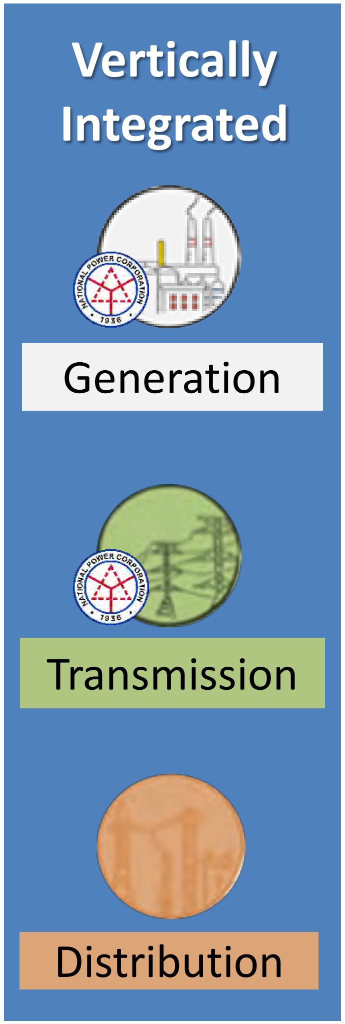
Total Electrification

Support Mechanisms

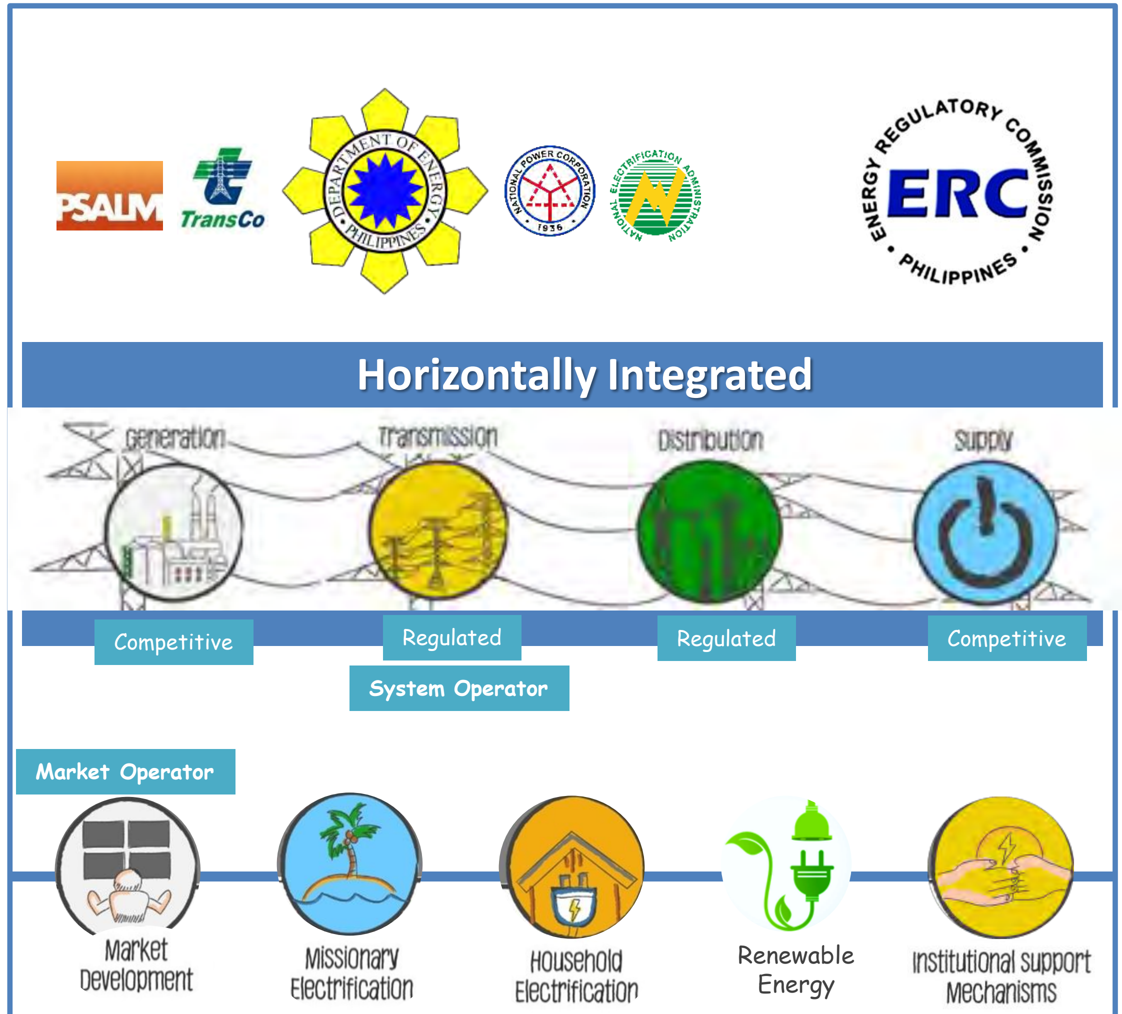
EPIRA

INTRODUCTION

Pre-EPIRA → **EPIRA Regime**



- Accelerate electrification
- Quality, reliability, security & affordability of supply
- Transparent and reasonable prices of electricity
- Broaden ownership base of generation, transmission and distribution sectors
- Protect public interest
- Promote utilization of renewable energy
- Privatization of NPC
- Establish Independent Regulatory Body
- Demand Side-management



INTRODUCTION

Introduce competition

Removal of subsidies

Pay-off power sector debts

Enhance transparency and efficiency

PRIVATIZATION

Status to date…

Transmission assets privatized in 2009

73.8% of total generating capacities privatized

72% of IPP contracts turned over to IPPAs

PRIVATIZATION

PRIVATIZED GENERATION ASSETS & IPP CONTRACTS

As of June 2018

Assets	Total Capacity (MW)	Privatized Assets		
		Capacity (MW)	No. of Plants	Privatization Level
Owned Generating Plants	6,233.53	4,601.43	31	73.82%
IPP Contracts	4,906.27	3,415.00	6	73.53%
Decommissioned Plants	-	-	5	-
Total	11,139.80	8,016.43	42	71.96%

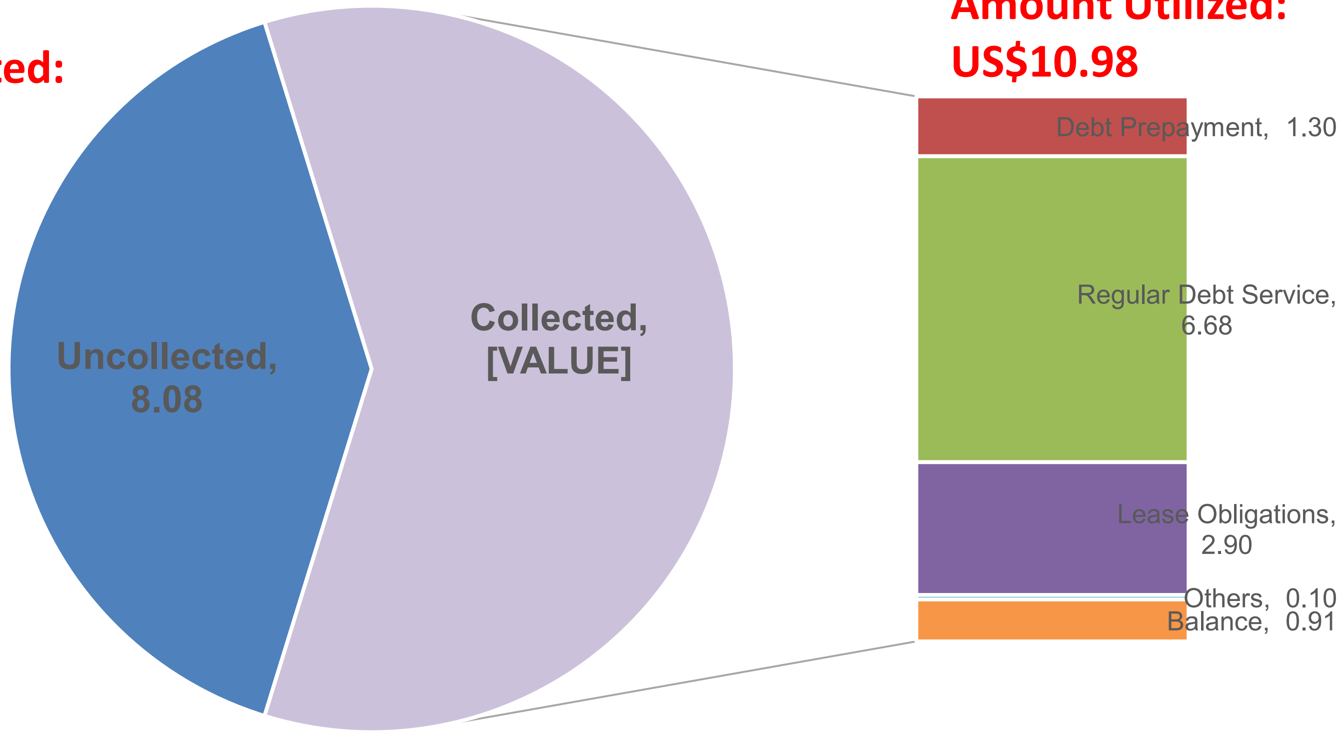
70% privatization is a prerequisite for RCOA

PRIVATIZATION

Proceeds and Utilization as of 1st Quarter 2018

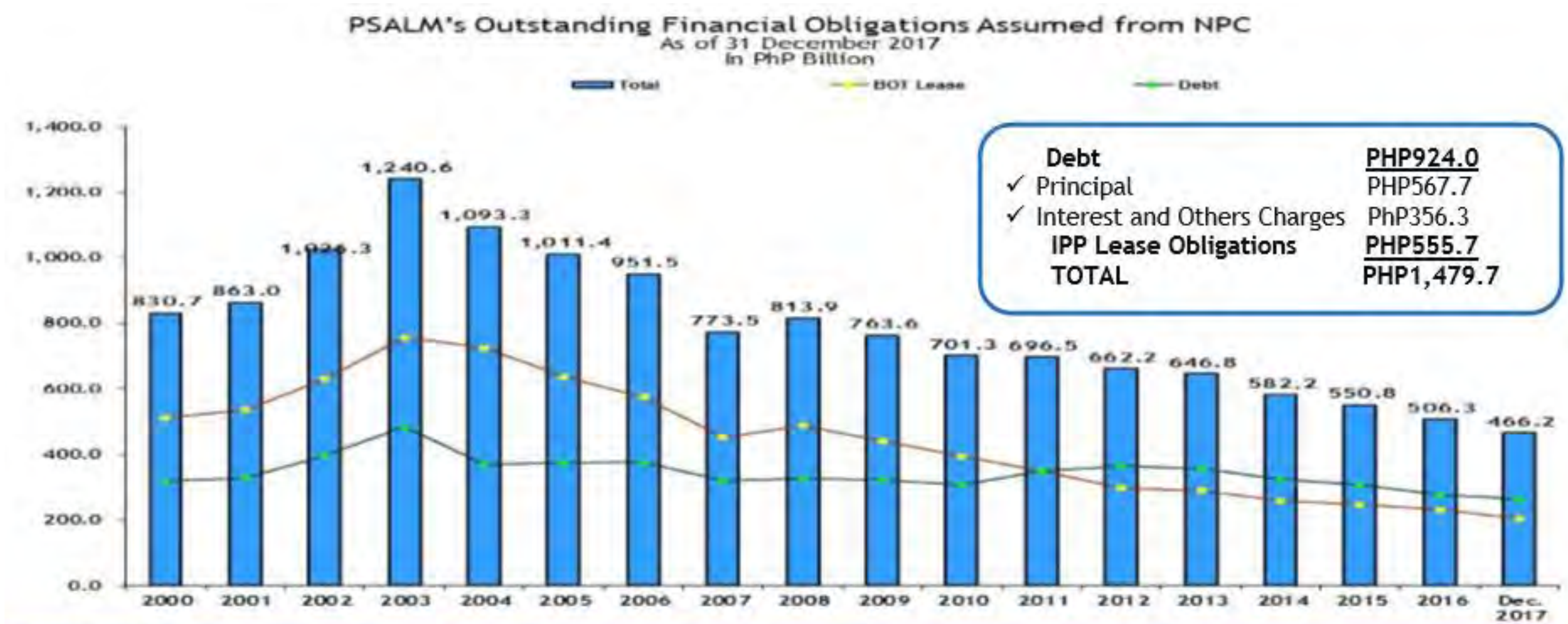
Amount Generated: US$19.97

Amount Utilized: US$10.98



PRIVATIZATION

PSALM Total Debts and IPP Lease Obligations

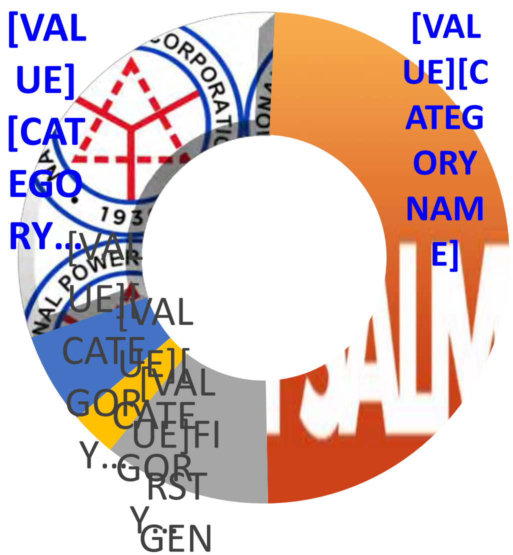


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Dec. 2017
Outstanding Obligations	830.7	863.0	1,026.3	1,240.6	1,093.3	1,011.4	951.5	773.5	813.9	763.6	701.3	696.5	662.2	646.8	582.2	550.8	506.3	466.2
Debts	319.1	327.6	396.0	483.4	368.6	374.4	376.5	320.4	326.0	322.0	307.0	348.1	364.7	357.1	324.0	305.4	275.4	263.3
IPP Lease Obligations	511.6	535.4	630.4	757.2	724.7	637.1	575.0	453.1	487.9	441.5	394.2	348.4	297.4	289.7	258.2	245.4	230.9	202.9

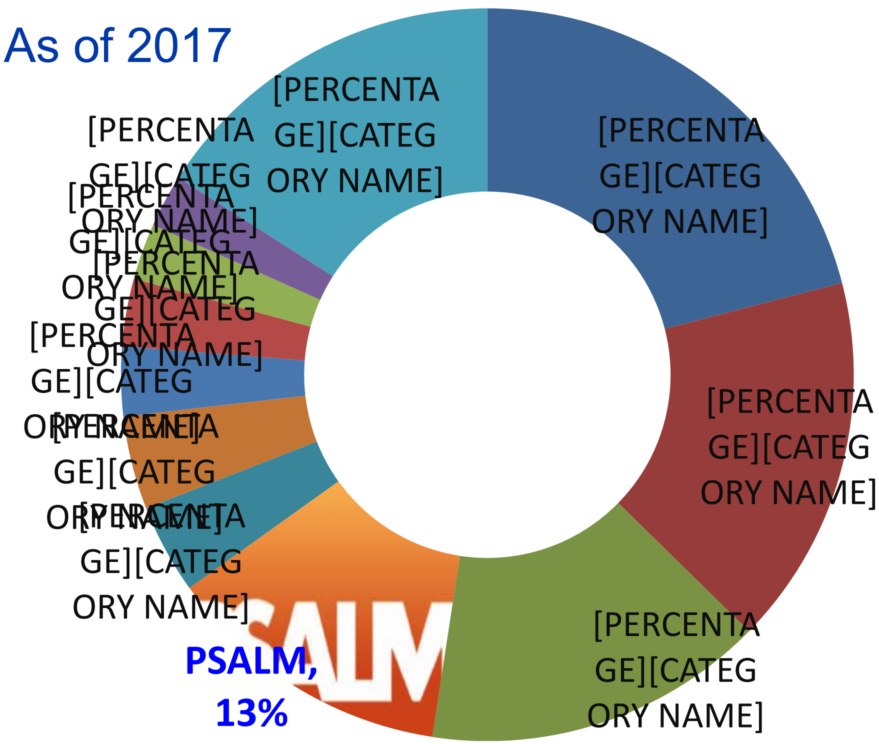
PRIVATIZATION

levelling the playing field…

Before Privatization



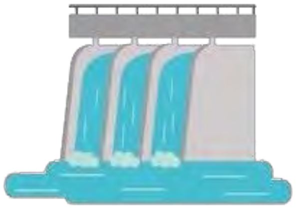
As of 2017



PRIVATIZATION

Indicative Schedule of Generation Assets

March 2018

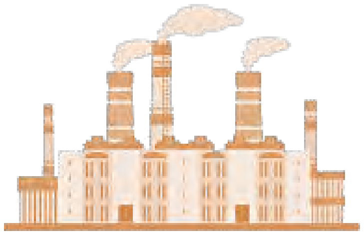


Asset Type/ Plant Name	Rated Capacity (MW)	Bid Date	Turnover Date
Owned Generating Plants			
Malaya Thermal	650.00	2018	
Agus 1 & 2 Hydro	260.00	For Rehabilitation; under Study Privatization is subject to consultation with Congress and PSALM Board’s policy direction	
Agus 4 & 5 Hydro	213.10		
Agus 6 & 7 Hydro	254.00		
Pulangui Hydro	255.00		
Decommissioned Plants			
Bataan Thermal	175.00	Sale/disposal is subject to resolution of court cases involving the asset	
Bataan Gas Turbines	120.00		

PRIVATIZATION

Indicative Schedule for Appointment of IPPAs

March 2018



Grid	Plant Name	Contracted Capacity (MW)	Bid Date	Turnover Date
Luzon Grid	Casecnan Multi-Purpose Hydro	140.00	2019	
	Benguet Mini Hydro [1/]	30.75	IPP contract expired on 30 January 2018	
	Caliraya-Botocan-Kalayaan Hydro	728.00	2019	
	Sub-total Luzon	**898.75**		
Visayas Grid	Unified Leyte - Bulk Energy	160.00*	Will operate until contract expiration in 2022	
	- Security Strip	40.00		
	Sub-total Visayas	**200.00**		
	Mindanao Coal-Fired	200.00	2018	
	Sub-total Mindanao	**250.00**		
	GRAND TOTAL	**1,298.75**		

[1/] IPP contract not subject to privatization/asset sale

** Based on the average daily declared capability by the Energy Development Corporation (EDC) of about 400 MW less the 200 MW sum of Strips of Energy and 40 MW security capacity of PSALM.*

WHOLESALE ELECTRICITY SPOT MARKET

- Commercial operation in Luzon in 2006
- Commercial operation in Visayas in 2010
- Appointment of the Independent Market Operator last September 2018
- Ongoing preparations for the 5-minute dispatch interval
- Integration of Mindanao by 2nd Qtr 2019

WHOLESALE ELECTRICITY SPOT MARKET

WESM Participants

CATEGORY	REGISTERED						
	TOTAL	DIRECT			INDIRECT		
		LUZ	VIS	LUZ/VIS	LUZ	VIS	LUZ/VIS
Generation Companies	**114**	75	35	3	1	0	0
Customers							
• Private distribution utilities & Local government utilities	**17**	8	4	0	5	0	0
• Electric cooperatives	**71**	29	28	0	14	0	0
• Directly Connected Customers	**58**	8	6	1	33	8	2
• Wholesale aggregators	**4**	0	0	4	0	0	0
Total Customer Trading Participants	**150**	**45**	**38**	**5**	**52**	**8**	**2**
TOTAL PARTICIPANTS	**264**	**120**	**73**	**8**	**53**	**8**	**2**

Source: PEMC, as of June 2018

WHOLESALE ELECTRICITY SPOT MARKET

WESM Design

Policy	Key developments
New WESM design	• From 1-hour to 5-minutes dispatch interval • NMMS development • Reserve Market
RE Law	• Preferential treatment of VRE and FIT-eligible biomass • RE Market

WHOLESALE ELECTRICITY SPOT MARKET

INDEPENDENT MARKET OPERATOR

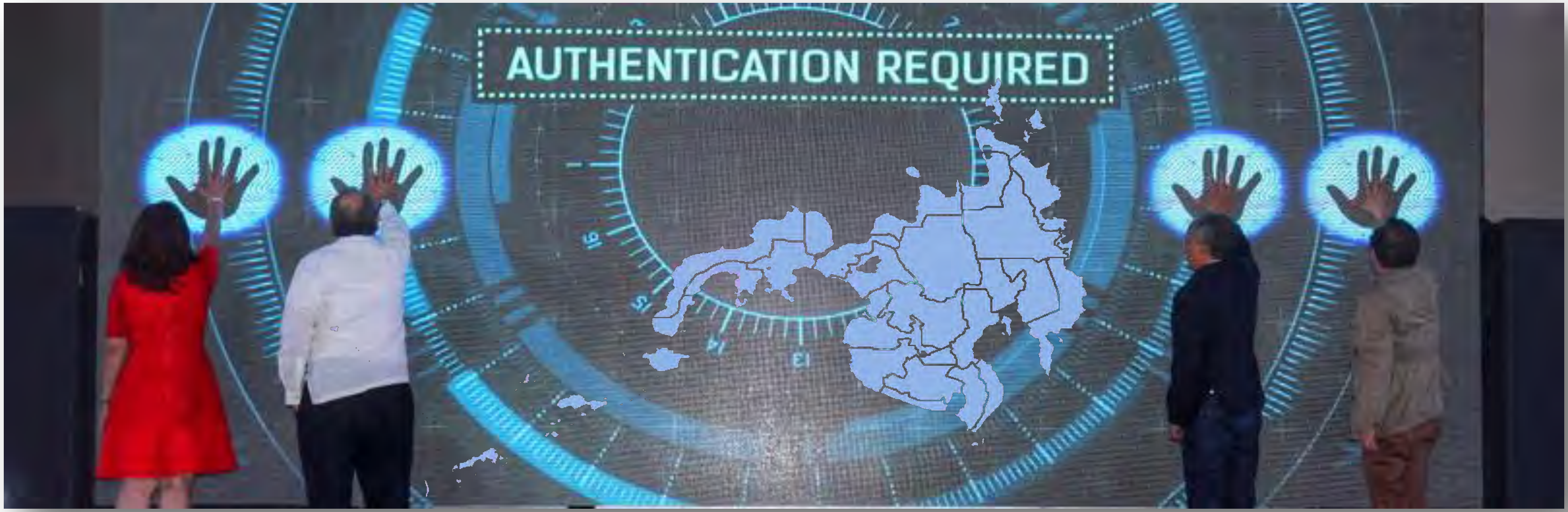
Elected 15 new board members including 11 sectoral representatives during PEMC's Annual General Membership

Independent Electricity Market Operator of the Philippines (IEMOP) assumed market operations functions last 26 September 2018

WHOLESALE ELECTRICITY SPOT MARKET

WESM Mindanao

1st Half of 2019



WHOLESALE ELECTRICITY SPOT MARKET

WESM Mindanao

Registration to the WESM in Mindanao is being facilitated through the new online system (crss.wesm.ph) since 28 February 2018

Ongoing Registration

Overall

80% 68/85

Grid Generators	Embedded Generators
100% 12/12	**68%** 19/28

Electric Cooperatives	Private Distribution Utilities	Directly Connected Customers
96% 27/28	**100%** 4/4	**46%** 6/13

*As of 20 Sept 2018

RETAIL COMPETITION AND OPEN ACCESS

ERC declared completion of pre-conditions on June 6, 2011

Initial commercial operation for 1MW CCs on 26 June 2013

750 kW CCs voluntary participation allowed on 26 June 2016

500 kW CCs voluntary participation allowed on 26 June 2018

Aggregation by December 2018

RETAIL COMPETITION AND OPEN ACCESS

RCOA Participants

Membership Category		Expected*			Registered**		
		Jun 2013	Jun 2018	Increase	Jun 2013	Jun 2018	Increase
Contestable Customers	D>1MW	892	1,247	40%	239	932	290%
	750kW≤D<1MW	0	510	-	0	172	-
	Govnt Entity	-	87	-	-	-	-
	Total	*892*	*1,844*	*107%*	*239*	*1104*	*362%*
Suppliers	RES	19	30	58%	15	30	100%
	LRES	13	25	92%	3	13	333%
	Total	*32*	*55*	*72%*	*18*	*43*	*139%*
SOLR		9	44	389%	0	24	-
RMSP		28	46	61%	18	46	156%
Grand Total		**961**	**1,989**	**107%**	**275**	**1,217**	**343%**

*Source: *ERC **PEMC;* *D – Monthly Average Peak Demand*

RETAIL COMPETITION AND OPEN ACCESS

Supply Sector

	Licensed/ Authorized by ERC	Registered under CRB
RES	30	30
LRES	25	13
SoLR	44	24

RES - Retail Electricity Suppliers
LRES - Local RES
SoLR - Supplier of Last Resort
CRB - Central Registration Body

TEMPORARY RESTRAINING ORDER

- Licensing of Retail Electricity Suppliers

Policies for the Retail Electricity Suppliers

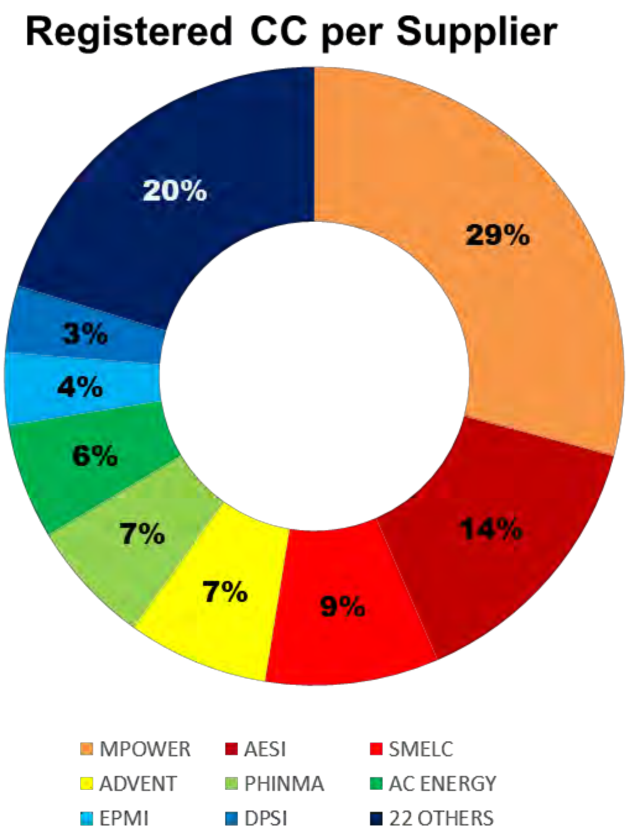
DC2017-12-0014

- Distribution Utilities as Local Retail Electricity Suppliers

RETAIL COMPETITION AND OPEN ACCESS

Contestable Customers

As of June 2018



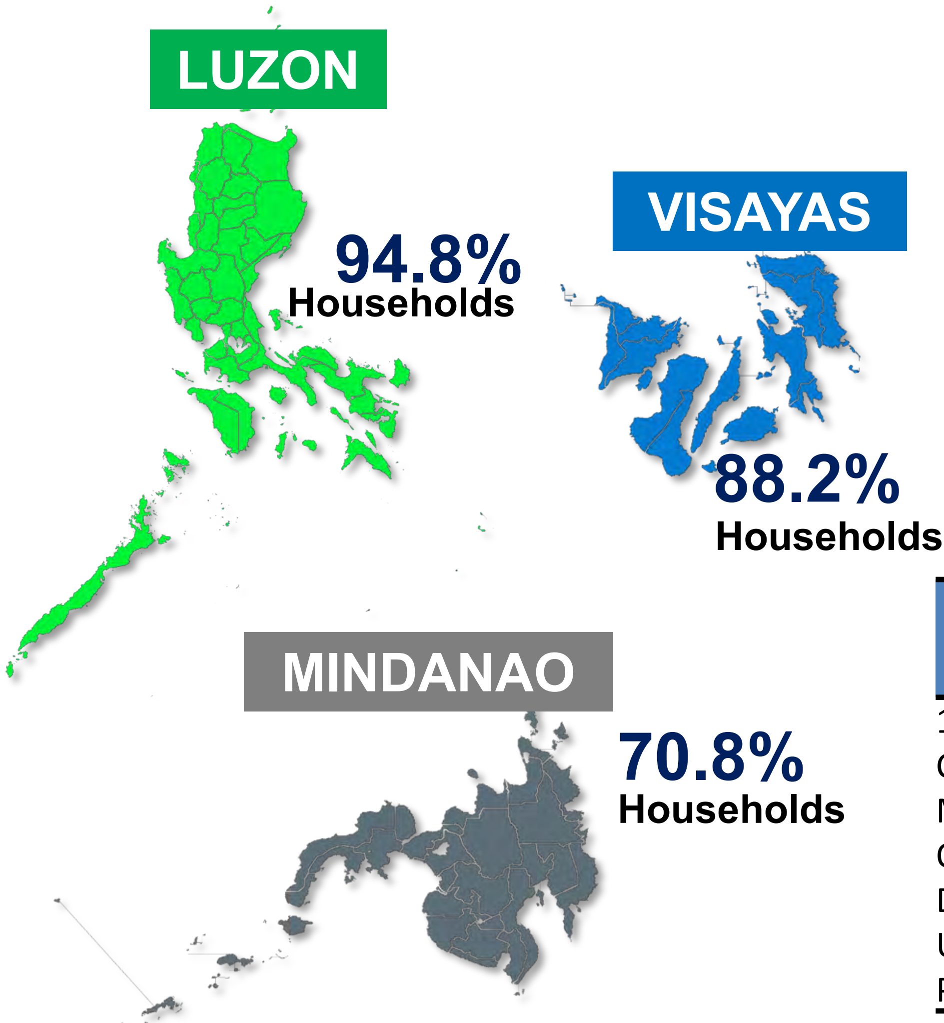
Policies for the Contestable Customers

DC2017-12-0013

- Voluntary participation of 750kW and above Contestable Customers

TOTAL ELECTRIFICATION

Status as of 31 December 2017



- **20.936 Million Households** have electricity out of **23.716 Million Households** in the country

Based on DDP 2018-2027 by DUs

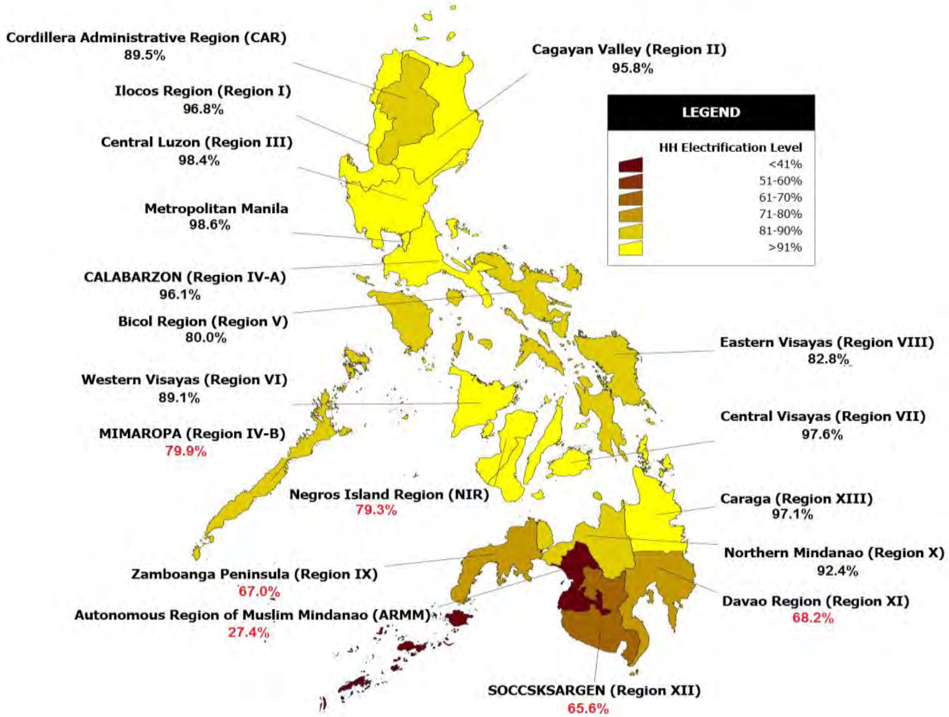
Distribution Utilities (in Millions HH)	HH Population	Served HH	Unserved HH	HH Electrification Level (%)
119 Electric Cooperatives	14.59	12.19	2.39	83.6%
MERALCO	6.98	6.82	0.16	97.7%
Other Distribution Utilities	2.14	1.92	0.22	89.07%
Philippines	23.72	20.94	2.78	**88.3%**

TOTAL ELECTRIFICATION

Status as of 31 December 2017

Region	Total HH*	Served HH	Unserved HH	HH Elect'n Level %
CAR	409,100	365,999	43,101	89.5%
I	1,179,133	1,141,887	37,246	96.8%
II	795,800	762,314	33,486	95.8%
III	2,793,456	2,748,334	45,122	98.4%
IV-A	3,718,758	3,572,657	146,101	96.1%
IV-B	708,077	566,065	142,012	79.9%
NCR	3,233,605	3,189,357	44,248	98.6%
V	1,197,558	957,954	239,604	80.0%
Luzon	**14,035,487**	**13,304,568**	**730,920**	**94.8%**
VI	1,019,375	908,244	111,131	89.1%
VII	1,426,286	1,391,344	34,942	97.6%
VIII	1,003,543	831,235	172,308	82.8%
NIR	1,016,400	806,494	209,906	79.3%
Visayas	**4,465,604**	**3,937,317**	**528,287**	**88.2%**
ARMM	618,600	169,190	449,410	27.4%
CARAGA	633,700	615,515	18,185	97.1%
IX	754,300	505,444	248,856	67.0%
X	1,004,722	927,878	76,844	92.4%
XI	1,177,596	803,588	374,008	68.2%
XII	1,026,019	672,999	353,020	65.6%
Mindanao	**5,214,937**	**3,694,614**	**1,520,323**	**70.8%**
Philippines	**23,716,028**	**20,936,499**	**2,779,530**	**88.3%**

Note: Red texts indicate electrification level below 80%



Source: DOE (Initial Estimate)

SUPPORT MECHANISM

Consumer Education

Universal Charge for Missionary Electrification

CSP, Lower SLC, KPI, Performance Audit

Lifeline Rate

Rate reduction thru related business

ER 1-94

WAY FORWARD

Amend Implementing Rules and Regulations

- Align DOE, ERC and AAs mandates for ensuring quality, reliability and security of the supply of electric power
- Rationalization of subsidies (UCME, lifeline rate)
- Enhance provision on competition and cross-ownership provision
- Clarification and strengthening of unbundling provisions
- Timely regulation
- Transmission service expansion to missionary areas
- Emphasize electric power industry participants' compliance to performance standards pursuant to PDC, PGC, WESM Rules and other relevant DOE and ERC regulations
- Rate reduction thru related business

Thank You!

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