

Task Force to Study Ways to Reduce the Price of Electricity

Updates from the Academe Sub-group

Academe Subgroup Meeting



Roundtable Discussion within the Academe Subgroup

Room 208, Philippine Institute for Development Studies

July 7, 2014

Universities and colleges represented:

1. School of Economics, UP Diliman - Prof. Ramon Clarete (Dean)
2. College of Engineering, UP Diliman - Prof. Bienvenido Malquisto
3. College of Economics and Management, UP Los Baños - Prof. Anna Floresca F. Firmalino
4. School of Government, Ateneo de Manila University - Mr. Joshua Pielago
5. School of Economics, University of Asia and the Pacific - Mr. Tyrone Agas

Think-Tank represented:

1. Philippine Institute for Development Studies – Dr. Adora Navarro and Mr. Keith Detros

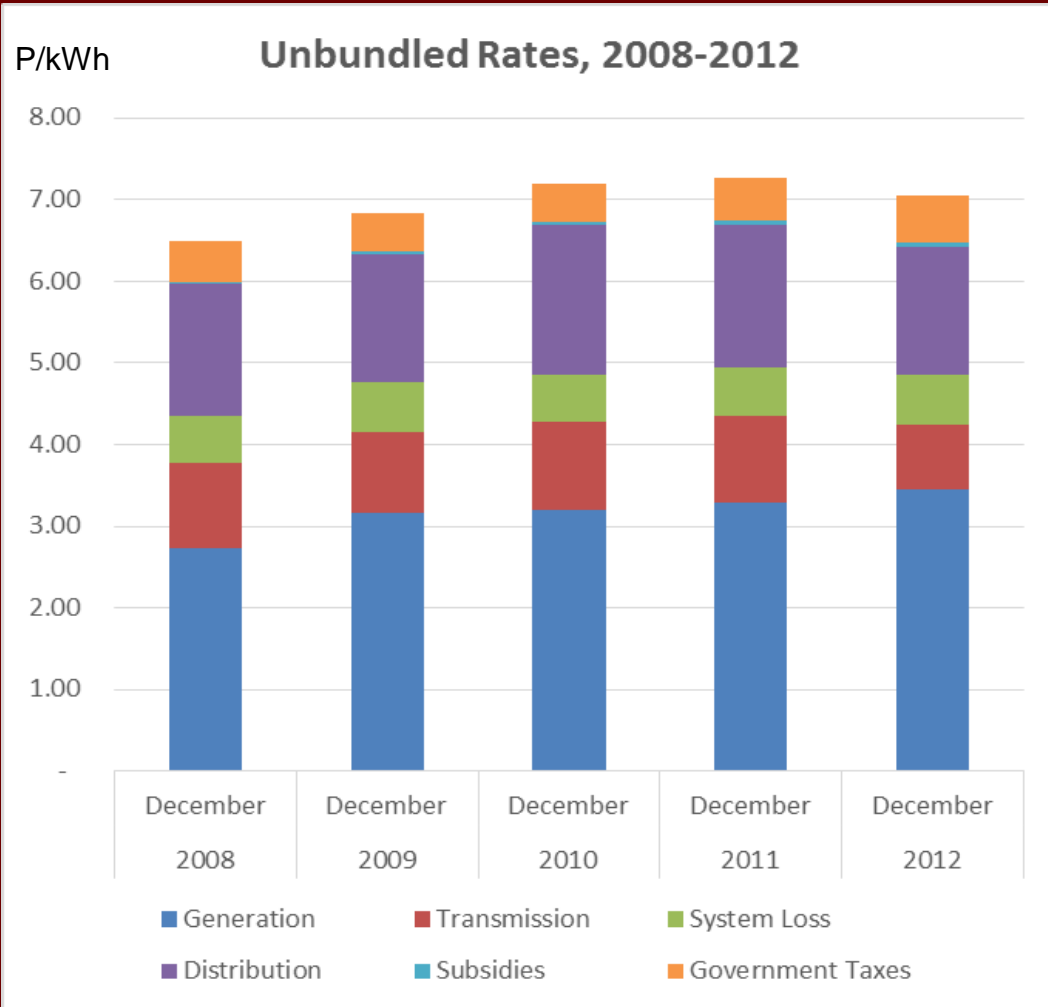
Note: The Asian Institute of Management (AIM) did not send a representative but we will continue to engage them.

Analysis of Electricity Price Components

Price components - electric coops



ECs: Generation accounts for the highest share in the bill--42% in 2008 and 49% in 2012.



Between 2008-2012, generation charge increased by 27%.
 Transmission charge decreased by 25%.
 System losses increased by 6%.
 Distribution charge decreased by 3%.

	% Share, 2012	Increase (Decrease), 2008-2012
Generation	49%	27%
Transmission	11%	-25%
System Loss	9%	6%
Distribution	22%	-3%
Subsidies	1%	285%
Government Taxes	8%	14%
Total	100%	9%

Source of raw data: NEA

Price components - Meralco



Meralco's Residential Unbundled Power Rates, October 2010

Bill Subroup	0-200 kWh	
	Php/kWh	% share
Generation	3.75	55%
Transmission	0.84	12%
Distribution	1.60	23%
System Loss	0.47	7%
Subsidies	0.12	2%
Universal Charge	0.04	1%
Total*	6.82	100%

Note: * Total excludes government taxes.

Source: 17th (2010) EPIRA Report

Meralco's Residential Unbundled Power Rates, September 2012

Bill Subroup	0-200 kWh	
	Php/kWh	% share
Generation	4.32	52%
Transmission	0.66	8%
Distribution	1.73	21%
System Loss	0.49	6%
Subsidies	0.13	2%
Universal Charge	0.09	1%
Government Taxes	0.82	10%
Total	8.24	100%

Source: 21st (2012) EPIRA Report

Generation continues to account for the largest share in the bill, followed by distribution, transmission and system loss.

Generation charge increased by 15%; distribution charge increased by 8%; system loss increased by 4%.

Transmission charge declined by 21%.

Analysis of possible reasons for the high price of electricity

Tight supply margin



The resulting generation price, whether in the bilateral market or WESM, is high because the supply margin is tight. The generation capacity is low.

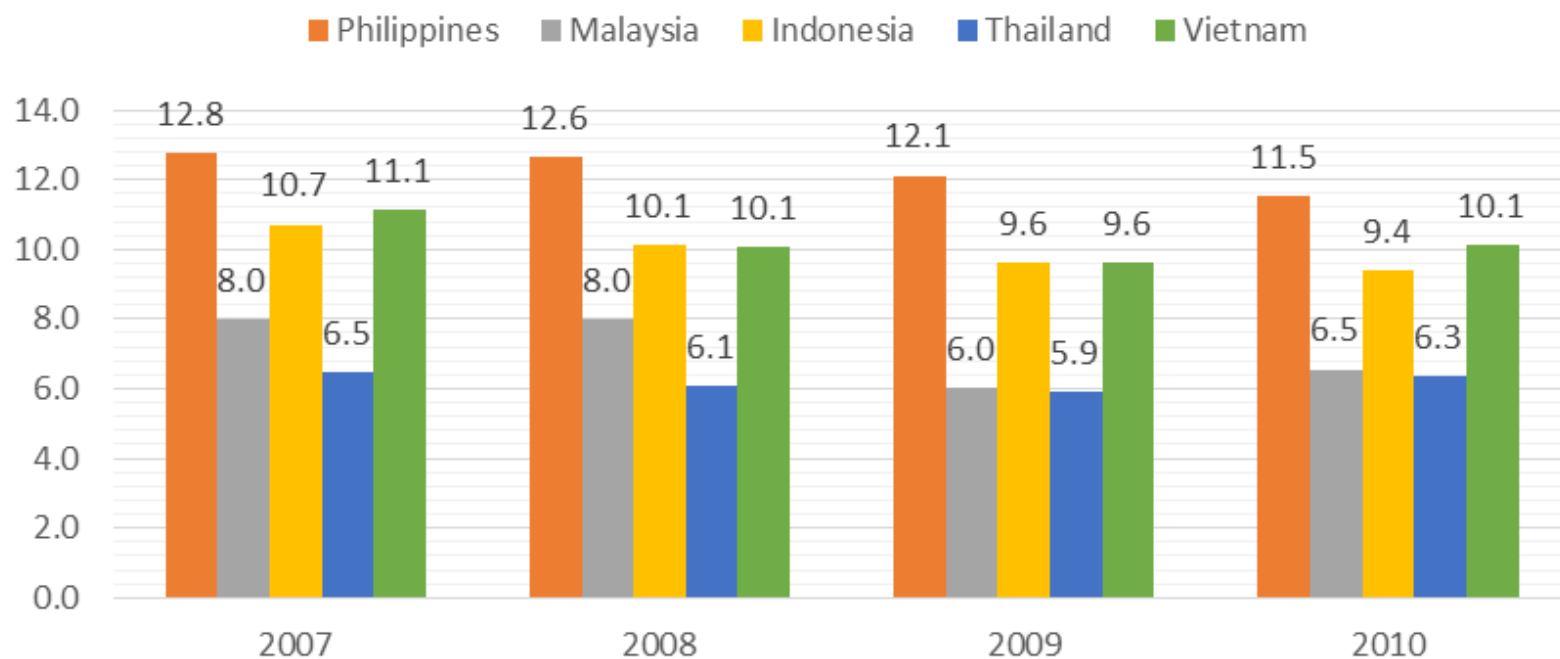
Assessment of Supply Margin (in MW unless stated otherwise):			
	<u>Luzon</u>	<u>Visayas</u>	<u>Mindanao</u>
Dependable Capacity (March 2014 DOE release date)	11519	2103	1749
July 7, 2014 NGCP data:			
(a) Available Capacity	9032	1560	1522
(b) Peak Demand	8062	1485	1304
(c) Reserve Requirement	1616	241	262
Required Regulating Reserve	322	59	52
Required Contingency Reserve	647	100	105
Required Dispatchable Reserve	647	82	105
Assessment:			
Surplus (Deficiency) (a minus sum of b and c)	(646)	(166)	(44)
Tight Actual Reserve (a minus b)	970	75	218
as % of Peak Demand	12%	5%	17%

- two forms of market power exercise in wholesale electricity markets:
 - physical withholding - a generating firm strategically restricts the amount of generation capacity that it makes available to the market in order to raise the market-clearing price and increase its profits.
 - economic withholding - a generating firm strategically inflates its offer price in order to push the market-clearing price above competitive levels.

Note: Usually, about 8% only of total load are sourced from the wholesale spot market but the effects of periods of high prices can be quite visible (e.g., November-December 2013 Meralco purchase from WESM).

High system loss

System Losses in Southeast Asia 2007-2010 (% of output)



Sources: World Bank, International Energy Agency, United Nations Statistics Yearbook

High taxes

Philippine residential and commercial tariffs are the highest in the region even if taxes would be removed

(in US dollars)					
	PHL	SGP	INA	MAL	THA
In US dollar					
Tariffs with taxes					
Residential	45.13	44.13	10.53	15.10	22.12
Commercial	697.97	662.00	499.52	432.57	402.48
Low voltage Industrial	9,303.86	10,637.31	6,437.71	6,342.22	6,390.67
High voltage Industrial	37,294.85	38,186.81	21,883.69	22,890.52	23,015.62
Pre-tax tariffs					
Residential	41.31	41.25	10.28	14.25	20.67
Commercial	640.04	618.69	444.02	409.49	376.15
Low voltage Industrial	8,646.27	9,941.41	5,722.41	5,983.22	5,972.59
High voltage Industrial	34,287.00	35,688.60	19,452.17	21,594.83	21,509.93
Pre-tax per kWh					
Residential	0.2065	0.2062	0.0514	0.0712	0.1034
Commercial	0.2133	0.2062	0.1480	0.1365	0.1254
Low voltage Industrial	0.1729	0.1988	0.1144	0.1197	0.1195
High voltage Industrial	0.1714	0.1784	0.0973	0.1080	0.1075

Source: CATIF (2013)

R. del Mundo (2013) proposes:

- Aggregation and competitive procurement of power supply by electric coops
 - Mindanao, 405 MW in 2017: at first, received offers of Php5.5-Php6.3/kWh of baseload supply; international transaction adviser was hired; final contract at Php4.09/kWh
 - Central Luzon, 300 MW in 2018: capped offer at Php4.09/kWh; contract price at Php3.7/kWh
- Government to auction future uncontracted demand when a DU fails to contract in time

- Interruptible load program
- Peak/off-peak pricing at the household level
 - Will require net metering
- Investments in energy saving devices

Other countries have high subsidies



Pre-tax Subsidies, 2011

Country	Petroleum products		Electricity		Natural gas		Coal	
	% of GDP	% of Gov't Rev.	% of GDP	% of Gov't Rev.	% of GDP	% of Gov't Rev.	% of GDP	% of Gov't Rev.
Brunei Darussalam	2.34	3.77	0.98	1.57	0	0	0	0
Cambodia	0	0	n.a	n.a	n.a	n.a	n.a	n.a
Indonesia	2.58	14.51	0.66	3.69	0	0	0	0
Lao P.D.R	0	0	n.a	n.a	n.a	n.a	n.a	n.a
Malaysia	1.24	5.67	0.33	1.49	0.31	1.41	0	0
Myanmar	0.54	9.35	n.a	n.a	n.a	n.a	n.a	n.a
Philippines	0	0	0	0	0	0	0	0
Thailand	0.15	0.66	1.64	7.24	0.14	0.61	0.25	1.08
World	0.3	0.91	0.22	0.64	0.16	0.48	0.01	0.03

Source: IMF. 2013

Next Steps / Work Plan

Suggested Work Plan



Responsibilities (DO 2014-05-0009)	Work Plan	Timetable (2014)
Evaluate current breakdown/components of electricity price and identify factors affecting them	for the electricity price faced by consumers in private DUs' service areas : PEPOA and Meralco to present breakdown of (and explanatory factors for) electricity price, plus load data (MW sold); Academe sub-group to consolidate and apply load-weighted averaging for Luzon, Visayas and Mindanao	August - September; Submit breakdown & explanatory factors to Academe Sub-group by September 15
	for the electricity price faced by consumers in ECs' & LGUOUS' service areas : NEA to present breakdown of (and explanatory factors for) electricity price, with averaging applied for Luzon, Visayas and Mindanao	
	for the generation cost component : PIPPA to submit averages and explanatory factors per type of technology (hydro, coal, natural gas, etc.)	
Conduct multi-sectoral public consultation nationwide to present their findings and identified ways and measures to help reduce the price of electricity	Associations to consult their members nationwide. Consumer associations - NASECORE, NCAC, and MSK; business sector - FFCCCII, JFC, MBC, PCCI, and ECOP; investor-owned DUs - PEPOA (including Meralco as member); ECs and LGU-owned DUs - NEA; generation sector - PIPPA; retail sector - RESA	August - October; Each representative to incorporate findings into respective sectoral position papers
Each member shall represent its sector and ensure complete dissemination of all discussions and agreements during the conduct of dialogues	Task Force members to present their final position papers in mid-October and 1st week-November; Academe Sub-group to consolidate position papers and incorporate its own inputs ; two-week period for comments thereafter	October and November presentations; mid-November deadline for Academe Sub-group's consolidation; end-November deadline for comments on consolidated report
Submit a report of the results of its study to DOE	Academe Sub-group to gather all comments and finalize the report	1st week of December final meeting of the Task Force; turn-over to DOE
Perform such other responsibilities as the DOE may direct	as the need arises	as the need arises

Thank you!

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