



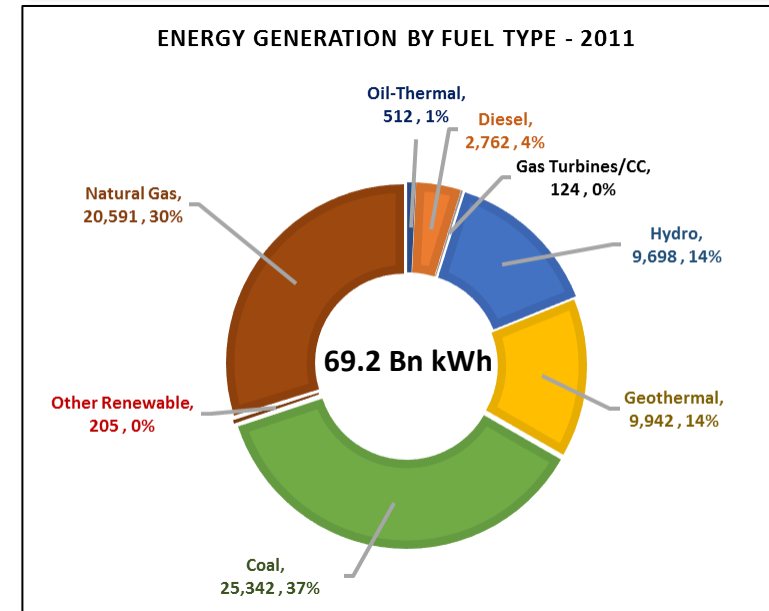
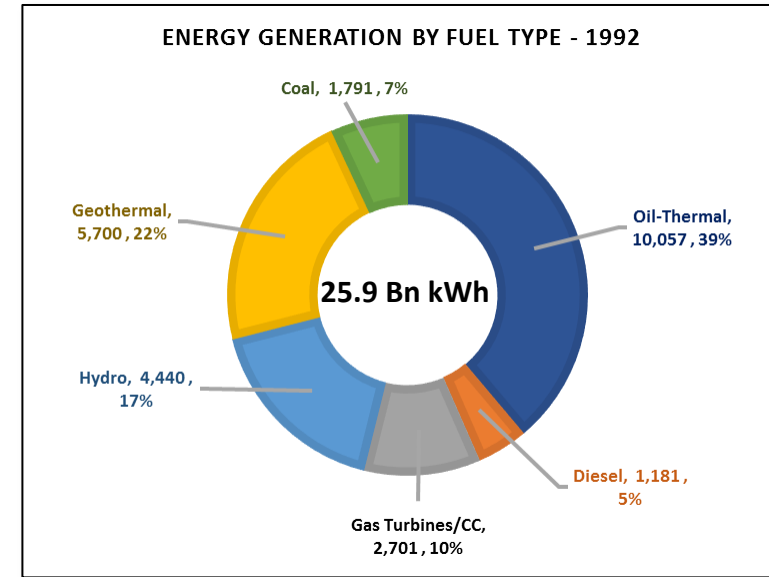
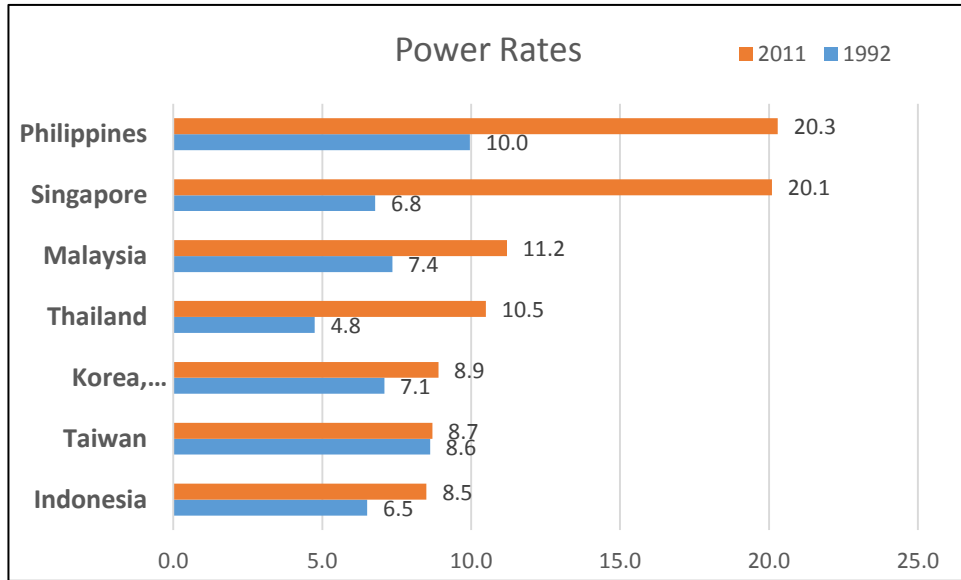
# Achieving a Competitive Power Rate

July 17, 2014

# Power Rate Reduction:

- How much? (Quantum)
- For what reason? (Rationale)
  - From where?
  - For whom?

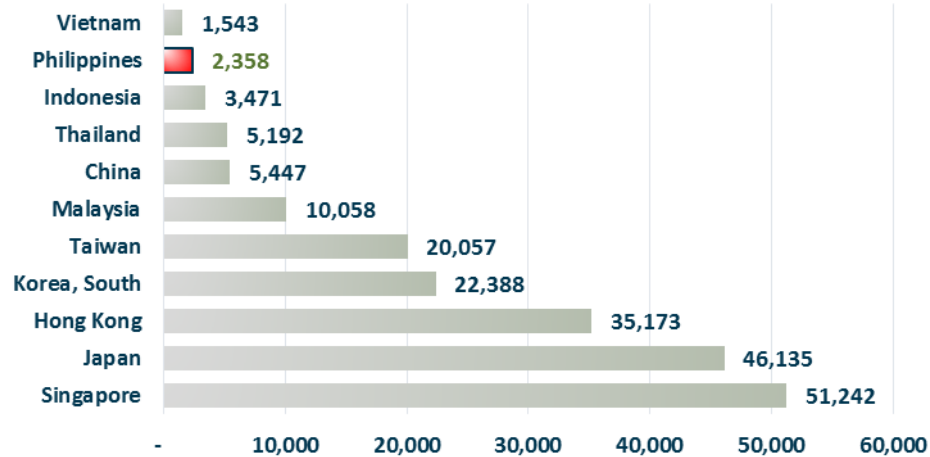
# Power production cost from coal and oil tripled in 2 decades



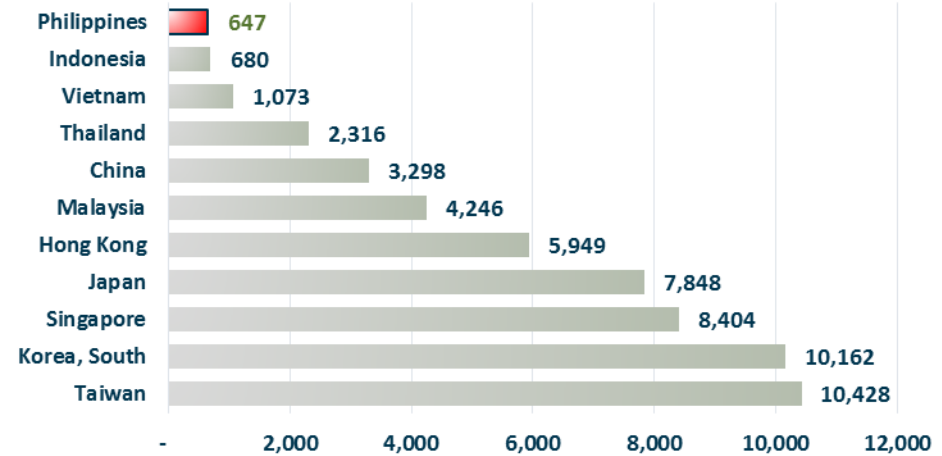
Period	FXR	Coal Price (Australia)	Brent Oil Price Index
	PhP/US\$	US\$/Ton	US\$/Bbl
June 1992	26.1	39.50	21.15
January 2012	43.6	117.30	111.16
Var. (%)	67%	197%	426%

# Comparative Standing on GDP, Energy Use and Prices

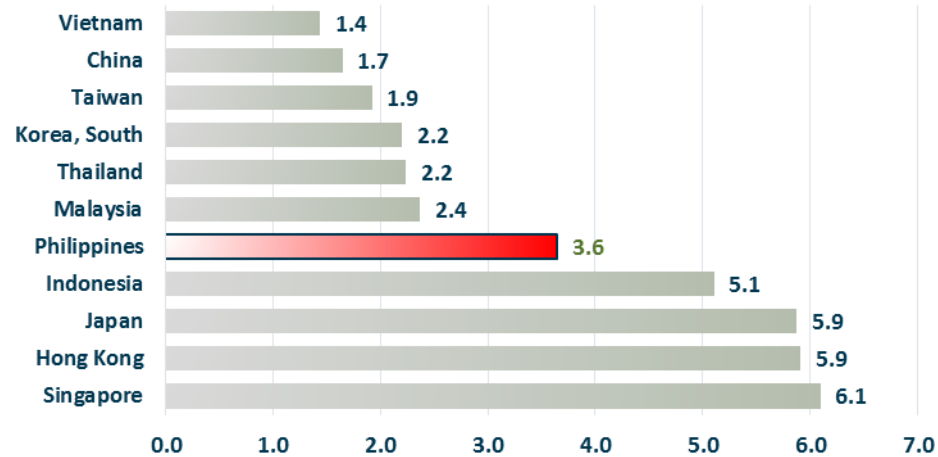
## Per Capita GDP (US\$)



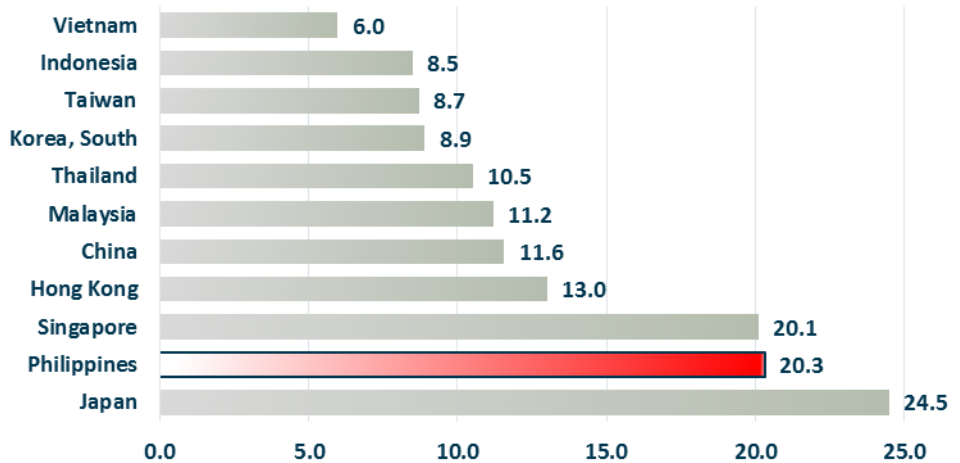
## Per Capita Consumption (kWh)



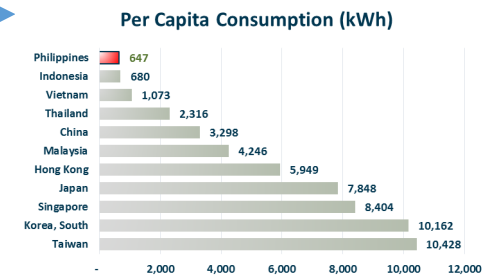
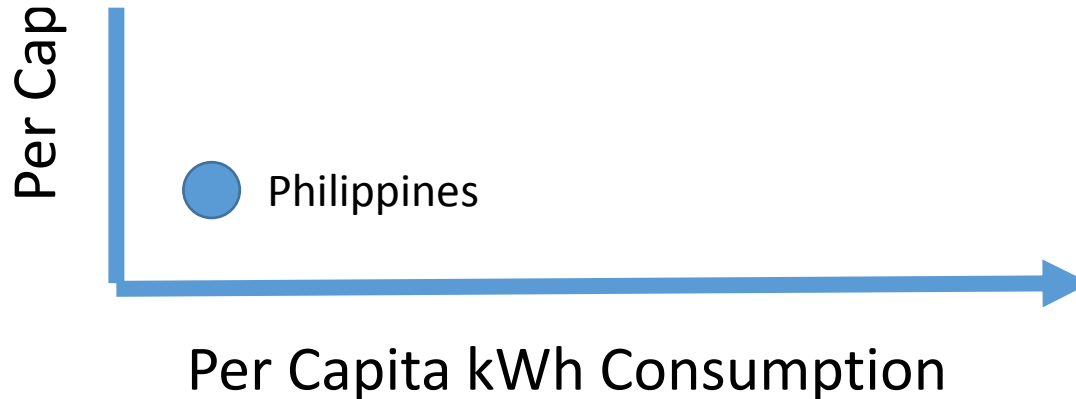
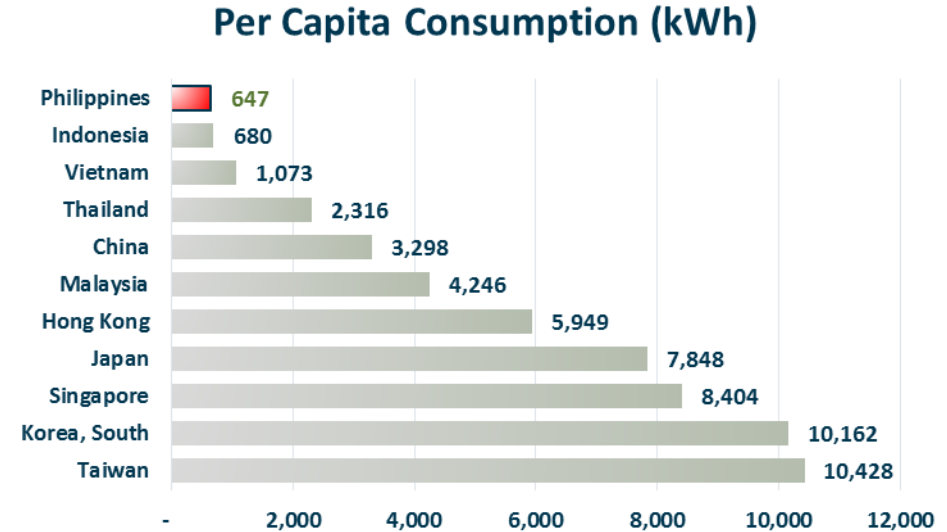
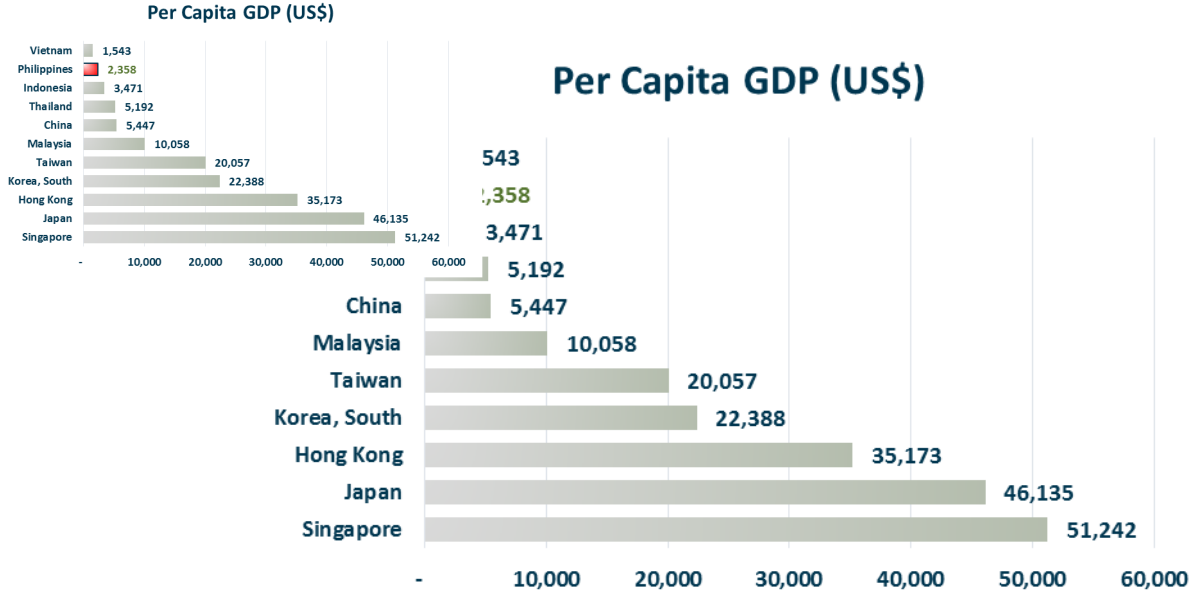
## GDP per Consumption (US\$/kWh)



## Power Rate (US ¢/kWh)

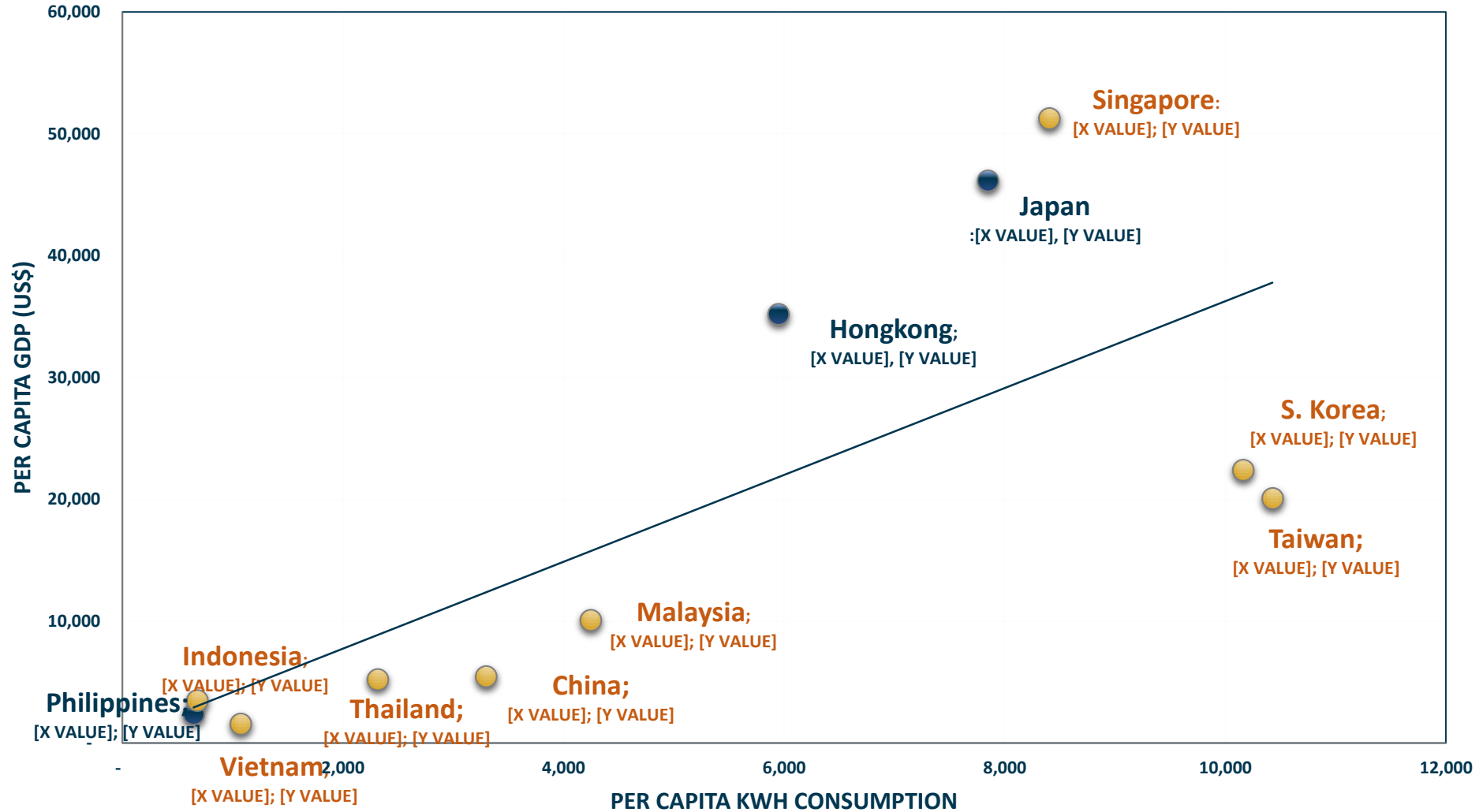


# Comparative Economic & Technical Standing

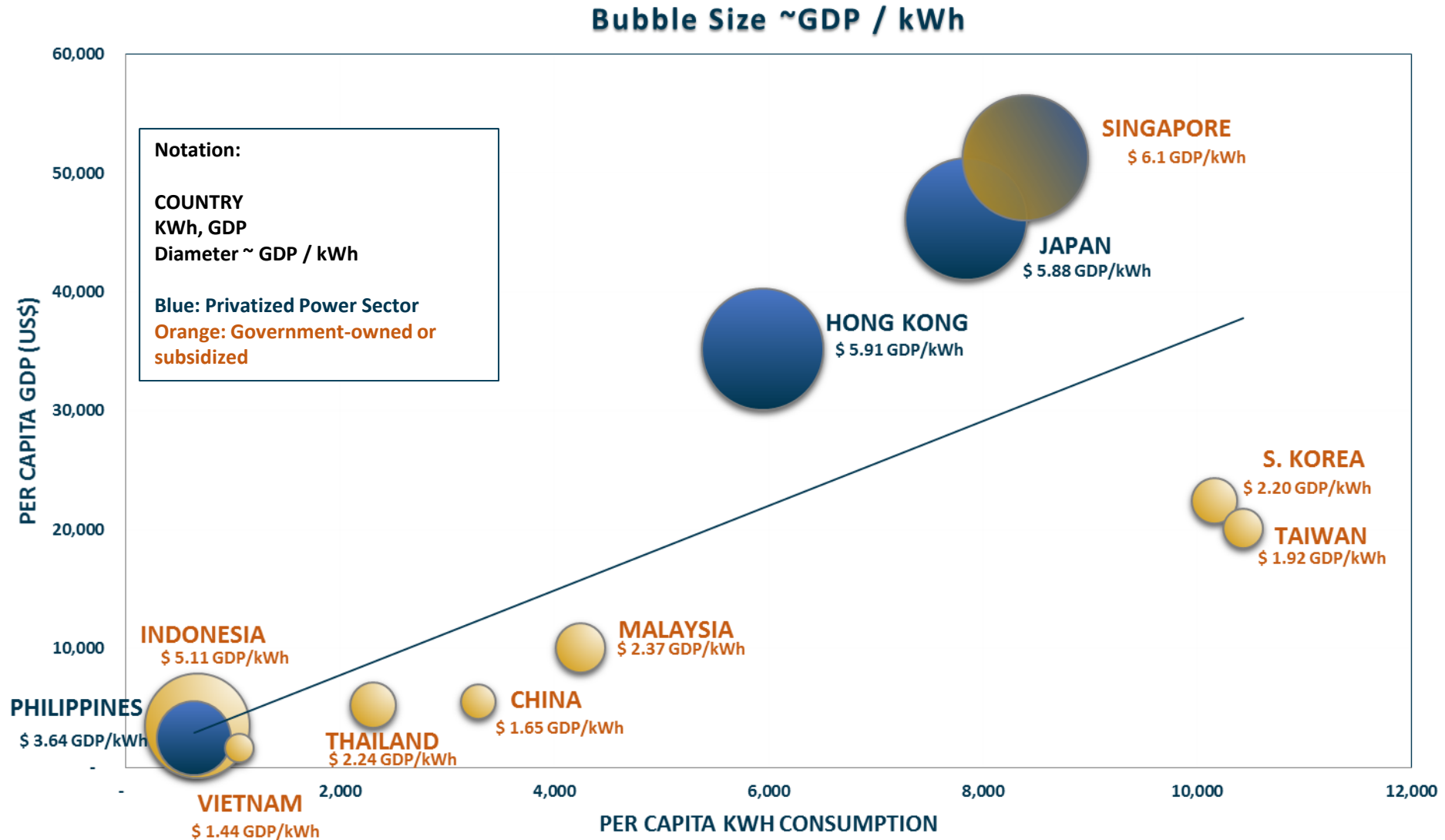


# Comparing per capita GDP and kWh Consumption

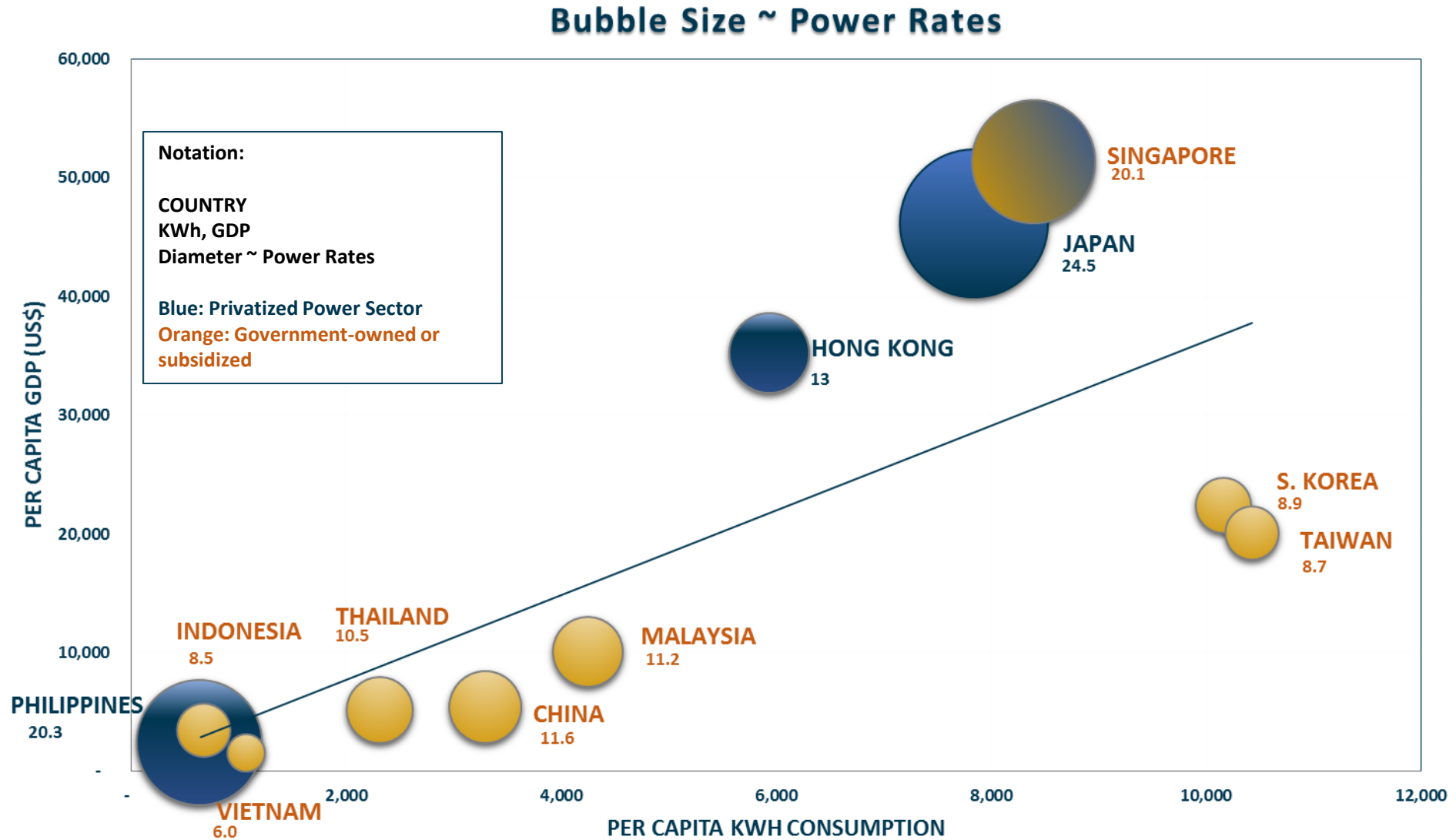
## PER CAPITA GDP VS. PER CAPITA KWH CONSUMPTION



# We are competitive in GDP/kWh Productivity

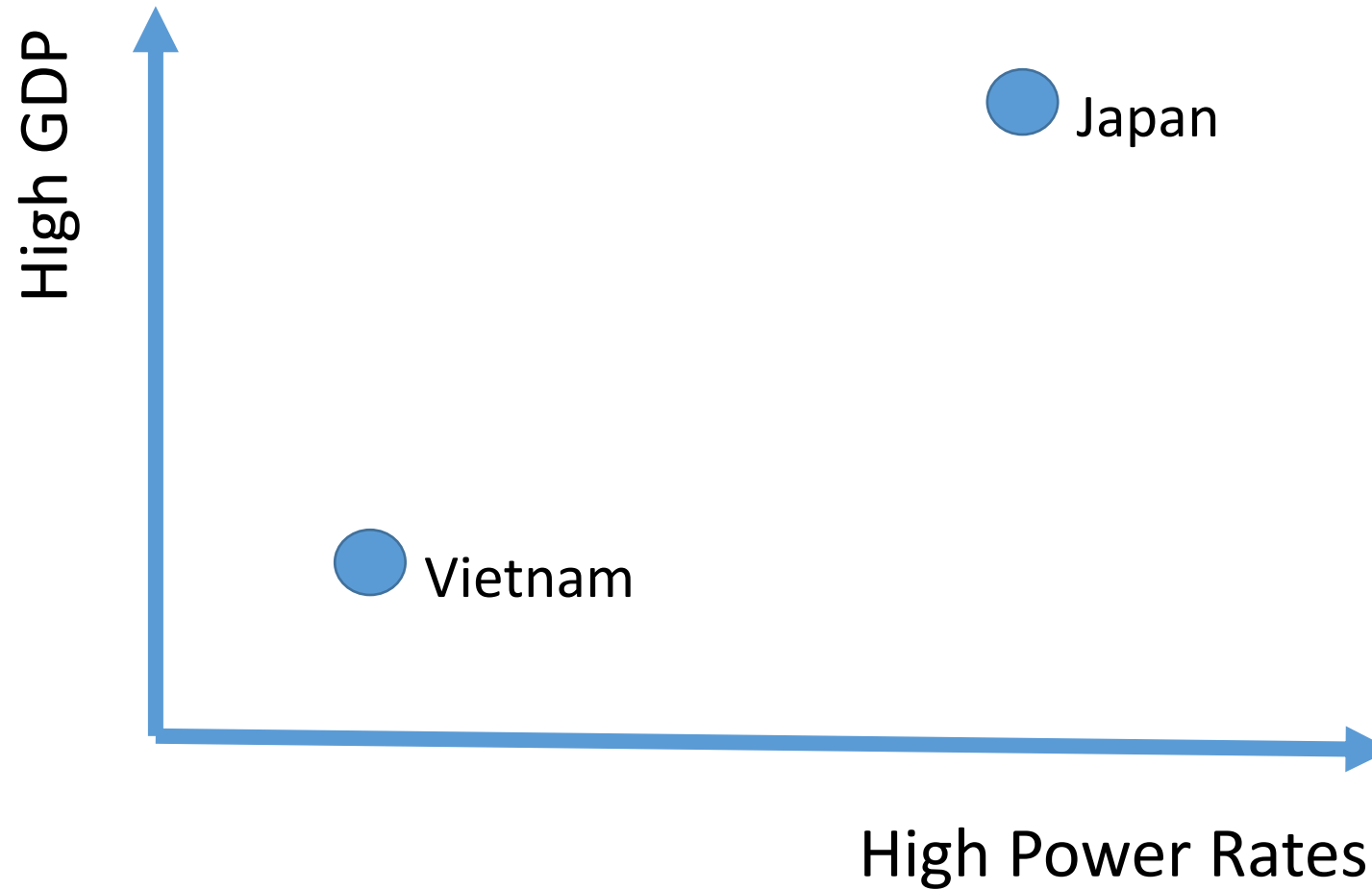


# Countries with privatized power sector have high rates

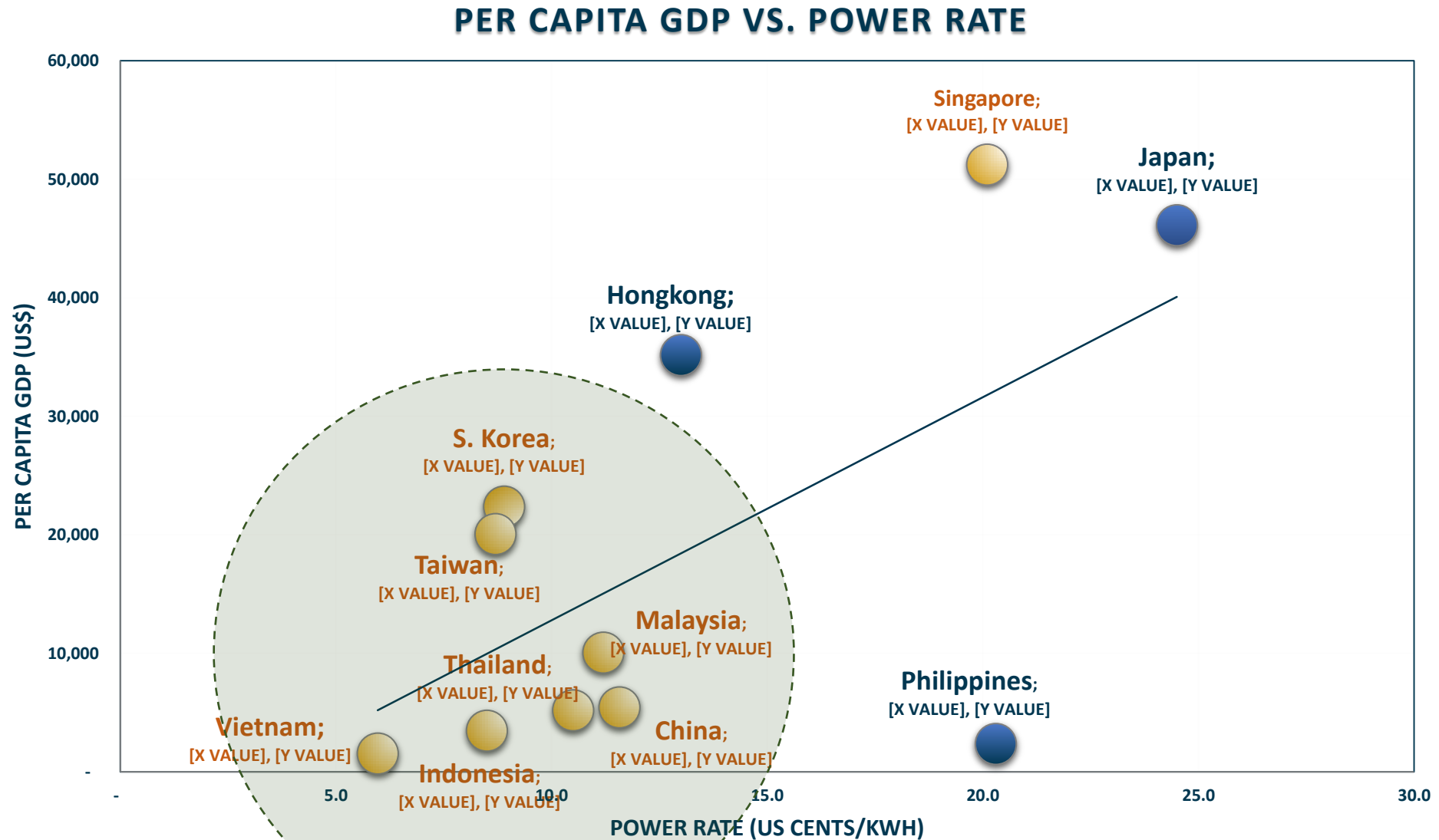




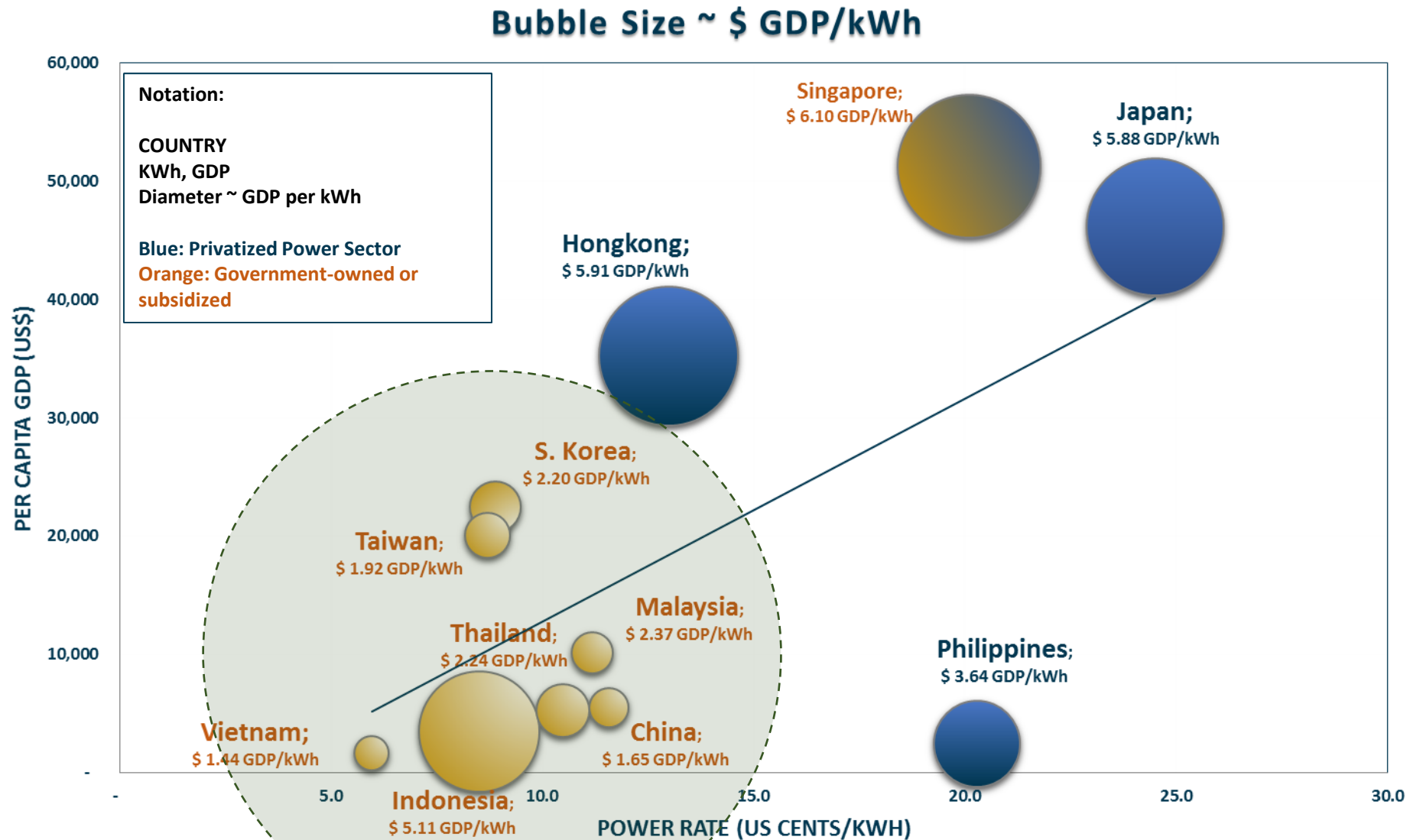
# GDP and Power Rates



# The neighbors with whom we compete.....

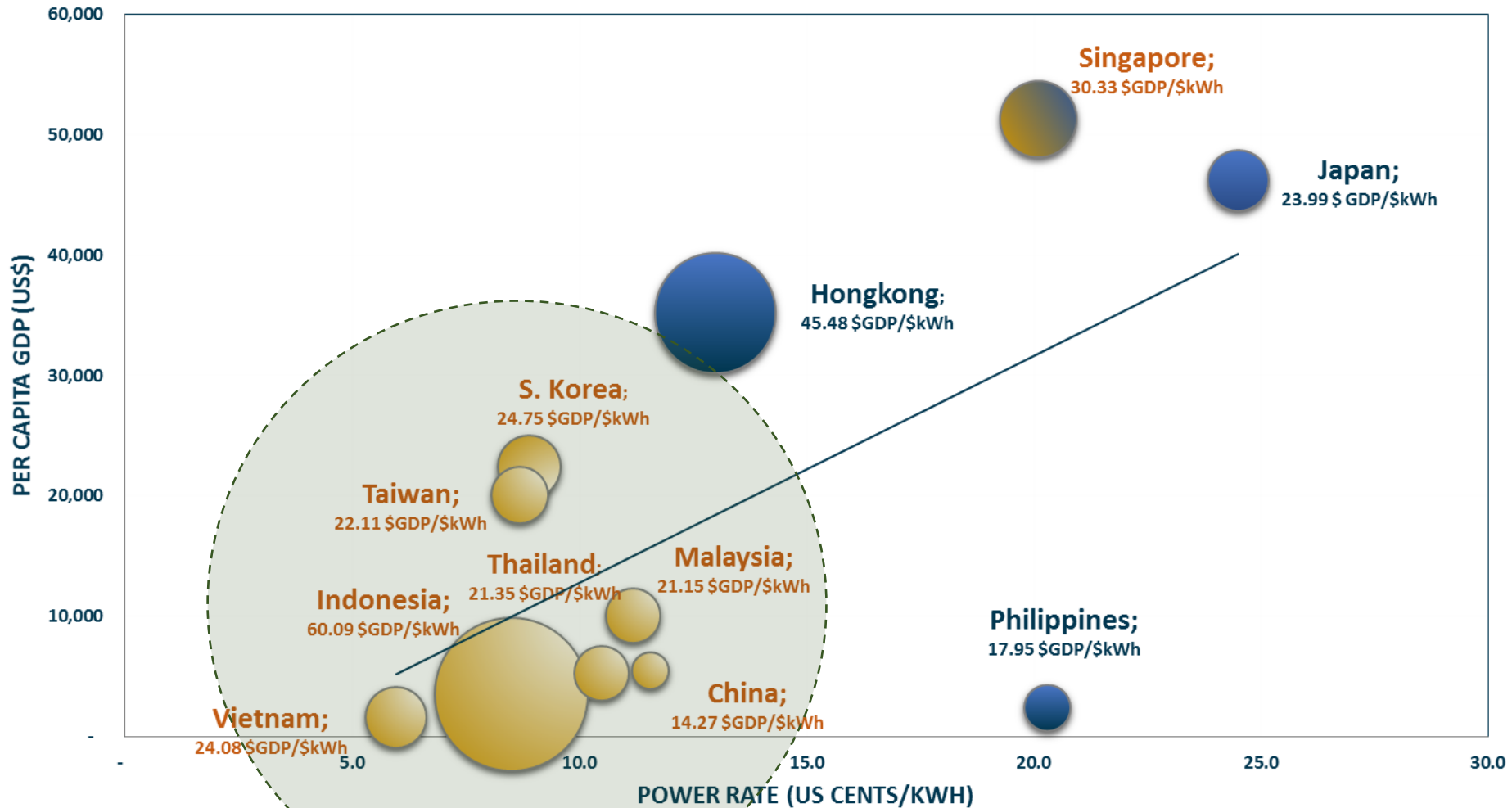


# We are better than most in GDP/kWh Productivity....



# But paying more for power weakens our competitiveness

\$ GDP per \$ Paid for kWh Power

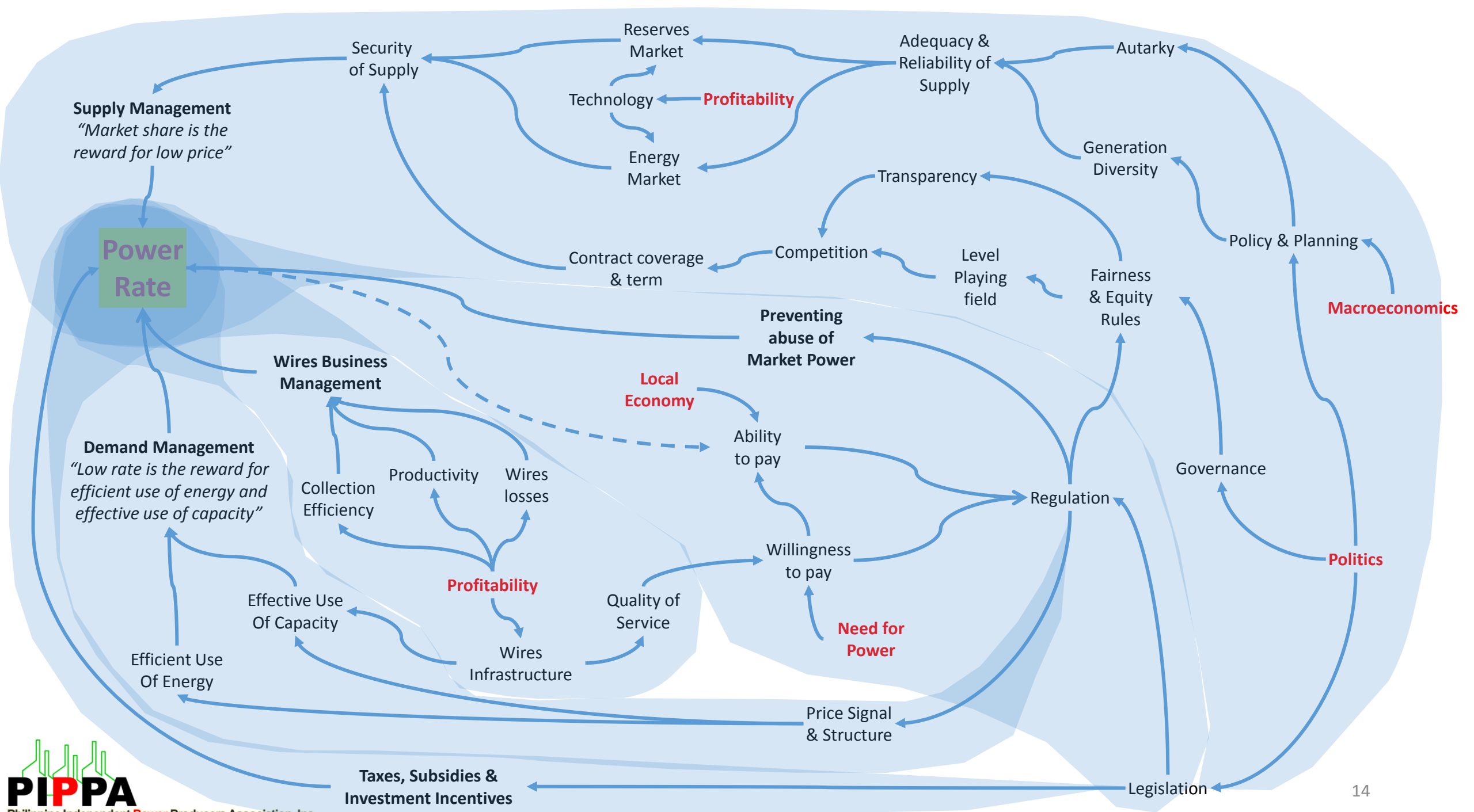


It's not the quantum of reduction so much as the rationale of setting a rate level that makes the Philippines at par with its neighbors in achieving the same US\$ GDP for each dollar spent in electricity

To be at par with the \$GDP/\$kWh of Malaysia, Thailand and Vietnam, Philippine power rates should be lower by about 20%

From where will the power rate reduction come?

To whom will the power rate reduction be given?



# Reducing Power Rates

## Supply Management

- Full supply contracting for DUs
  - 10 year term
  - 100% on first 3 years
- Auction of PSAs
- Full implementation of RCOA
- Forward Power Market
- Ancillary Service Rationalization
  - 1 day/year LOLE Reliability criteria
  - 85% contracting by NGCP
  - Unified cost allocation philosophy & collection
- Transparency of scheduled outage
- Indigenous energy development
- Market-sustainable renewable energy development
- Direct connection of host communities

## Demand Management

- Building & Equipment Efficiency Standards
- Power Factor & Harmonics control

## Wires Business Management

- System Loss & Pilferage control
- Collection Efficiency
- Productivity

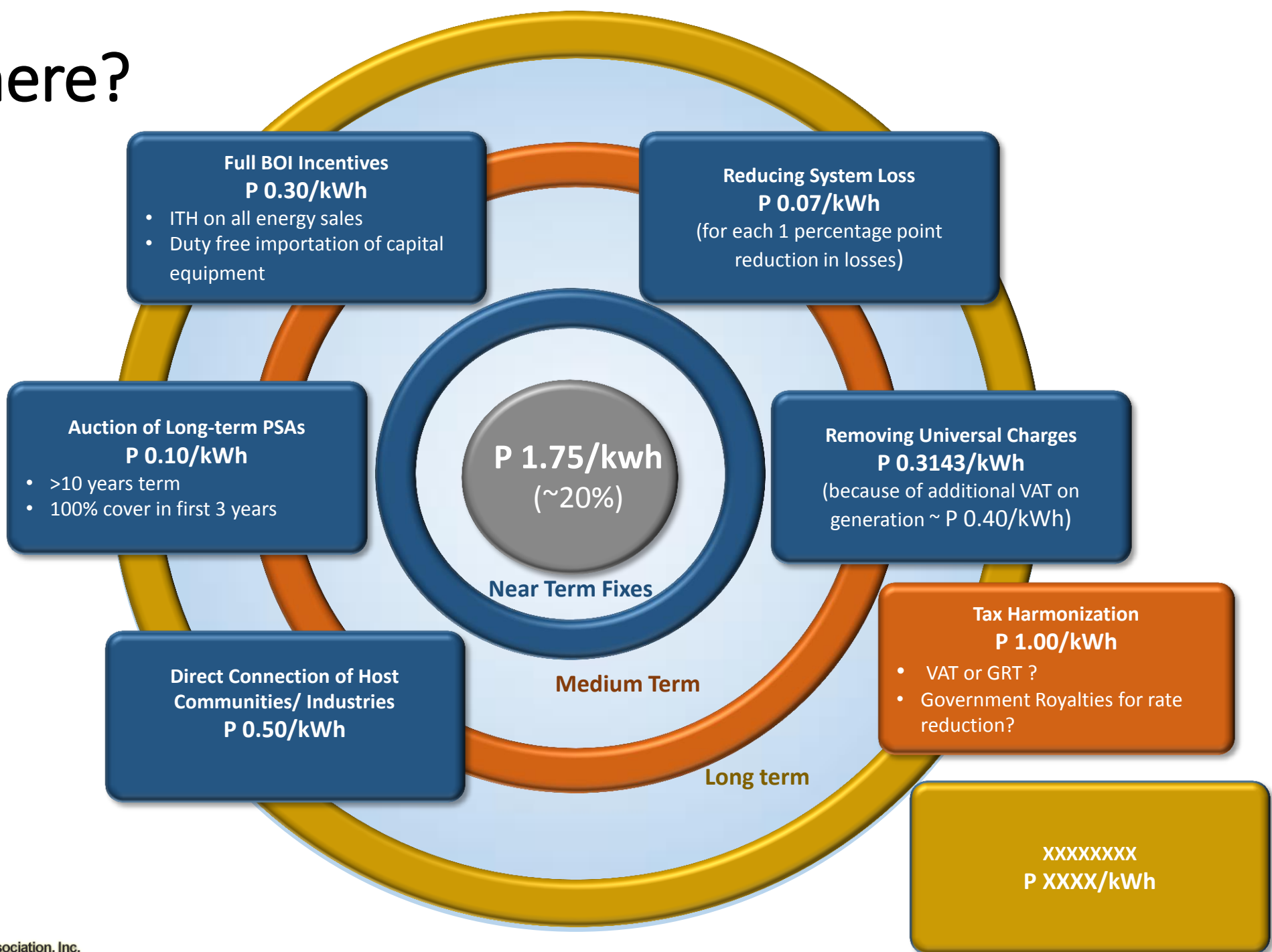
## Preventing Abuse of Market Power

- CSP for all DU PSAs
- WESM Price Cap
- Demand Side Bidding

## Taxes, Subsidies & Investment Incentives

- Tax rationalization
  - VAT, Franchise Taxes
  - Real Property
  - Government Royalties
  - LGU taxes
- EPIRA Universal Charges
- BOI Incentives
- Streamlining of government permits

# From where?





# To whom should the power rate reduction be given?

- A “peanut butter” approach may be politically expedient but not economically efficient, especially in the context of a strategy of reducing rates for competitiveness.
  - Some may be applied to all, e.g., removal of Universal Charges
  - Some may be directed to industries with strategic dividends, e.g., use of Malampaya funds to subsidize “sunshine” industries in a manner provided by law
  - Some may be directed to host communities of generating plants, e.g., direct connection of local DUs and industries

Thank You

# Annexes

# Power Supply Management

Proposal	Particulars	Rate Impact	Implementability
Full supply contracting by DUs	<ul style="list-style-type: none"> <li>DUs shall secure PSAs:                             <ul style="list-style-type: none"> <li>term covering the next 10 years</li> <li>100% coverage of immediate 3 years</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Lower cost of capital for plant investment vested with 10 year PSAs</li> <li>1% <math>\Delta</math> in WACC ~ P 0.10/kWh</li> </ul>	<ul style="list-style-type: none"> <li>Immediate; by DOE Department Circular to all DUs</li> </ul>
Auction of PSAs	<ul style="list-style-type: none"> <li>Improve efficiency in competitive selection process for DU PSAs through demand aggregation</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in rate as this will bring competition</li> </ul>	<ul style="list-style-type: none"> <li>Requires rules from the ERC. May take 1 year for the release of said rules</li> </ul>
Full implementation of RCOA	<ul style="list-style-type: none"> <li>Mandatory contestability</li> <li>Definite timetable of contestability threshold in next 10 years</li> </ul>	<ul style="list-style-type: none"> <li>Customer Choice. Similar to EC Aggregation, household level may aggregate</li> </ul>	<ul style="list-style-type: none"> <li>Will take five to ten years before ERC can implement.</li> </ul>
Forward power market	<ul style="list-style-type: none"> <li>Power contracts are hedged. Assured of supply even when forced outages occur.</li> </ul>	<ul style="list-style-type: none"> <li>Prices determined by hedged contracts. Will send pricing signal for additional capacity if prices are high.</li> </ul>	<ul style="list-style-type: none"> <li>May take 1.5 years in the development of rules</li> <li>Supply must be sufficient as pre-condition</li> </ul>
Ancillary services rationalization	<ul style="list-style-type: none"> <li>1 day/year LOLE Reliability criteria</li> <li>85% contracting by NGCP</li> <li>Unified cost allocation philosophy &amp; collection</li> </ul>		<ul style="list-style-type: none"> <li>Dependent on release of PCRM from ERC. DOE pushing for within the year</li> </ul>
Transparency in scheduled outages	<ul style="list-style-type: none"> <li>NGCP to publish the GOMP</li> </ul>	<ul style="list-style-type: none"> <li>Reduce price volatility in the market</li> </ul>	<ul style="list-style-type: none"> <li>Immediate; by DOE Department Circular to NGCP</li> </ul>
Indigenous energy development	<ul style="list-style-type: none"> <li>Lessen dependence on imported fuel cost</li> </ul>	<ul style="list-style-type: none"> <li>fuel prices not index to coal and oil</li> </ul>	<ul style="list-style-type: none"> <li>Short term due to permitting requirement</li> </ul>
Market-sustainable renewable energy development	<ul style="list-style-type: none"> <li>May provide short term solution for additional capacity</li> </ul>	<ul style="list-style-type: none"> <li>Increase prices due to FIT</li> </ul>	<ul style="list-style-type: none"> <li>Short term due to permitting of renewable plants</li> </ul>

# Demand Management

Proposal	Particulars	Rate Impact	Implementability
Building & Equipment Efficiency Standards	<ul style="list-style-type: none"> <li>Revisit the energy efficiency program of the DOE</li> <li>Financing to replace bulbs</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in reliance imported fuels</li> </ul>	<ul style="list-style-type: none"> <li>Immediate. DOE can revive the DC issued in 1993</li> </ul>
Power Factor & Harmonics Control	<ul style="list-style-type: none"> <li>Improve efficiency of operation – loss reduction and pf improvement</li> <li>Introduction of demand response program, ie. load management or load leveling, improve load factor, etc. – demand’s reactive method to reduce or flatten its instantaneous demand</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in rates (transmission and distribution)</li> </ul>	<ul style="list-style-type: none"> <li>Short term. Will require equipment installation for industry</li> </ul>

# Wires Business Management

Proposal	Particulars	Rate Impact	Implementability
System Loss & Pilferage control	<ul style="list-style-type: none"> <li>Beyond the System Loss Cap DUs/ECs are not allowed to pass on the losses to their customers</li> <li>Below the cap DUs/ECs can pass on 50% of their savings to the customers.</li> </ul>	<ul style="list-style-type: none"> <li>50% of savings passed to consumers due to reduction in system loss</li> <li>Php0.5589 (Meralco – June 2014)</li> </ul>	<ul style="list-style-type: none"> <li>Medium term as ECs/DUs need to have a Capex program.</li> </ul>
Collection Efficiency	<ul style="list-style-type: none"> <li>Availment of prompt payment discount</li> </ul>	<ul style="list-style-type: none"> <li>50% of discount passed on to consumers</li> </ul>	<ul style="list-style-type: none"> <li>Short term. Disconnect delinquent customers immediately</li> </ul>
Productivity	<ul style="list-style-type: none"> <li>To be globally competitive, DUs should have a productivity ratio of about 700 connections per employee</li> </ul>	<ul style="list-style-type: none"> <li>EC Average productivity = 411 connections/employee</li> <li>Translates to ~ P 0.01/kWh based on typical EC with 68,000 connections and 116 monthly use per connection</li> </ul>	
Institutional Capacity Building	<ul style="list-style-type: none"> <li>Good governance</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in rates for ECs as any reduction are passed on to the customers.</li> </ul>	<ul style="list-style-type: none"> <li>1 to 2 years. Strict implementation of RA 10531 to govern selection of competent EC Board members</li> </ul>

# Preventing Abuse of Market Power

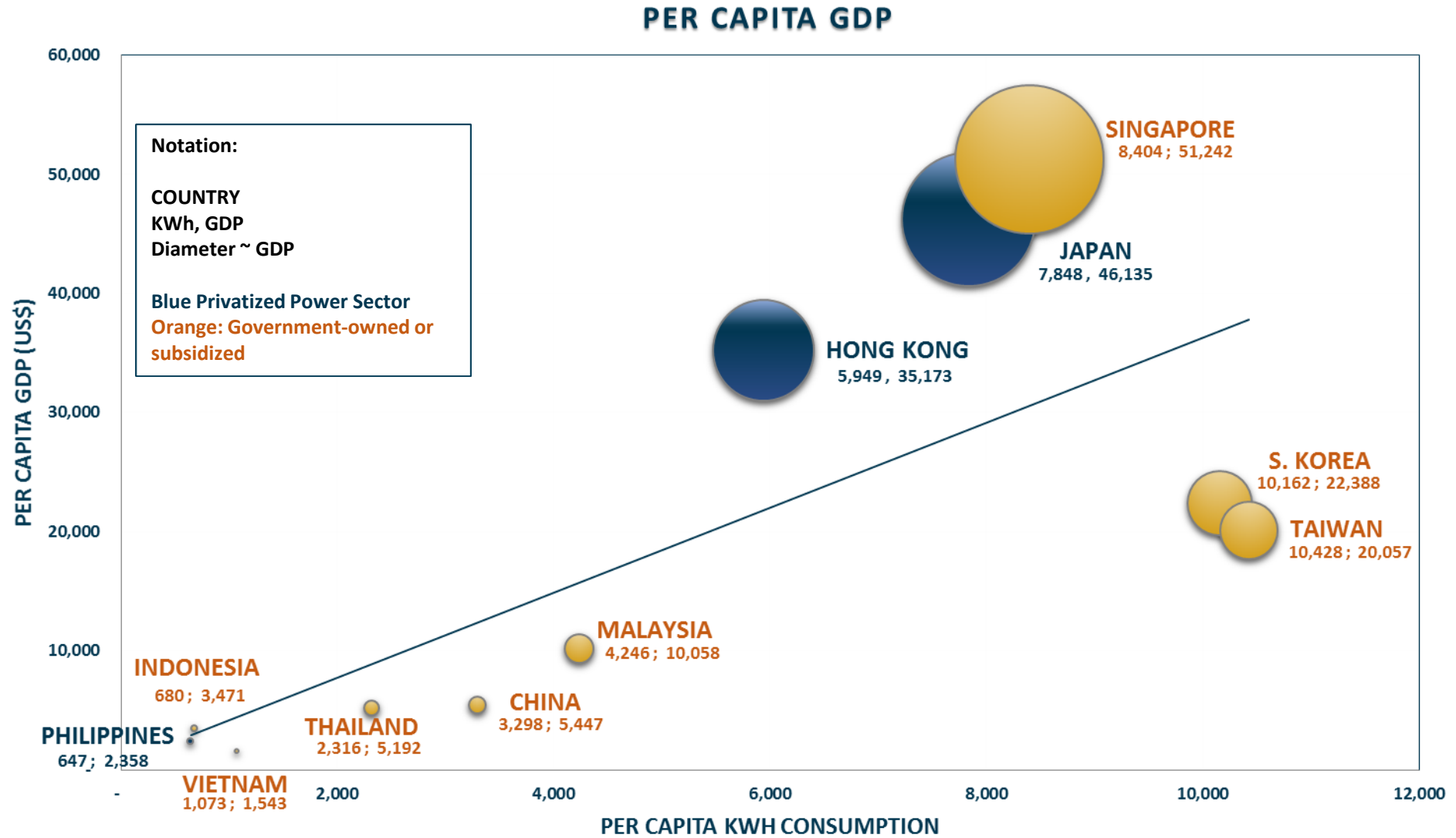
Proposal	Particulars	Rate Impact	Implementability
Competitive Selection Process for all DU PSAs	<ul style="list-style-type: none"> <li>Large DUs are prevented from exercising their power to contract with their Generator affiliates</li> <li>Streamline the review process of EC</li> </ul>	<ul style="list-style-type: none"> <li>Rates can be benchmarked and CSP allowed to proceed if offered price is lower than Benchmark rate.</li> </ul>	<ul style="list-style-type: none"> <li>Immediately ERC to issue rules</li> </ul>
WESM Price Cap	<ul style="list-style-type: none"> <li>Determine the unserved energy, duty hours and security capacity of WESM based on 1 day/year LOLE Reliability</li> <li>Set the market price cap through supply-side approach to encourage investment in the country</li> </ul>	<ul style="list-style-type: none"> <li>Replacement power during scarcity events will increase</li> </ul>	<ul style="list-style-type: none"> <li>Immediate. By DOE, ERC and PEMC</li> </ul>
Demand Side Bidding	<ul style="list-style-type: none"> <li>Enables the customer side to respond to prices in the market</li> <li>Complements the market price cap determination</li> </ul>	<ul style="list-style-type: none"> <li>Lower market prices during scarcity events as some customers can run their standby power acting as interruptible load</li> </ul>	<ul style="list-style-type: none"> <li>Immediate. By DOE, ERC and PEMC</li> </ul>

# Taxes, Subsidies & Investment Incentives

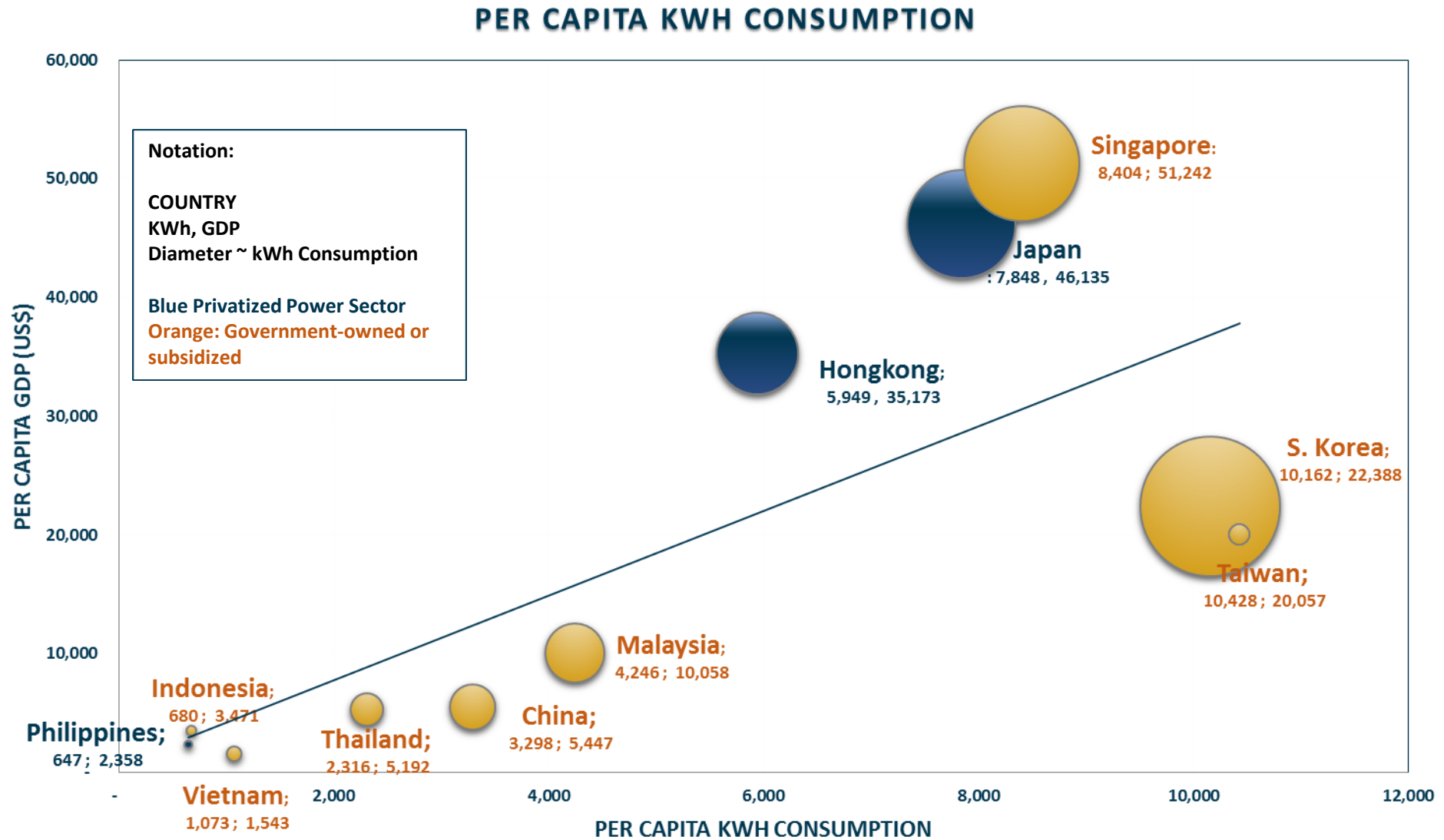
Proposal	Particulars	Rate Impact	Implementability
Tax Rationalization/ Harmonization	<ul style="list-style-type: none"> <li>VAT</li> <li>Franchise Tax (Meralco)</li> <li>Real Property Tax</li> <li>Government Royalties</li> <li>LGU taxes</li> </ul>	<ul style="list-style-type: none"> <li>Php1.090</li> <li>Php0.0493</li> </ul>	<ul style="list-style-type: none"> <li>Medium term. May require legislation</li> </ul>
EPIRA Universal Charge	<ul style="list-style-type: none"> <li>UC – Missionary Electrification</li> <li>UC – Environmental Charge</li> <li>UC - Stranded Contract</li> </ul>	<ul style="list-style-type: none"> <li>Php0.1180</li> <li>Php0.0025</li> <li>Php0.1938</li> </ul> Total Php0.3143	<ul style="list-style-type: none"> <li>Medium term. May require legislation</li> </ul>
BOI Investment Incentives	<ul style="list-style-type: none"> <li>Income Tax Holiday and exemption from Import Duties</li> </ul>	<ul style="list-style-type: none"> <li>BOI incentives can lower rate by about P 0.30/kWh</li> </ul>	<ul style="list-style-type: none"> <li>Yearly. Can be included in the IPP</li> </ul>
Streamlining of government permits	<ul style="list-style-type: none"> <li>Reduction in permits will facilitate fast turn around in construction of power plants</li> </ul>		<ul style="list-style-type: none"> <li>Medium Term. May require legislation</li> </ul>



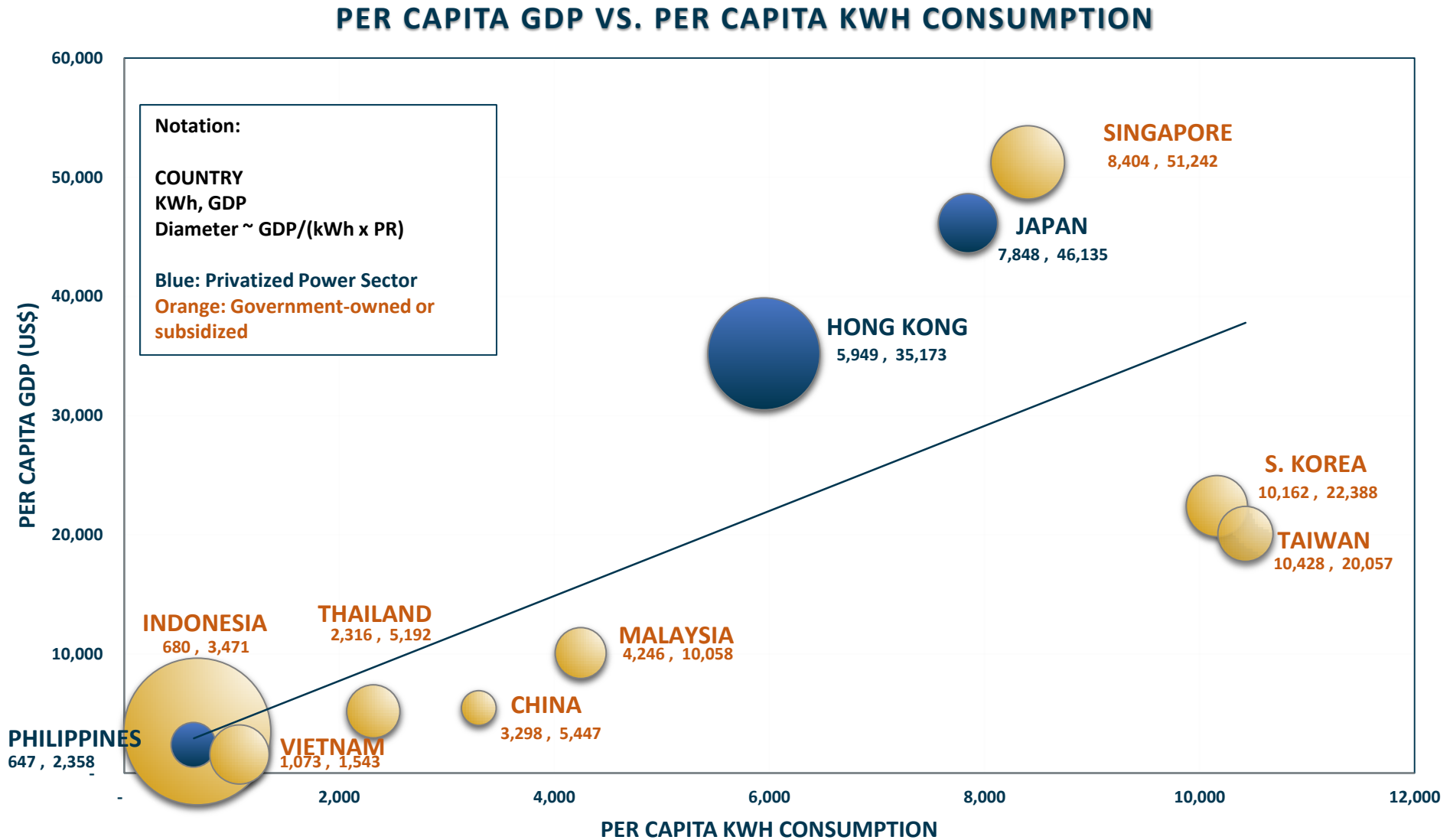
# Per Capita GDP



# Per Capita kWh Consumption



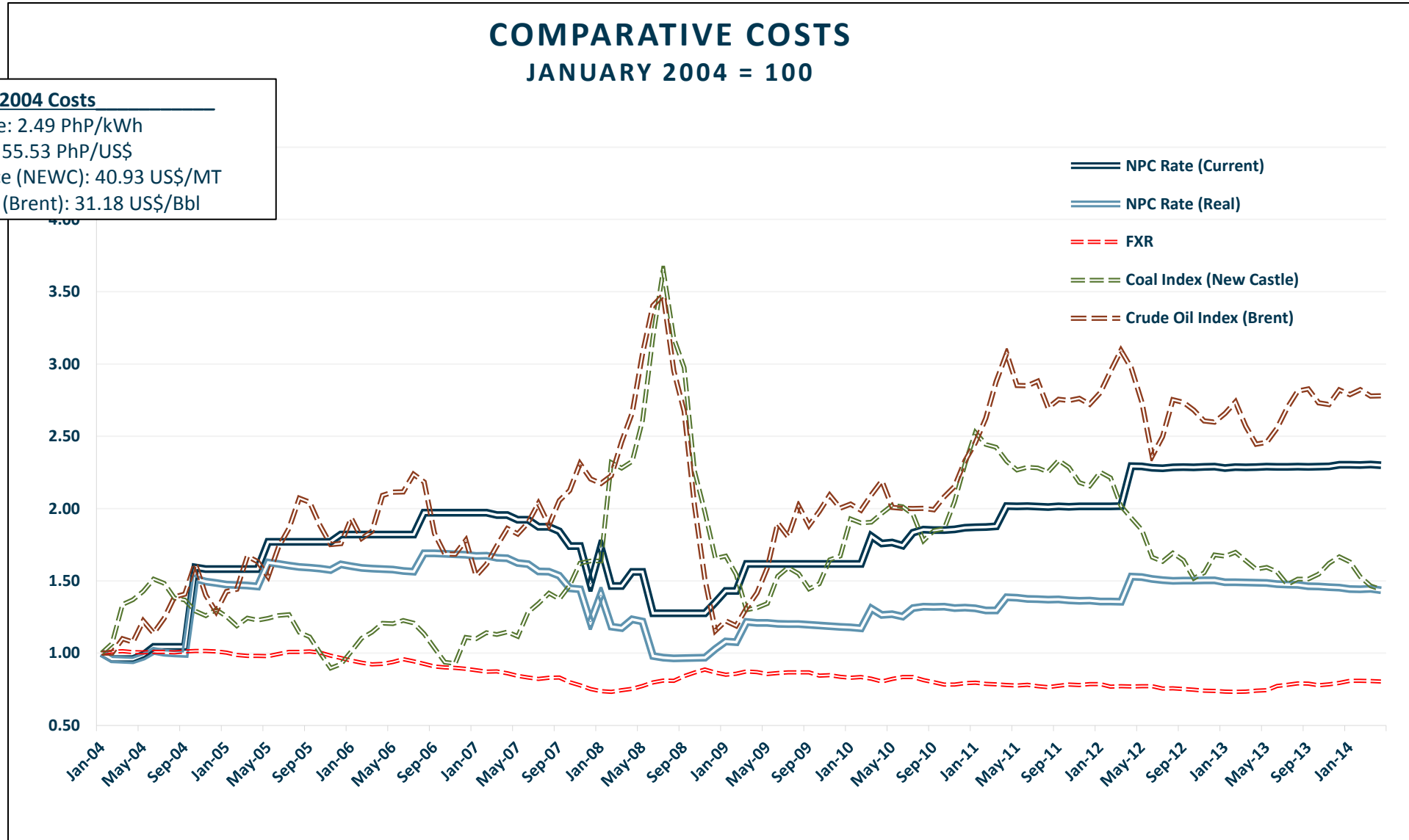
# Comparative Power Rates



# Cost Profile

## COMPARATIVE COSTS JANUARY 2004 = 100

**January 2004 Costs**  
 NPC Rate: 2.49 PhP/kWh  
 FX Rate: 55.53 PhP/US\$  
 Coal Price (NEWC): 40.93 US\$/MT  
 Oil Price (Brent): 31.18 US\$/Bbl



# Comparison of HK to Philippines

	Hong Kong	Philippines
Power plants	<ul style="list-style-type: none"> <li>Composed of big generating units                             <ul style="list-style-type: none"> <li>Coal (Castle Peak and Lamma) = 4,108+ 3,736</li> <li>Gas (Black Point and Penny's Bay )= 2,500 + 300</li> <li>Wind (Lamma) =0.8</li> </ul> </li> <li>Imported from China = 23% of total energy</li> </ul>	<ul style="list-style-type: none"> <li>composed of smaller units</li> <li>cannot import power</li> </ul>
Load factor	~53%	~60%
Generation charge	<ul style="list-style-type: none"> <li>For 500kWh Residential                             <ul style="list-style-type: none"> <li>CLP = PhP<b>6.27</b>/kWh (HK\$1.1178/kWh)</li> <li>HK Electric = PhP<b>6.09</b>/kWh (HK\$1.0858/kWh)</li> </ul> </li> <li>Increasing Gen Charge for increasing kWh consumption</li> </ul>	<ul style="list-style-type: none"> <li>For 500kWh Residential                             <ul style="list-style-type: none"> <li>Meralco (June)= PhP<b>5.31</b>/kWh</li> </ul> </li> <li>Same generation charge for any kWh consumption</li> </ul>