

Electric Power Industry Regulation in the Philippines (Part 2)

Atty. Josefina Patricia A. Magpale-Asirit
Commissioner
Energy Regulatory Commission

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RETAIL RATE: principle of full recovery of prudent and reasonable economic costs incurred---

A distribution utility shall have the obligation to supply electricity in the least cost manner to its captive market, subject to the collection of retail rate duly approved by the ERC.

GENERATION SECTOR. Generation of electric power, a business affected with public interest, shall be competitive and open.

How does ERC set the Charges?

■ **Generation**

- WESM: Price Determination Methodology
- NPC: Return on Rate Base Methodology
- IPPs: Individual review of bilateral contracts or PSA

■ **Transmission (1)**

- Previously, Return on Rate Base Methodology
- Currently, Performance-Based Regulation

■ **Distribution**

- Private Distribution Utilities (18)
 - Previously, Return on Rate Base Methodology
 - Currently Performance-Based Regulation
- Electric Cooperatives (120)
 - Previously Cash Flow Methodology
 - Currently Benchmarking Methodology

Generation Charge



The Generation Charge is a pass-through of prudent and reasonable costs, adjusted on a monthly basis



National Power Corporation (NPC) and Successor-Generating Company (SGC) – regulated rate based on a mix of different plant / technology as contained under the Transition Supply Contract (TSC)



Independent Power Producers (IPP) – ERC reviews the Bilateral Supply Contracts entered into by the Distribution Utility and IPPs



WESM Price – Distribution Utilities are allowed to pass-through their spot purchases (those not covered by supply contracts)

- can go up and down depending on market conditions (supply/demand)

Generation Rate Components



- 1. Capital Recovery Fee**
- 2. Operations & Maintenance Fee (Fixed/Variable)**
- 3. Fuel Recovery Fee**



Transmission and Distribution comprises about 10% and 20%, respectively



The Transmission Provider [Nat'l Grid Corp of the Phils] and Private DUs are regulated under Performance-Based Regulation (PBR) since 2003 and 2007, respectively

1. Cash Base

2. Return on Rate Base (RORB)

3. Performance-Based Ratemaking (PBR)

- Rules for Setting Transmission Wheeling Rates (RTWR)
- Rules for Setting Distribution Wheeling Rates (RDWR)
- Rules for Setting Electric Cooperatives' Wheeling Rates (RSEC-WR)

- Determine Revenue Requirement
- Based on a historical test year

OTHER REVENUE ITEMS

DEBT SERVICE

REINVESTMENT or CAPEX FUND

PAYROLL

OPERATING and MAINTENANCE EXPENSES

- Revenues arising from operations should be shared by DU
- Allowable loans obtained from financial institutions or the NEA.
- Allowance used to finance capital expenditure program
- updated salaries plus allowable benefits
- necessary, legitimate, prudent, continuing, normal
- includes operating and maintenance expense and taxes

- Determine Revenue Requirement
- Based on a historical test year

OTHER REVENUE ITEMS

- Revenues arising from asset - based operations should be shared by DU

RETURN ON INVESTMENT

- 12 % of rate base
- value of currently used assets + working capital

RETURN OF INVESTMENT

- depreciation

PAYROLL

- updated salaries plus allowable benefits

OPERATING EXPENSES

- necessary, legitimate, prudent, continuing, normal
- includes operating and maintenance expense and taxes

- PBR is intended to ensure that firms have incentives to improve efficiency
- Regulator must ensure that all these gains do not accrue to the firms
- Wide recognition that a trade-off exists between
 - **The service quality at which electricity is supplied**
 - and**
 - **The cost for providing this service**
- Hence, the Regulator also has a societal obligation to regulate service quality

Annual Revenue Requirement

▪ Determine **forecasted** Annual Revenue Requirement for a **Regulatory Period**

INCOME TAX

- set to zero

RETURN ON INVESTMENT

- Weighted Average Cost of Capital (WACC) X rate base
- value of optimized assets + working capital

RETURN OF INVESTMENT

- depreciation based on standard asset lives

TAXES

- property taxes, business taxes

OPERATING EXPENSES

- operating and maintenance expenditures
- recurring in the course of providing service
- legitimate, necessary, prudent and reasonable

- **Performance Index Factor**
 - Interruption / Brown-outs
 - Systems Loss
 - Voltage Level
- **Guaranteed Service Levels**
 - Direct Consumer compensation if guaranteed service levels are not met

CURRENT CHALLENGES:

- *Retail Competition and Open Access**
- *Renewable Energy Integration**

RCOA Set-up

RCOA open in 2 grids (Luzon and Visayas)

- September 27, 2013 (Announcement)
- December 26, 2012 (Official Launch and start of Transition Period)
- June 26, 2013 (Commercial Operation)

Sellers (Suppliers)

- RES, Local RES, SOLR (regulated)

Buyers (CCs): Phased-in implementation

- 1MW (2 years)
- 750KW (with aggregation)
- Full Retail Competition (household level)

Rules and Regulations governing RCOA

Contestable Customer (CC)

- End-users who have a choice of supplier of electricity, **as certified by the ERC.**

Retail Electricity Supplier (RES)

- **Suppliers** Licensed by the ERC to supply electricity to CCs.

Local RES

- Non-regulated business segment of a distribution utility to supply electricity to CCs within its franchise area, **as authorized by the ERC.**

Supplier of Last Resort (SOLR)

- **Emergency Supplier** to serve CCs in case there is a last resort supply event.

- Difficulty in contracting with a RES
 - Non-operation of a number of RES
 - Ensuring transparency and competition
 - Imposition of additional standards on RES
 - Enhancement of reportorial requirements
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□ On-Grid Renewable Energy Development

- Renewable Portfolio Standards
- **Feed-In Tariff System**
- Renewable Energy Market
- **Green Energy Option**
- **Net-metering for Renewable Energy**

□ Off-Grid Renewable Energy Development

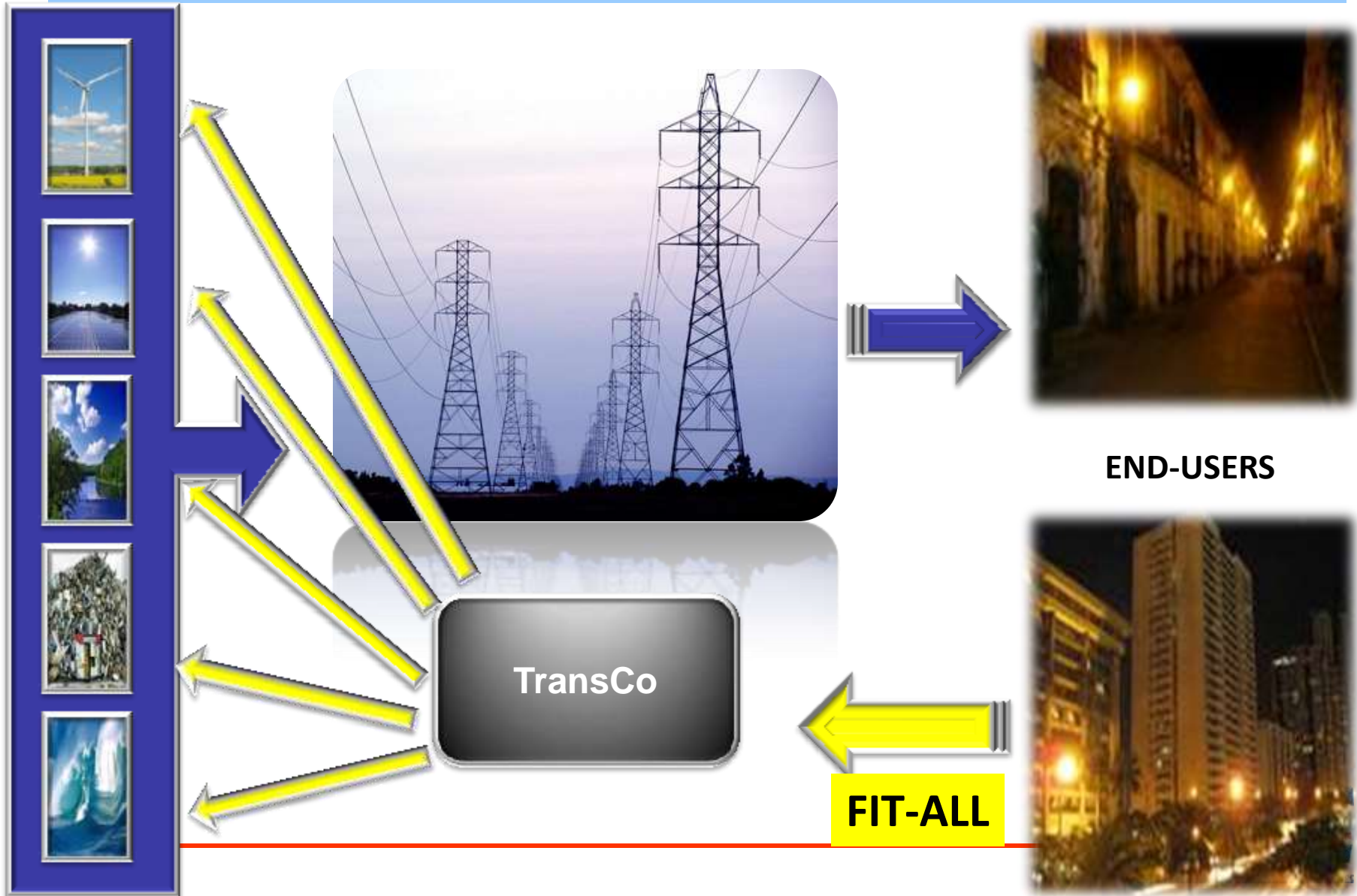
- Minimum RE generation capacities
- **Cash Incentives**

Feed-In Tariff System (Sec. 7, R.A. 9513)

- ❑ ERC, in consultation with the NREB
- ❑ For emerging renewable energy resources to be used in compliance with the renewable portfolio standard
 - Wind
 - Solar
 - Ocean
 - Run-of-river Hydro
 - Biomass
- ❑ Priority connection to the grid
- ❑ Priority purchase and transmission of, and payment for, such electricity by the grid system operators
- ❑ Fixed tariff by technology
- ❑ Mandated number of years, not less than twelve (12)



The Overall FIT Framework



ERC-Approved FITs

ERC Case No. 2011-006 RM
July 2012

	NREB in PhP/kWh (US\$/kWh)*	ERC- Approved in PhP/kWh/ (US\$/kWh)*
ROR Hydro	6.15 (0.13)	5.90 (0.13)
Solar	17.95 (0.38)	9.68 (0.21)**
Wind	10.37 (0.22)	8.53 (0.18)
Biomass	7.00 (0.15)	6.63 (0.14)

*@ US\$1.00= PHP 46.73

** new FIT RATE as of May 2015 @ P 8.69/kWh (US\$ 0.19) *Note: Decision on OTEC FIT deferred*

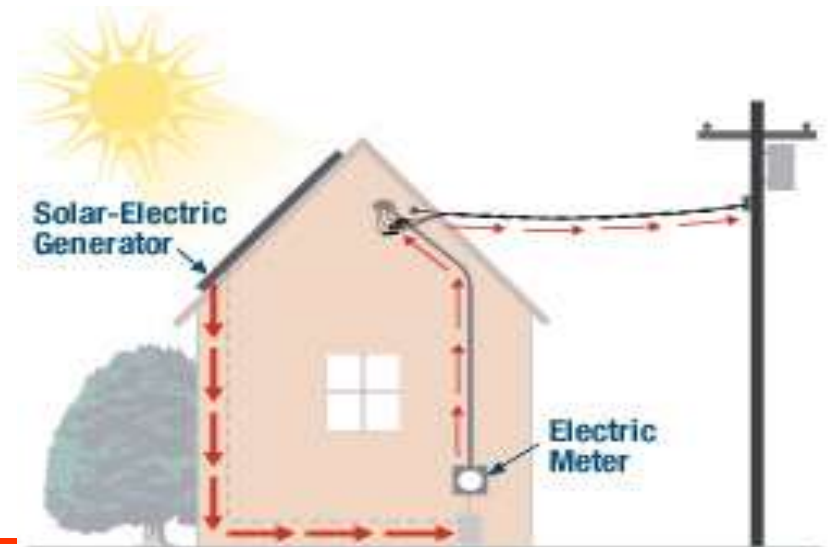
ERC-Approved Degression Rates

ERC-Approved (in PhP/kWh)

ROR Hydro	0.5% <i>after year 2 from effectivity of FIT</i>
Solar	6% <i>after year 1 from effectivity of FIT</i>
Wind	0.5% <i>after year 2 from effectivity of FIT</i>
Biomass	0.5% <i>after year 2 from effectivity of FIT</i>

Net Metering for RE

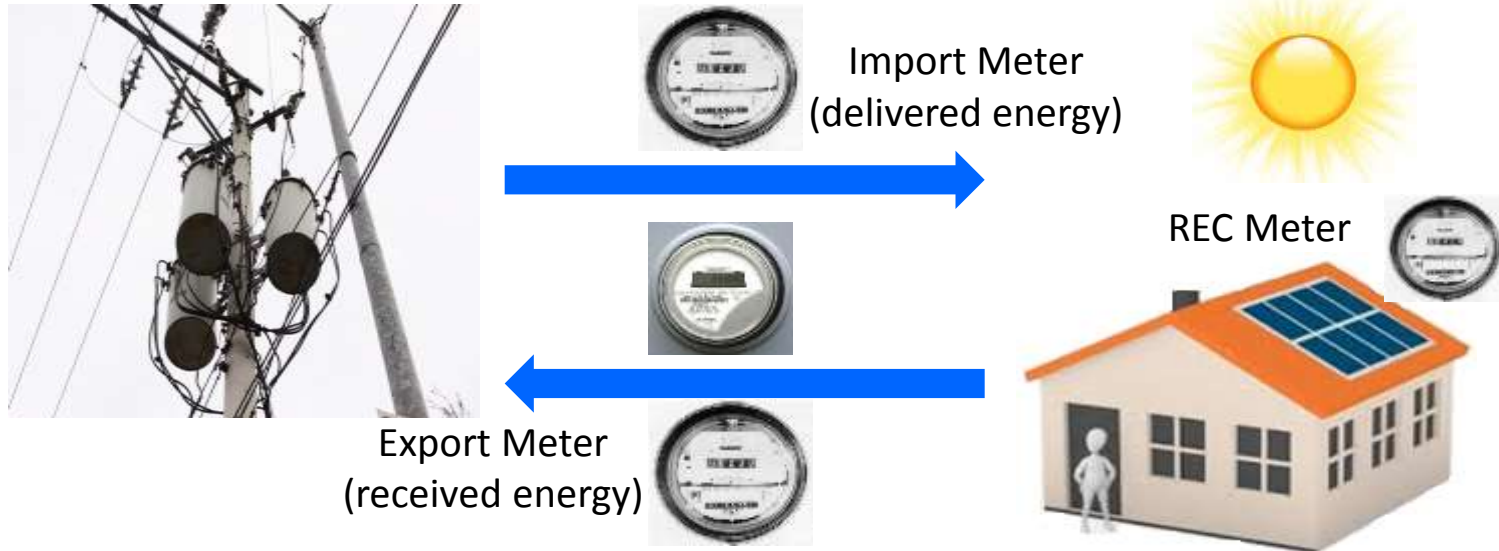
- ❑ DUs may enter into Net-Metering agreements with qualified end-users
- ❑ The ERC, in consultation with the NREB shall develop Net-metering interconnection standards and pricing methodology and other commercial arrangements
- ❑ The DOE, ERC, Transco, DUs, PEMC and all relevant parties are mandated to provide mechanisms for physical connection and commercial arrangements



Scope, Applicability & Qualification

- Applicable to on-grid systems.**
 - Only for installation of $\leq 100\text{kW}$.**
 - For eligible RE Technologies such as wind, solar, biomass or biogas or other RE systems capable of being installed in the QE's premises.**
 - End-user should be in good credit standing in the payment of electric bills to the DU.**
 - The RE System must be compliant with the standards set in the PEC, PDC, DSOAR and the Net-Metering Interconnection Standards.**
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Interconnection Set-Up



Either 2 uni-directional meters or one bi-directional meter. Third meter may also be installed to measure total RE generation.

Green Energy Option

- ❑ The DOE shall establish a Green Energy Option program which provides end-users the option to choose RE resources as their sources of energy
- ❑ End-users may directly contract from RE facilities their energy requirements
- ❑ TRANSCO, DUs, PEMC and all relevant parties are hereby mandated to provide the mechanisms for the physical connection and commercial arrangements necessary to ensure the success of the Green Energy Option
- ❑ ERC to develop regulatory framework
- ❑ ERC is awaiting the Green Energy Option Rules from DOE



Cash Incentive for Missionary Electrification

- An RE Developer established after the effectivity of the RE Law shall be entitled to a cash generation-based incentive per kilowatt hour rate generated.
- Cash incentive shall be equivalent to 50% of the univesal charge for power needed to serve missionary areas where it operates the same.
- To be chargeable against the UC for missionary areas.

Vision & Mission

	Revisited
Vision	Ensuring progress through exemplary power regulation.
Mission	A technically competent and professional ERC committed, through the exercise of its regulatory authority, to be the driving force in the transformation of the electric power industry in ensuring reasonable electricity rates, enhancing market competition, promoting long-term consumer interest, and assuring that electricity industry participants provide and maintain safe, adequate, reliable, and efficient electric service.



THANK YOU!



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GLOSSARY

CAPEX	Capital Expenditures
CC	Contestable Customer
CM	Contestable Market
COC	Certificate of Compliance
COE	Certificate of Endorsement
CRB	Central Registration Body
CRR	Cost Recovery Revenue
DCC	Directly Connect Customer
DOE	Department of Energy
DSOAR	Distribution Services and Open Access Rules
DU	Distribution Utilities
EC	Electric Cooperative
EPIRA	Electric Power Industry Reform Act
ERC	Energy Regulatory Commission
FIT	Feed-In Tariff
FIT-ALL	Feed-In-Tariff Allowance
GenCo	Generation Company
GR	Generation Rate
ICCS	Inter-Class Cross Subsidy
IPPA	Independent Power Producer Administration
IPPs	Independent Power Producers
IRR	Implementing Rules and Regulation
LR	Lifeline Rate
MAP	Maximum Average Price
MAR	Maximum Annual Revenue
NEA	National Electrification Administration
NGCP	National Grid Corporation of the Philippines
NPC	National Power Corporation
NPC-SPUG	National Power Corporation-Small Power Utilities Group

NREB	National Renewable Energy Board
O&M	Operation and Maintenance
PBR	Performance Based Regulation
PDC	Philippine Distribution Code
PEC	Philippine Electrical Code
PEMC	Philippine Electricity Market Corporation
PPD	Prompt Payment Discount
PSA	Power Supply Agreement
PSALM	Power Sector Assets and Liabilities Management
RCOA	Retail Competition and Open Access
RDWR	Rules for Setting Distribution Wheeling Rates
RE	Renewable Energy
REPA	Renewable Energy Payment Agreement
RES	Retail Electricity Supplier
RESA	Renewal Energy Supply Agreement
RORB	Return on Rate Base
RP	Regulatory Period
RSC	Retail Supply Contract
RSEC-WR	Rules for Setting the Electric Cooperatives' Wheeling Rates
RTWR	Rules for Setting Transmission Wheeling Rates
SGC	Successor Generating Company
SLR	System Loss Rate
SOLR	Supplier of Last Resort
SPUG	Small Power Utilities Group
TCGR	True Cost Generation Rate
TR	Transmission Rate
TRANSCO	National Transmission Corporation
TSC	Transition Supply Contract
TWRG	Transmission Wheeling Rates Guidelines
UC	Universal Charge
UCME	Universal Charge - Missionary Electrification
WACC	Weighted Average Cost of Capital
WESM	Wholesale Electricity Spot Market