



## Where to from here for The Philippines and Vietnam?

Sarah Fairhurst  
PowerGEN Asia 2015

## Cast your mind back to 2006...

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- The WESM started in the Philippines
- It was the first electricity market in developing Asia... and it seemed to work back then  
... now, questions are arising!
- Fast forward to 2015 and Vietnam is also very close to starting a market with the conceptual design approved in July 2014 and the “detailed” design approved 3 weeks ago

What lessons can we take from Philippines WESM over the 9 years of history to apply to Vietnam?

# The WESM has recently been in the news

Press attention

**Palace: Meralco not off the hook after ERC blames WESM for higher power rates**

By KIMBERLY

ERC orders

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

IN THE MATTER OF THE PRICES IN THE WHOLESALE ELECTRICITY SPOT MARKET (WESM) FOR THE SUPPLY MONTHS OF NOVEMBER AND DECEMBER 2013 AND THE EXERCISE BY THE COMMISSION OF ITS REGULATORY POWERS TO INTERVENE AND DIRECT THE IMPOSITION OF REGULATED PRICES THEREIN WITHOUT PREJUDICE TO THE ONGOING INVESTIGATION ON THE ALLEGATION OF ANTI-COMPETITIVE BEHAVIOR AND POSSIBLE ABUSE OF MARKET POWER COMMITTED BY SOME WESM PARTICIPANTS

ERC CASE NO. 2014-021 MC

DO NOTED  
Date: 08/06/2015  
By: [Signature]

ORDER

DOE resolutions



JOINT RESOLUTION NO. 2

ADJUSTMENTS TO THE WHOLESALE ELECTRICITY SPOT MARKET OFFER PRICE CAP



Philippine Electricity Market Corporation

Supreme Court petitions

Republic of the Philippines  
SUPREME COURT  
Manila

NATIONAL ASSOCIATION OF ELECTRICITY CONSUMERS FOR REFORMS (NASECORE), represented by Petronilo L. Ilagan, FEDERATION OF VILLAGE ASSOCIATIONS (FOVA), represented by Siegfriedo A. Veloso, FEDERATION OF LAS PINAS HOMEOWNERS ASSOCIATION (FOLPHA), represented by Bonifacio Dazo, and RODRIGO C. DOMINGO, JR., in his personal capacity and as member of the Class, Petitioners,

G. R. No. 210255

Most of the attention has been negative – is it deserved?

## Let's start with the basics

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1. What was the market meant to achieve?
2. Did it?
3. Will it?
4. And how much of this is applicable to Vietnam?

We step back and put some perspective on the WESM's role and on recent developments and risks

# The Philippines started with some good fundamentals

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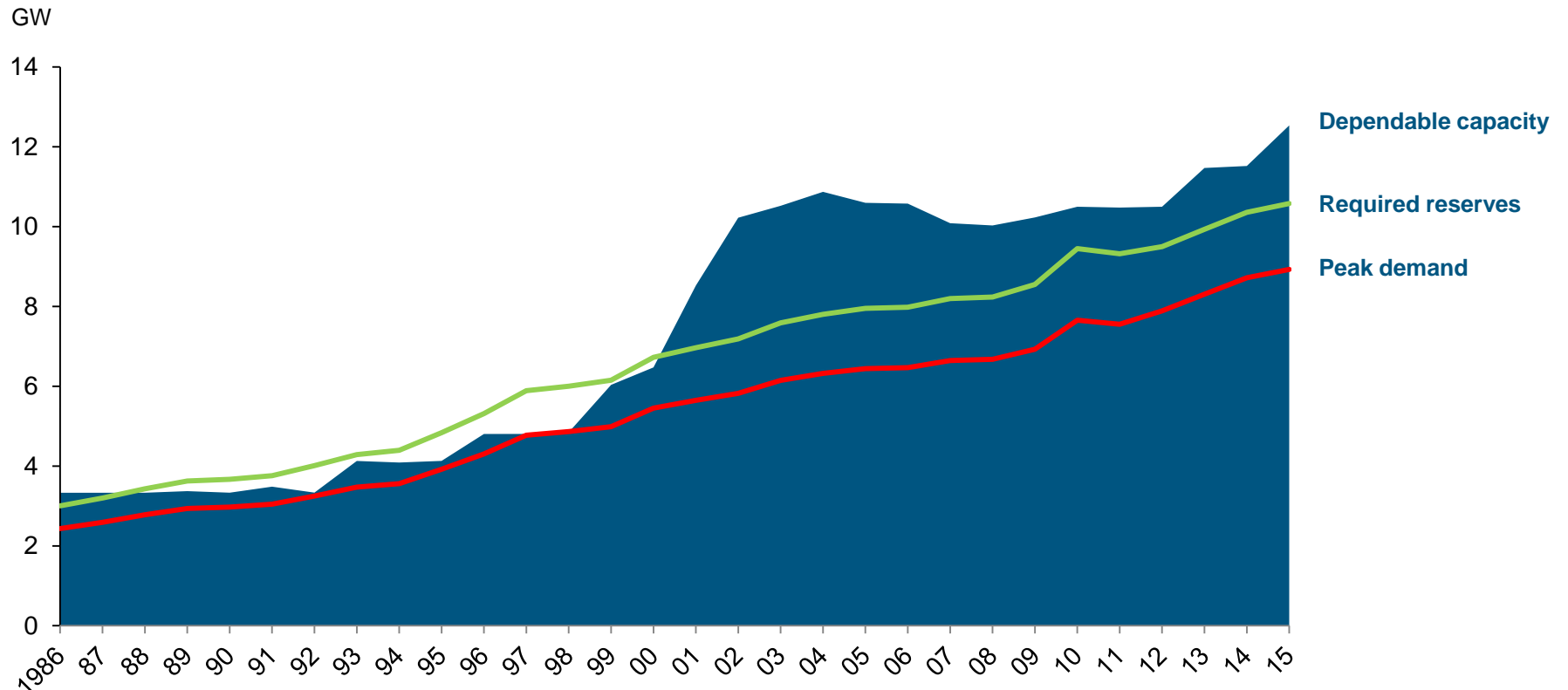
- Strong implementing legislation (EPIRA)
- (Mainly) good WESM market design – energy only gross pool with nodal prices and net settlement
- Privatisation of assets and also of contracts so that even pre-existing BOT plants entered the market
- No subsidies in electricity (but some of the highest residential and industrial prices in Asia)
- Separation of transmission from generation and distribution/retail
- (Mainly) independent regulator
- (Mainly) independent market operator

And possibly even more importantly, a capacity overhang!

Did it work?

A key requirement of any electricity market is that capacity enters when required

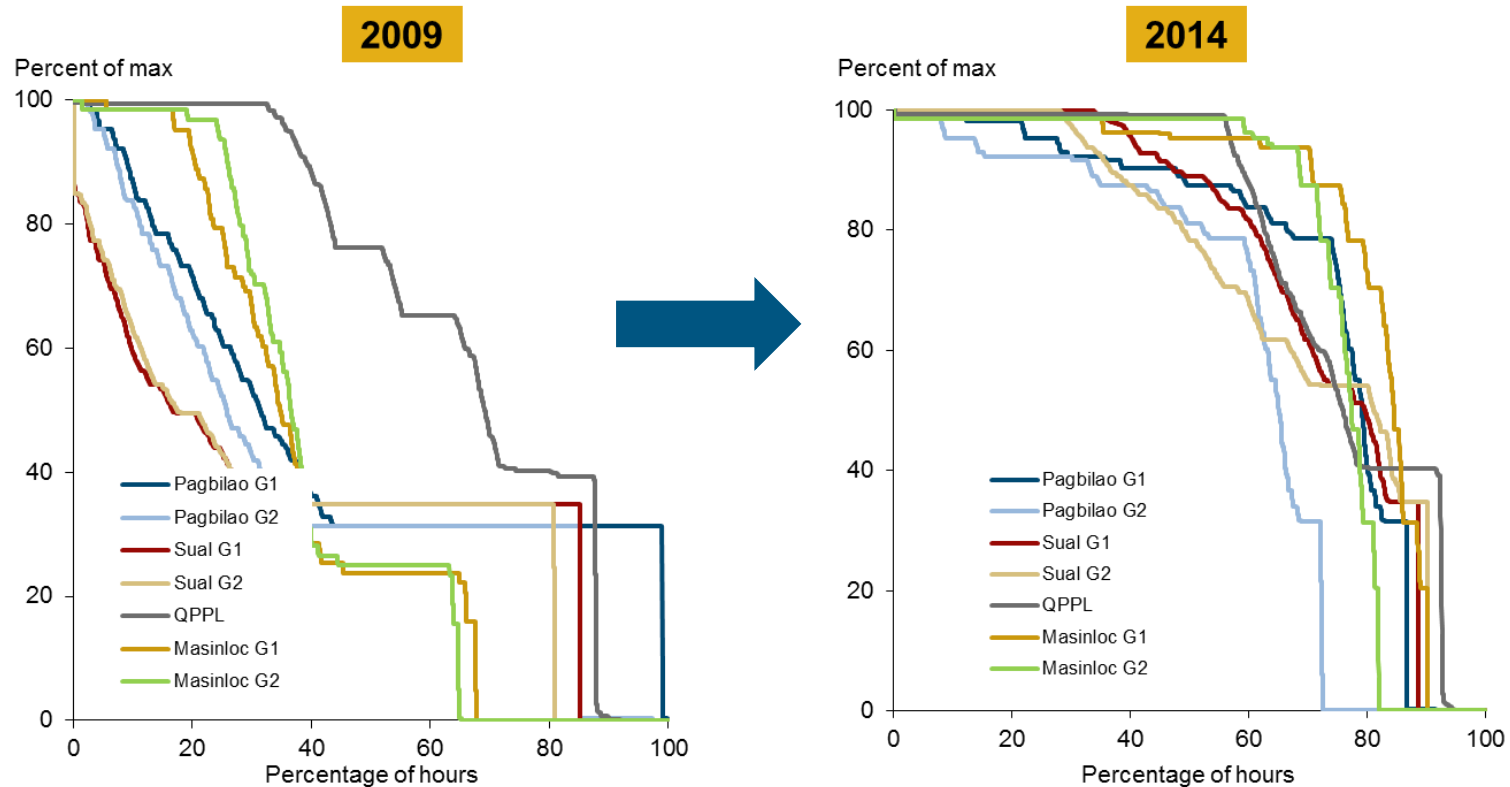
Supply and demand in Luzon (1986-2015)



But when the WESM started, and for several years, no new capacity was required

Between 2006 and 2014, only one new major thermal plant was built in Luzon

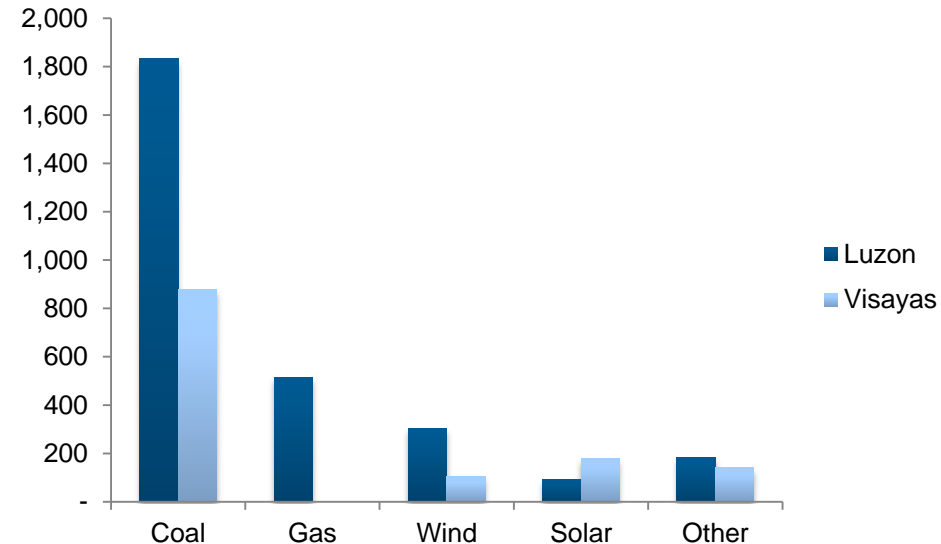
### Generating unit dispatch-duration curves: Major Luzon coal units



Because no more were needed. But they are now.

## In the last two years, however, more plant have come in

- Over 2700 MW of coal has commissioned or is under construction
- 408 MW of wind, and 272 MW of solar, has entered – mainly driven by the Feed in Tariff but not all projects earn FIT rates
- Between 500 MW of gas that can access the existing gas supply is under construction (with another 300-600MW near a proposed LNG terminal also under construction)

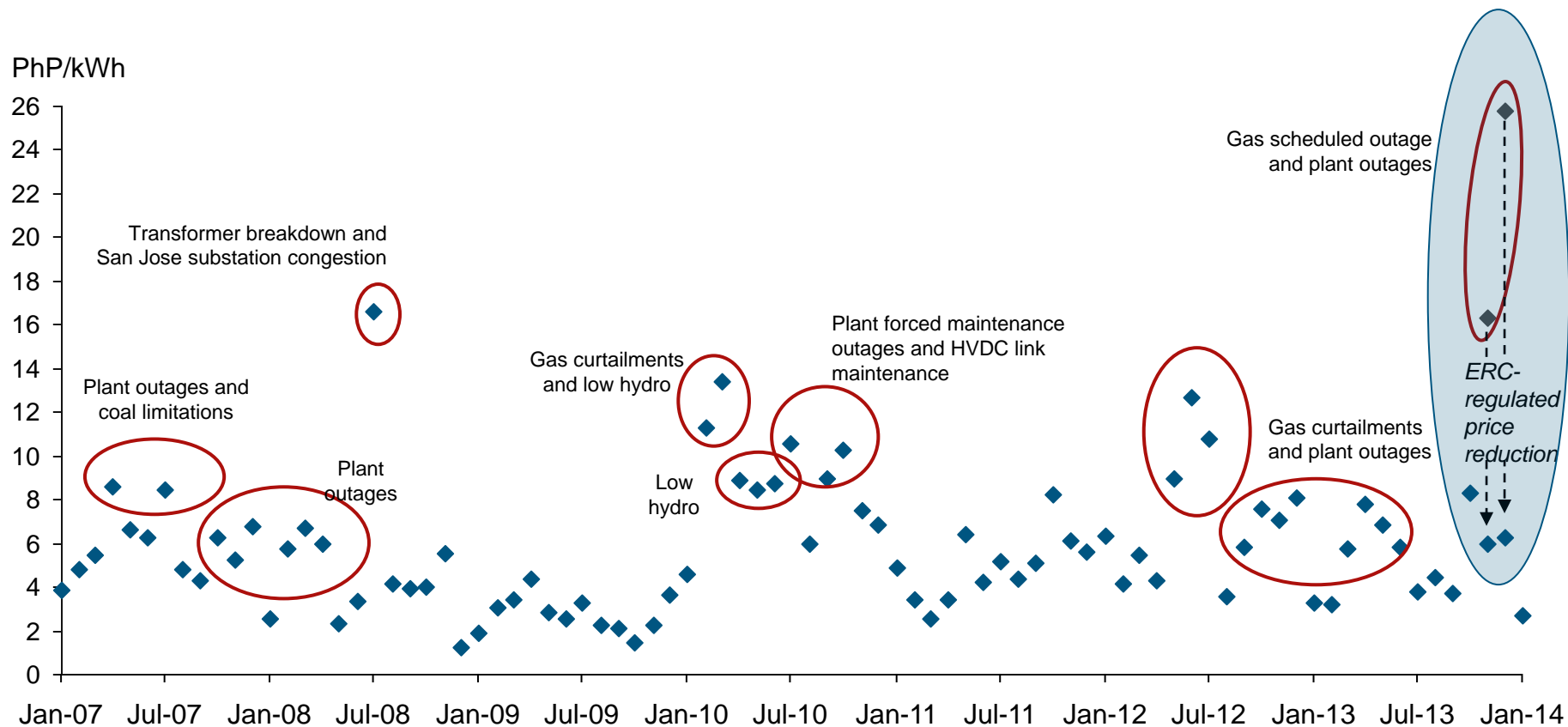


Capacity is entering the market – much of it driven by external forces but some by the market itself



The market was significantly tested in 2013, when gas curtailment and other outages raised prices well above normal levels

Average monthly WESM spot settlement price\* (2007-14)



Note: \* Buying price (with 100% surplus)

Source: PEMC; TLG analysis

## Arguably, the Philippine systems failed the test

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- In many ways, the **market** worked
- Prices rose, additional (expensive) plant was dispatched and the lights stayed on
- But then the high prices in the market were then passed through to ordinary consumers
- And this prompted a fire-storm
- The regulator (the ERC) and the Government (DOE) stepped in to “fix” the problem
  - The market cap price was cut by half
  - A secondary cap was introduced
  - The high prices were artificially removed from the market (and the disputes by generators who burned expensive fuels expecting to be paid premium prices continue to this day)

The market worked but the policy and regulatory framework in the Philippines showed cracks

## WESM fundamentals are telling us two things

- The supply situation is tightening – new capacity is needed
- But even more urgently and important: some of that capacity needs to be flexible and *responsive*



- (Incidentally: was the focus of our work on a Gas Masterplan for the Philippines, the reports for which may be found at [www.lantaugroup.com](http://www.lantaugroup.com))



The WESM is pointing the way towards a solution and several private sector developers are responding (for now)

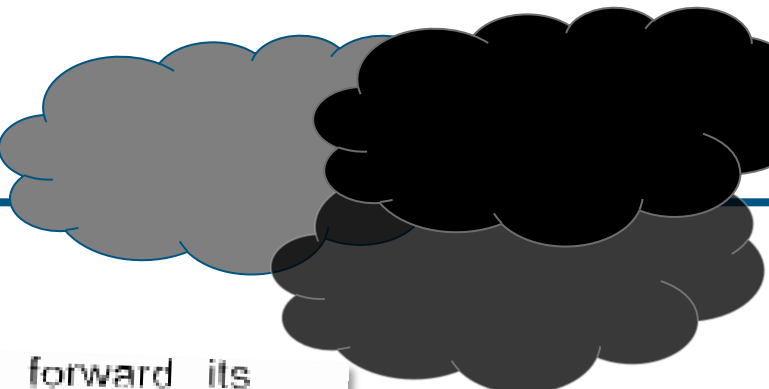
# An electricity market has to fit into a regulatory and policy framework that works

- As we highlighted in 2012 in our Pique “The WESM and the Titanic”, the regulatory framework in Philippines does not fit with the market design
- When a regulator acts in a manner inconsistent with market principals, the market signals that are intended to signal for new capacity are lost and new problems arise.
- In the Philippines this is exacerbated by the fact that the regulator just does not believe in the market...

This has not deterred investment yet, but is worth watching as future changes, particularly related to competitive procurement of power supply agreements, if poorly implemented, may yet undermine the market



## Unfortunately, the ERC does not consider the WESM is fully competitive



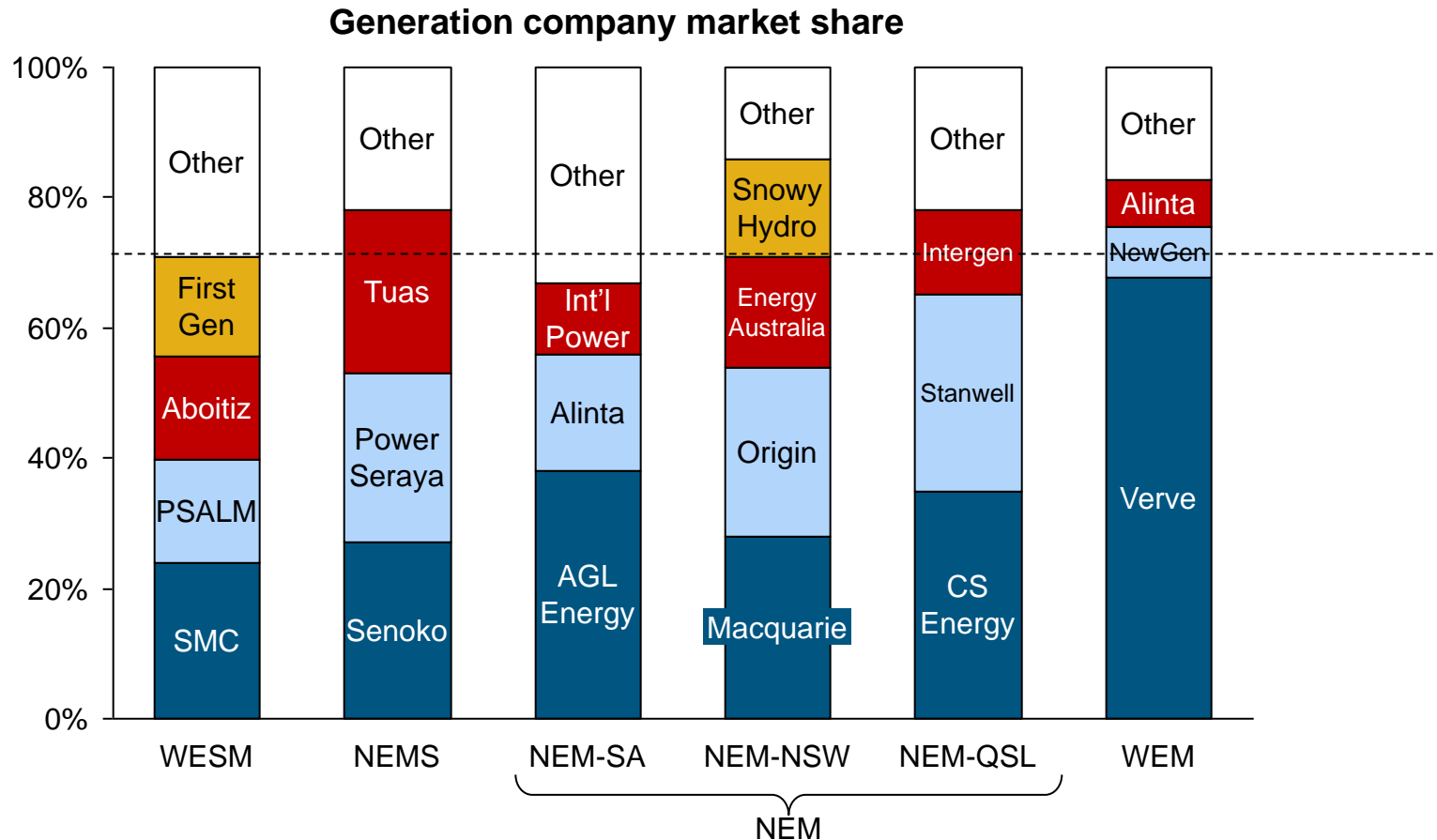
The Commission takes this opportunity to put forward its observation that there has always been a tightness of supply in the market given that it cannot be said that the market has matured to be considered a fully competitive one. Reasons for not attaining a fully competitive market may be rooted in the market itself which may be characterized as oligopolistic.

ERC Order, case no. 2014-021MC (dated 3 March 2014)

With respect to the proposed “market based” pricing, the Commission believes that the current Philippine electricity market is not yet ripe for such since it is one borne out of a true and robust competition which is not yet present in the Philippine setting at this point in time. First, there should be sufficient capacity for competition. Recent available data reveal that the system load and demand are always higher than the available capacity, thus, making the present market a seller’s/supplier’s market. In a seller’s market, the seller is able to obtain better conditions for the sale or higher prices because of the scarcity of underlying commodities or goods.

ERC Order, case no. 2012-118RC (dated 28 January 2013)

Despite the fact that the concentration of capacity in the largest players is similar to other markets

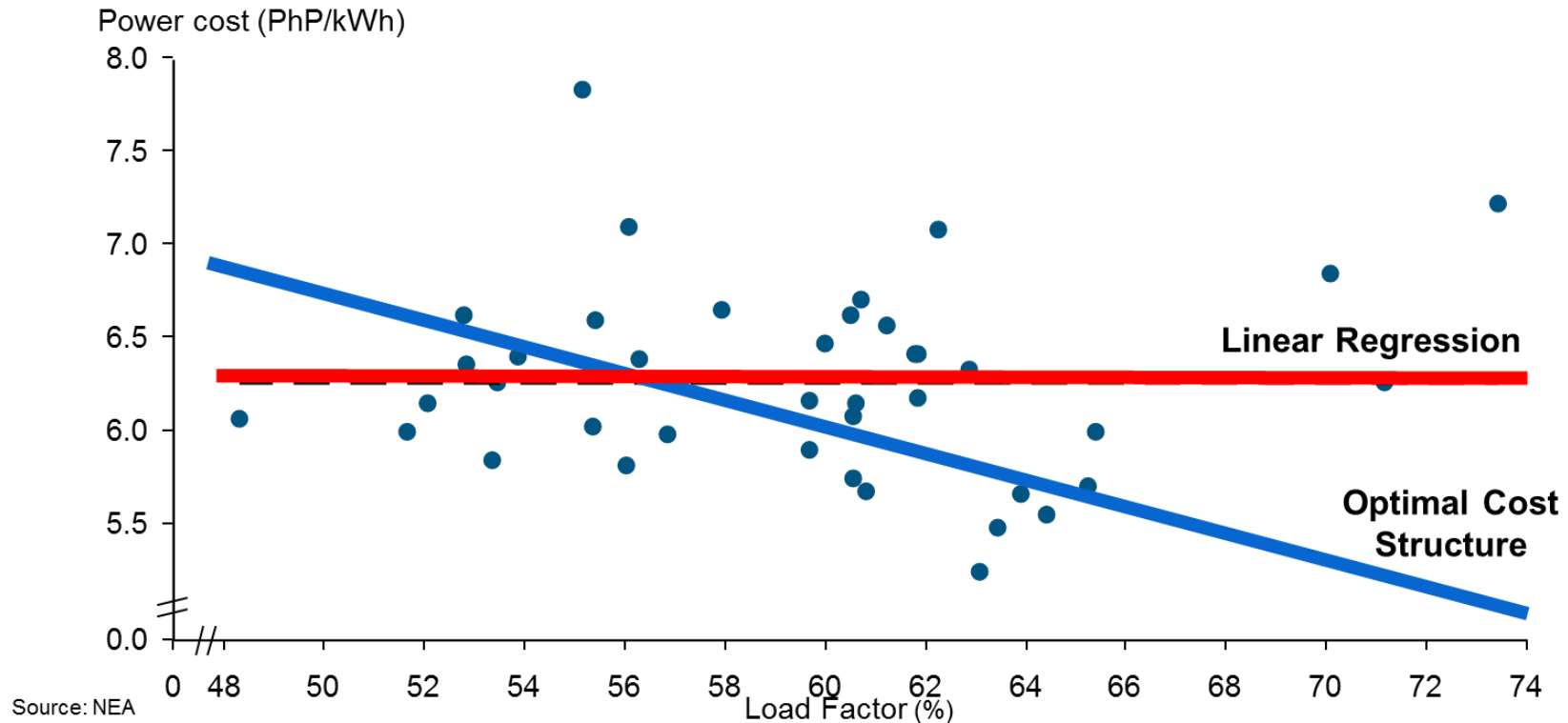


Oligopoly market power exists in some degree in all energy markets, but so too does significant confusion between “bad” market power (gaming) and the high prices that arise during periods of true economic scarcity

Source: PEMC (2012 Annual Report); EMC (2012 Annual Report); AER (State of the Energy Market 2013); ERA (2013/14 capacity credits)

The other clear symptom of a problem is that stakeholders appear unable to contract efficiently

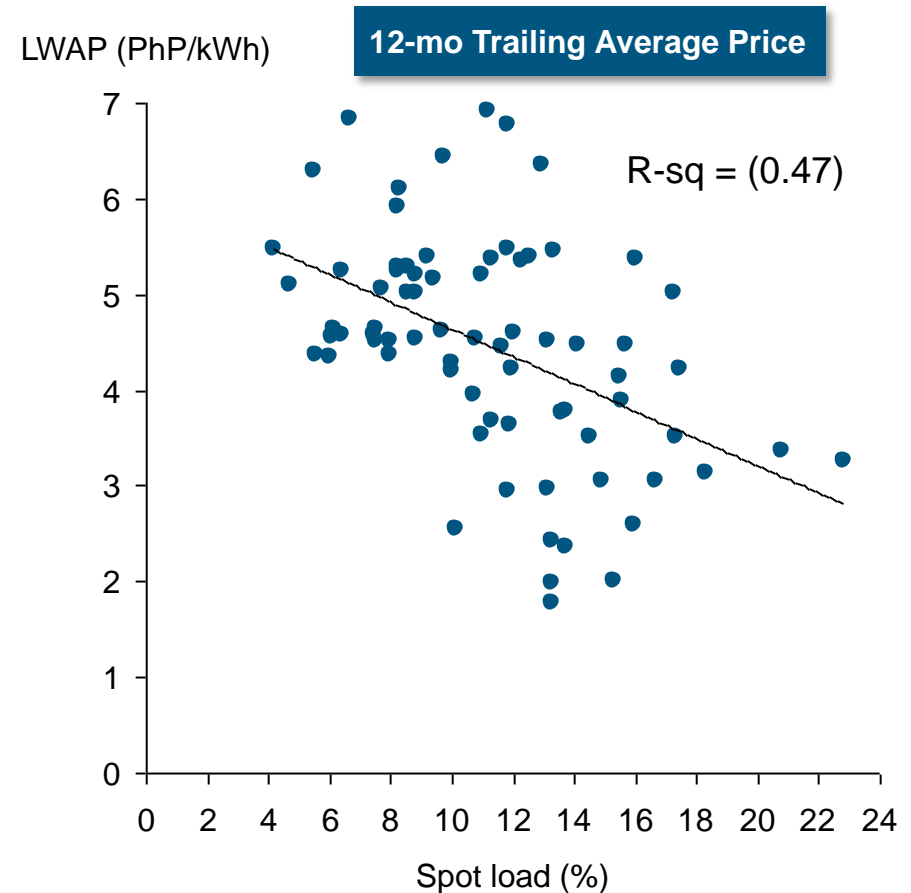
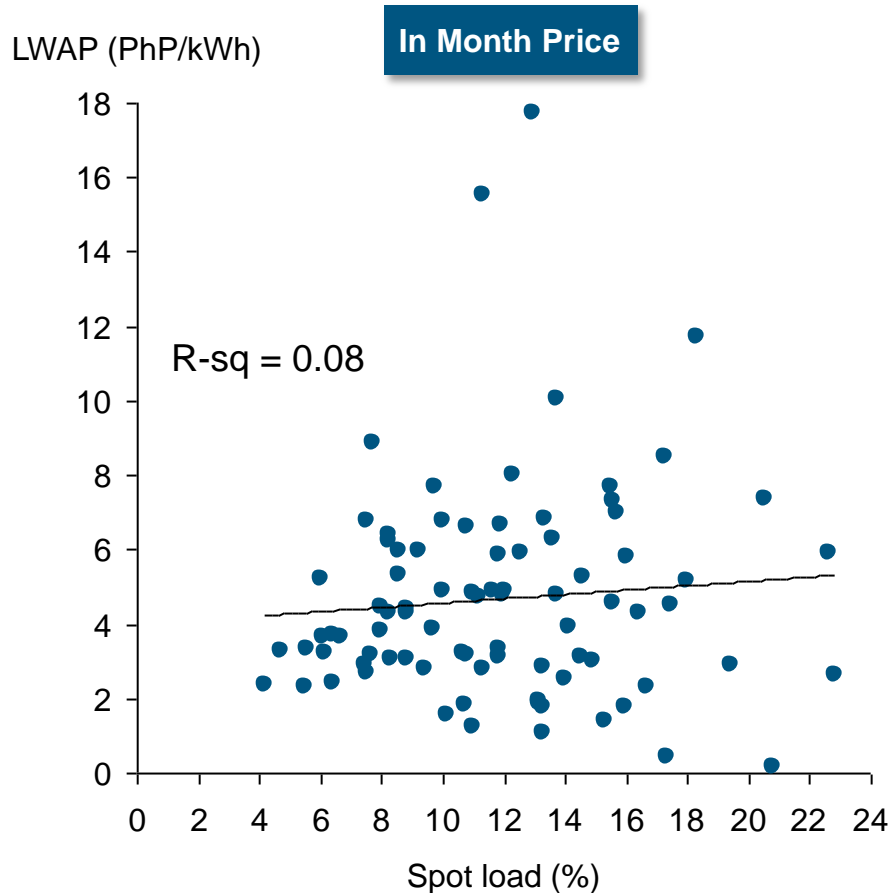
**Average power cost vs. load factor for Luzon grid ECs (2012)**



Despite the ERC's diligent approvals process, contract prices outcomes make no sense!

# Contracting behaviour seems influenced mainly by historical price experience (not current expectations) – a bit like driving through the rear-view mirror!

## Average monthly market price vs. proportion of load transacted on spot market



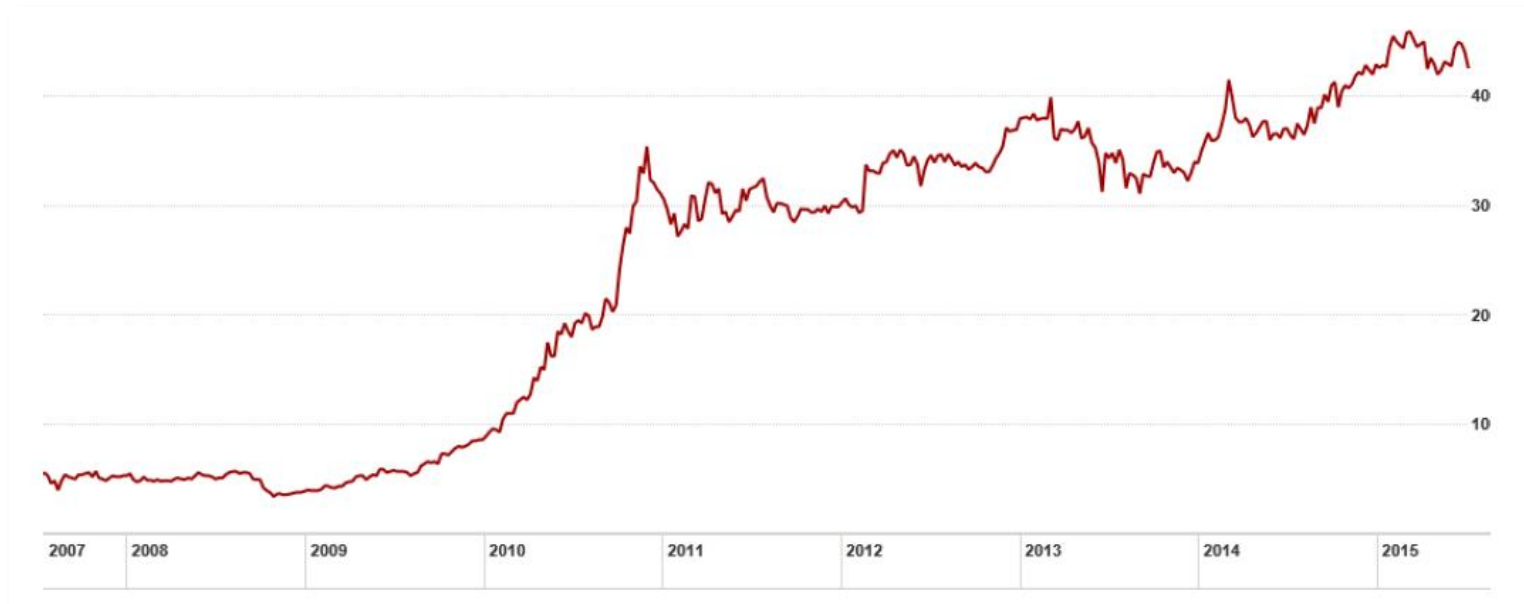
Note: Monthly averages are time-weighted, as reported by PEMC  
Source: PEMC; World Bank; BSP; TLG analysis



## And yet there is new investment in the Philippines electricity market

- Pretty much all of this new investment is coming from local firms who see the power industry as a profitable venture because they have watched the share prices of certain large market players rise in recent years

**Aboitiz Power Stock Price**



It's certainly a time when the warning "future prices may not reflect historical performance" should be heeded!

## There are many populist calls to revoke the reforms






- In 2014 there was a strong call for changes to the WESM as a result of the high price spikes
- The House Energy Committee is constantly questioning the outcomes of the market
- As of January, there were 17 House Bills with proposed EPIRA amendments.
- A public consultation on EPIRA amendments was held by DOE in early 2014.

The unfulfilled promises of EPIRA say one thing: we may have to amend EPIRA,” committee chairman and Oriental Mindoro Rep. Reynaldo V. Umali said, referring to the high electricity rates and unstable power supply following the passage of the law in 2001.

- The Energy Committee chairman has his own EPIRA amendment bill (filed in Jun 2014) pending with the committee. This would (amongst other things):
  - remove VAT
  - force DUs to competitively tender all of their load

To date, all of these have failed to gain enough support to amend EPIRA

# The Philippines reform is not without difficulties, but overall it has (mostly) worked

- Electricity prices remain high
  - Some of this is because of past decisions, including linking domestic gas prices to international oil prices and the construction of IPPs before they were required 
  - Some of this is because of the need for new capacity to be build – indicating the market prices are correct 
  - ....And some is due to less than optimal contracting by distribution utilities and less than optimal regulation 
- Capacity has entered the market 
  - Some driven by policy (solar and wind) and some by market forces (coal and gas) 
- Large consumers have a choice of supply

It's not perfect, but its certainly better than the previous Government owned industry

## In summary, the lessons from the Philippines are:

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- It takes a long time... at least five years to get the market up and running and probably another five years to make sure it runs properly
- Starting with a capacity overhang gives the market that time to find its feet before being stressed
- Its important that there is clear primary legislation that can withstand the forces of political change and regulatory short comings
- Privatising the market drives the process forward – without private sector players the market does not drive innovation and improvements are too easily withdrawn in the face of short term events
- Weaknesses in one part of the framework ripple through the system and have ramifications far wider than policy makers or regulators tend to realise
- Benefits are not always apparent in prices – the efficient allocation of costs and risks can be dwarfed by international fuel price changes or stranded costs – but are important for the market to robustly grow in the long term
- Managing expectations is important – promising that reform will “power prices” is unwise – better to more correctly highlight that good markets result in the correct prices

# Can we take the lessons of the Philippines and apply them to Vietnam?

- Is Vietnam really proposing to introduce a fully functioning market?
  - The spot market design looks similar to NEM, Singapore or WESM... but details are scant
  - And it starts with “cost based bidding” before moving to “price bidding”
- Implementation is opaque
  - (That’s just a polite way of saying nobody knows exactly what is going on!)
  - EVN is tasked with many of the implementation tasks – does EVN, which is technically bankrupt and selling power below cost, have the right incentives to want a reform that is likely to drive up generation costs?
- And it takes more than a good spot market design to make a market:
  - Will the players be free to bid in the market without constraints?
  - How can a market price, set at marginal costs, be paid to generators when retail tariffs are significantly below cost?
  - How will regulation work?

There remain significant uncertainties in how the market design would actually be implemented

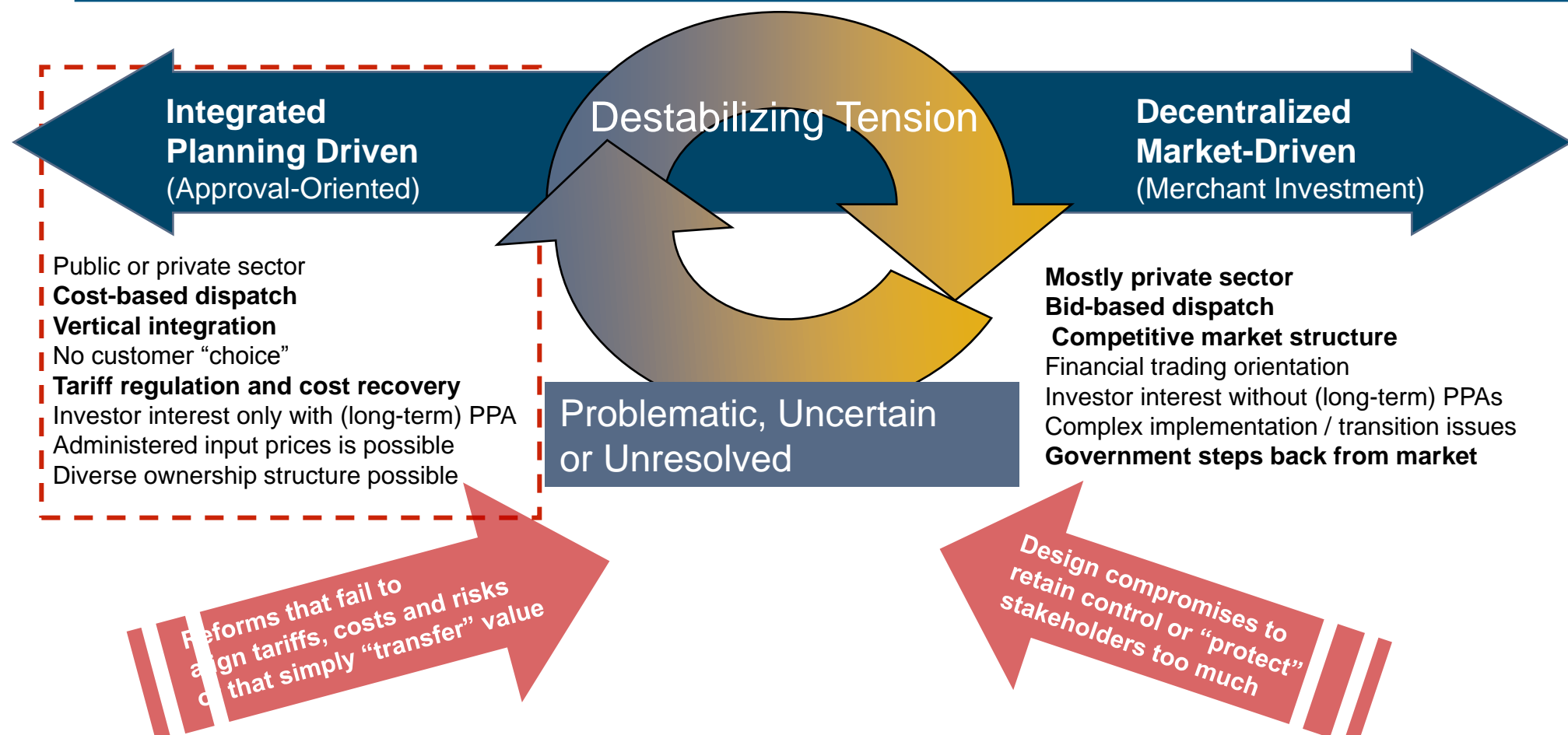
## Unlike Philippines, Vietnam has few of the pre-requisites for a robust reform in place

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- The objectives of the reform and the commitment of Government is unclear
- There is no history of competition in the country
- Rule of law and the courts are less tested in Vietnam
- Retail power prices are lower than the wholesale cost of generation
- Much of the countries generation is in the hands of EVN and is thus state owned

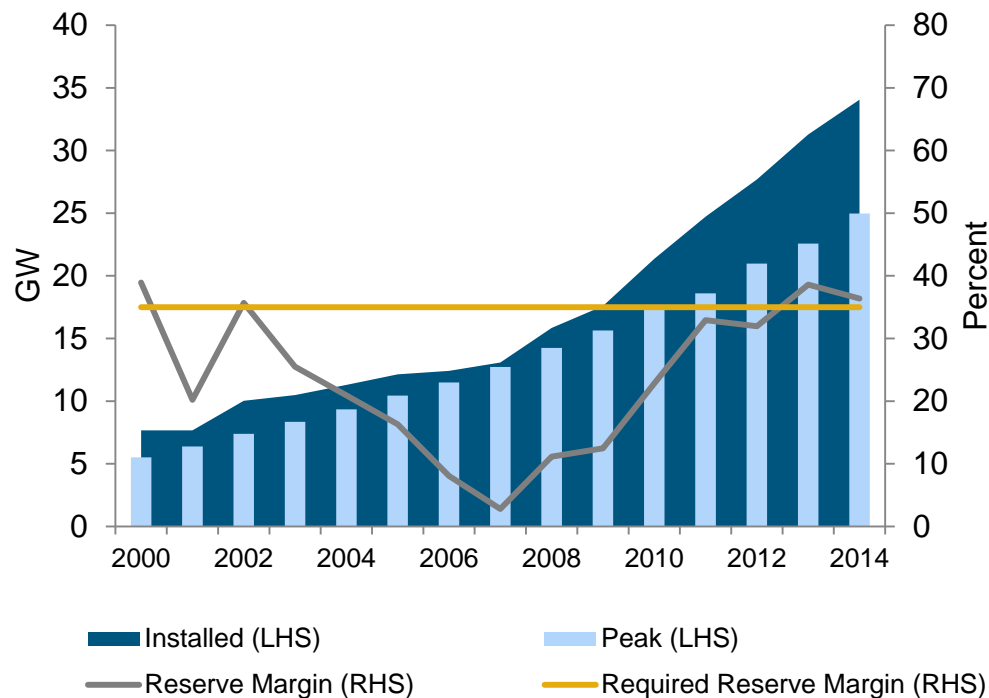
These are significant barriers to commencing a market based electricity market reform

# Do not expect market reforms to work without robust regulation first



Reforms that only dip their toes into the realms of competition rarely work well

## Vietnam starts in an even worse supply situation

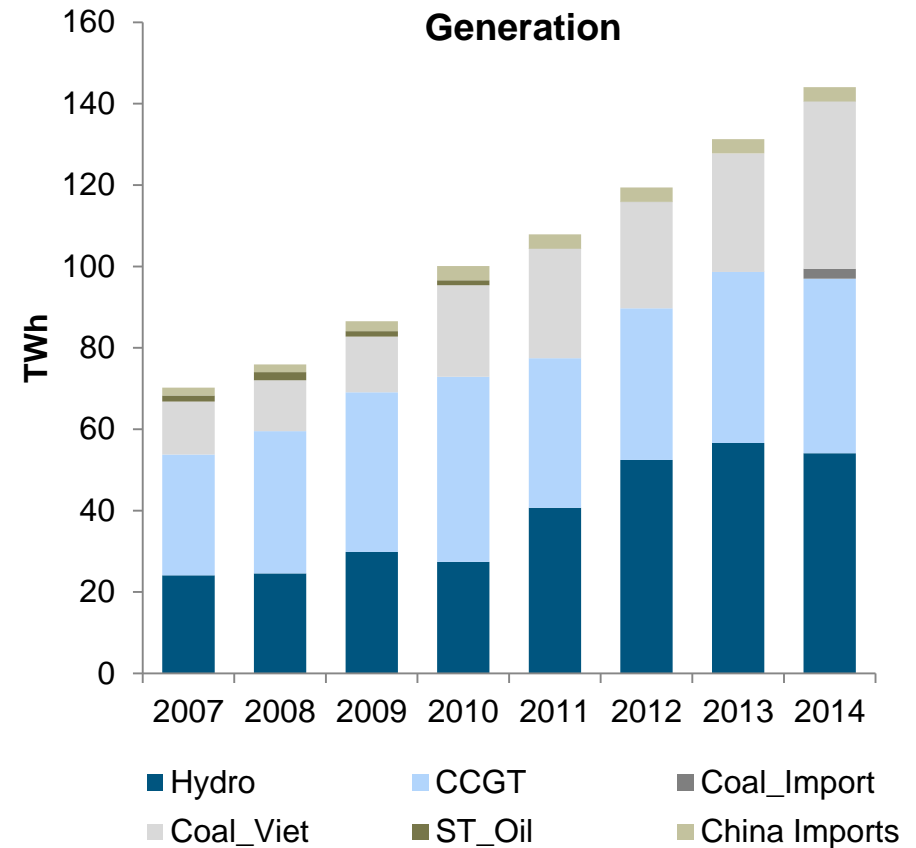
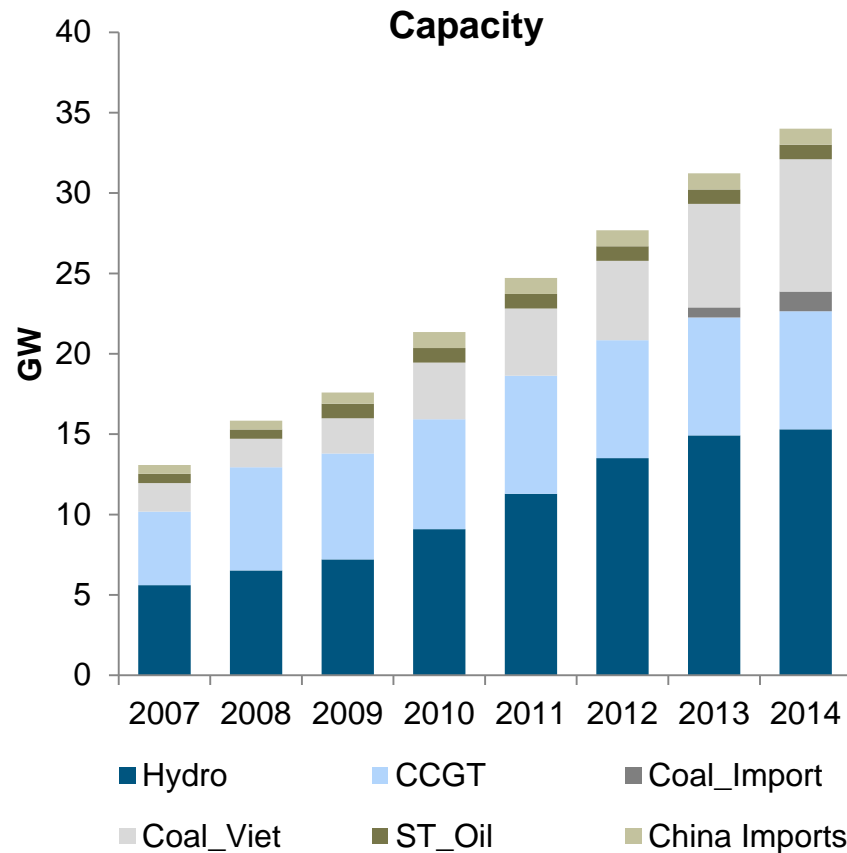


- Historically the reserve margin has been low and brown outs have been a feature of the grid system
- New build hydro and coal fired plants have lifted the reserve margin in recent years
  - Outages remain high, well above other Asian countries
  - In the North, power stations struggle to find fuel
  - In a dry year, there would not be enough energy to meet demand

The reserve margin looks healthy now, but it hides poor availability and hydro seasonality. Coupled with very fast growth, new capacity will be essential



## A feature of the Vietnam system is its reliance on hydro



Hydro is unpredictable – some years may have excess capacity but others may have shortages

## No (clear) plans for more privatisation

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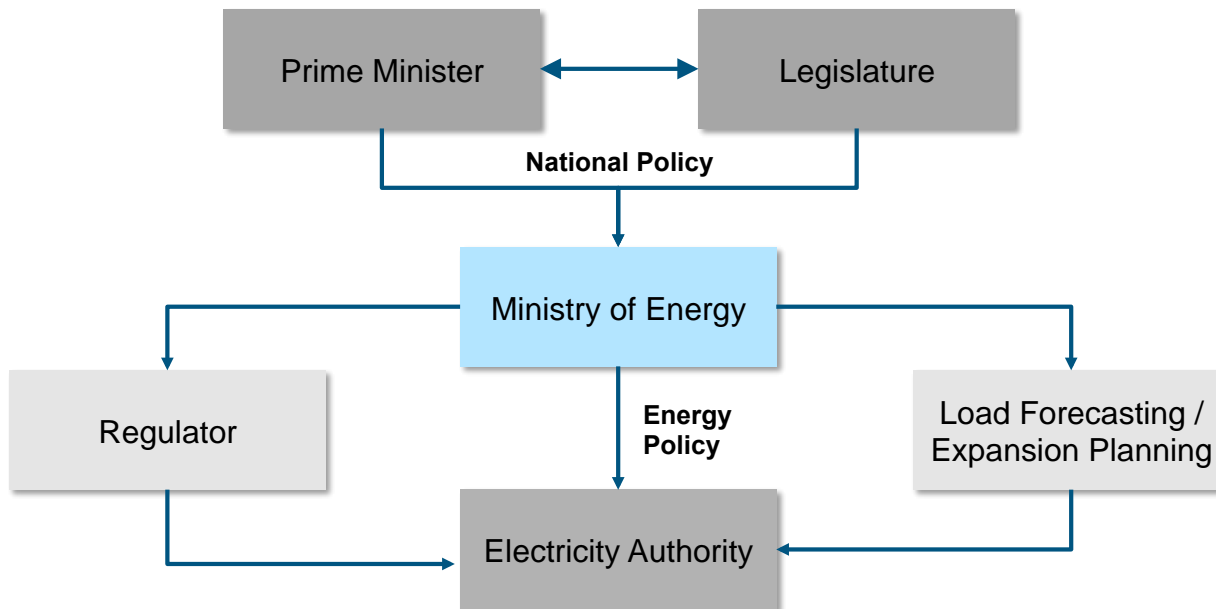
- While there are a number of IPPs in Vietnam, and plans for more, there are no plans to sell existing assets
- EVN (and subsidiaries) owns about 60% of the generation in Vietnam
- EVN generation subsidiaries are mainly corporatised and a few even listed
  - Only the ones with profitable PPA's are listed (and EVN remains in majority control)
  - The rest remain in state hands, usually making losses
- Although corporatisation was introduced so that state owned assets would compete with each other and become more efficient, the evidence from other markets (for example, NSW in Australia and Western Australia) is that this is often much less effective in practise than in theory

True private sector ownership is important to ensure innovation and balance the risks of policy interventions

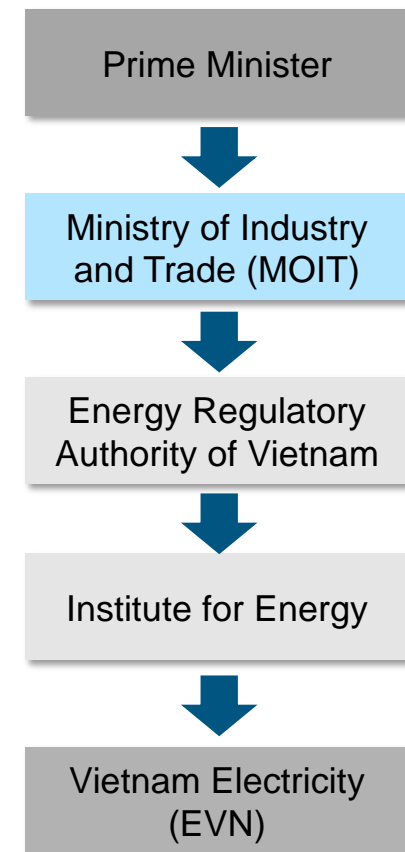
## With no privatisation, there is large Government policy and regulatory risk

- We already see many issues related to energy policy and regulation in Vietnam
- Effective energy regulation/policy requires a system of checks and balances

### A Good Model



### Vietnam



## In Vietnam, we see little evidence of policy makers truly grasping market concepts

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- We continue to see, in both electricity contract negotiations and even in gas concession negotiations, more evidence of a continued “cost plus” mentality – or worse – a cost only mentality
- From various interactions with regulators in Vietnam, we see evidence of regulators for whom the idea of “profit” is a dirty word

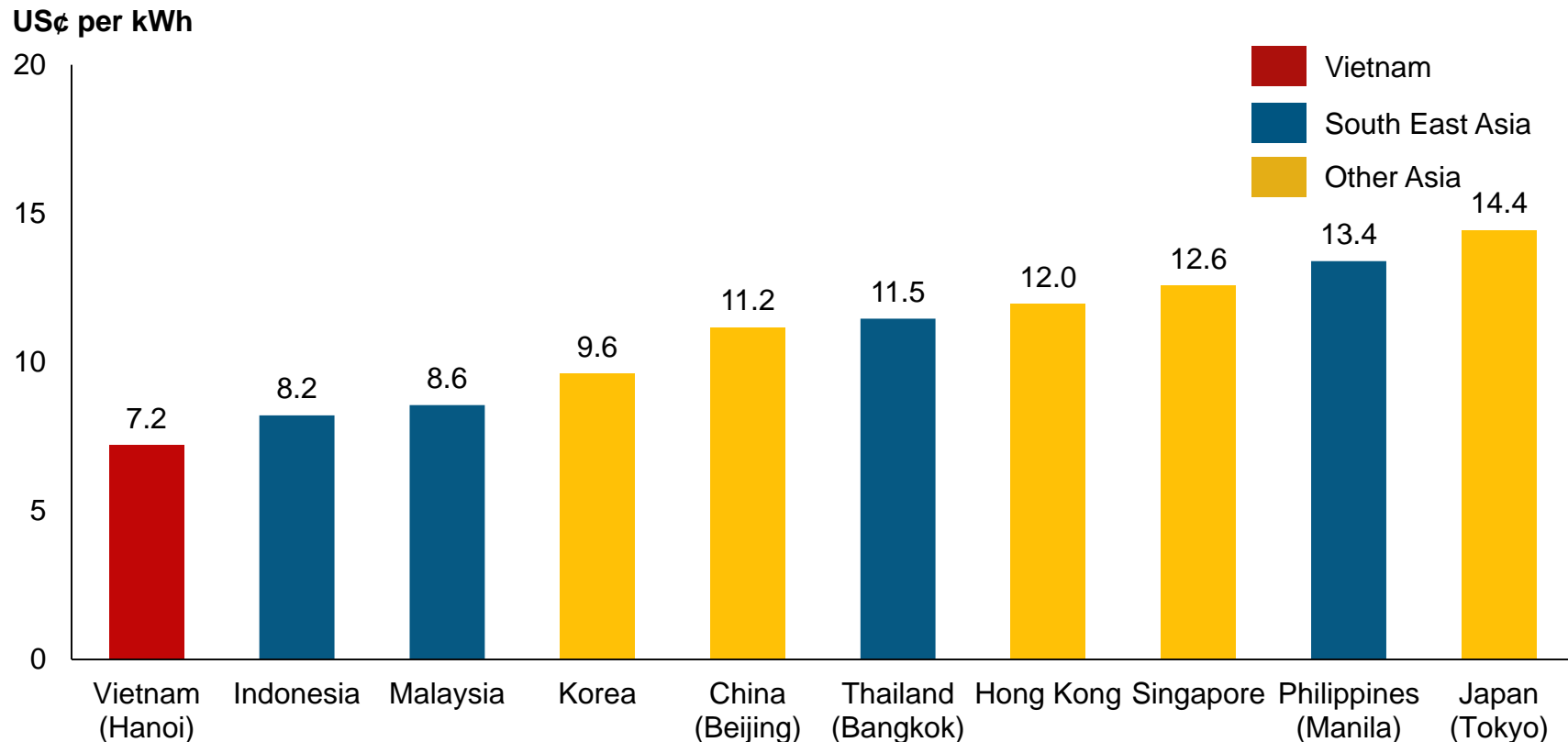
# How can an electricity spot market be implemented in an environment where profit is distained?

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- It is this very concern about anyone making “excess profits” that has caused the Philippines WESM so much of a problem – with regulation of power supply agreements still being based on a cost-plus approach even when there are market benchmarks that would be better suited to the task
- In an environment of with an even stronger “cost-only” philosophy, would any market actually be possible?
- ERAV in Vietnam have already been cautioned of this in relation to their price manipulation mitigation proposals in one of our recent reports:
  - *But we also sound a cautionary note. Any market power mitigation mechanism must account for the possibility that high prices are driven by scarcity rather than the exercise of market power. The decision to invoke a mitigation mechanism must therefore weigh the risks of intervening when the underlying issue is scarcity versus not intervening when the underlying issue is market power. The former risk can lead to the lights going off; the latter risk may affect consumers negatively in the short run, but also helps the resource adequacy problem in the long run. Therefore, we would urge for a very light hand when it comes to invoking any such mechanism.*

Starting a market in an environment of shortage implies that market prices will be high. But this will not work in Vietnam.

### Industrial Tariff Comparison for Selected Asian Countries



Vietnam has one of the region's lowest industrial power tariff – its hard to see how high spot prices fit into this picture

## There is nothing like market forces for making transparent what some policy makers would prefer stay hidden

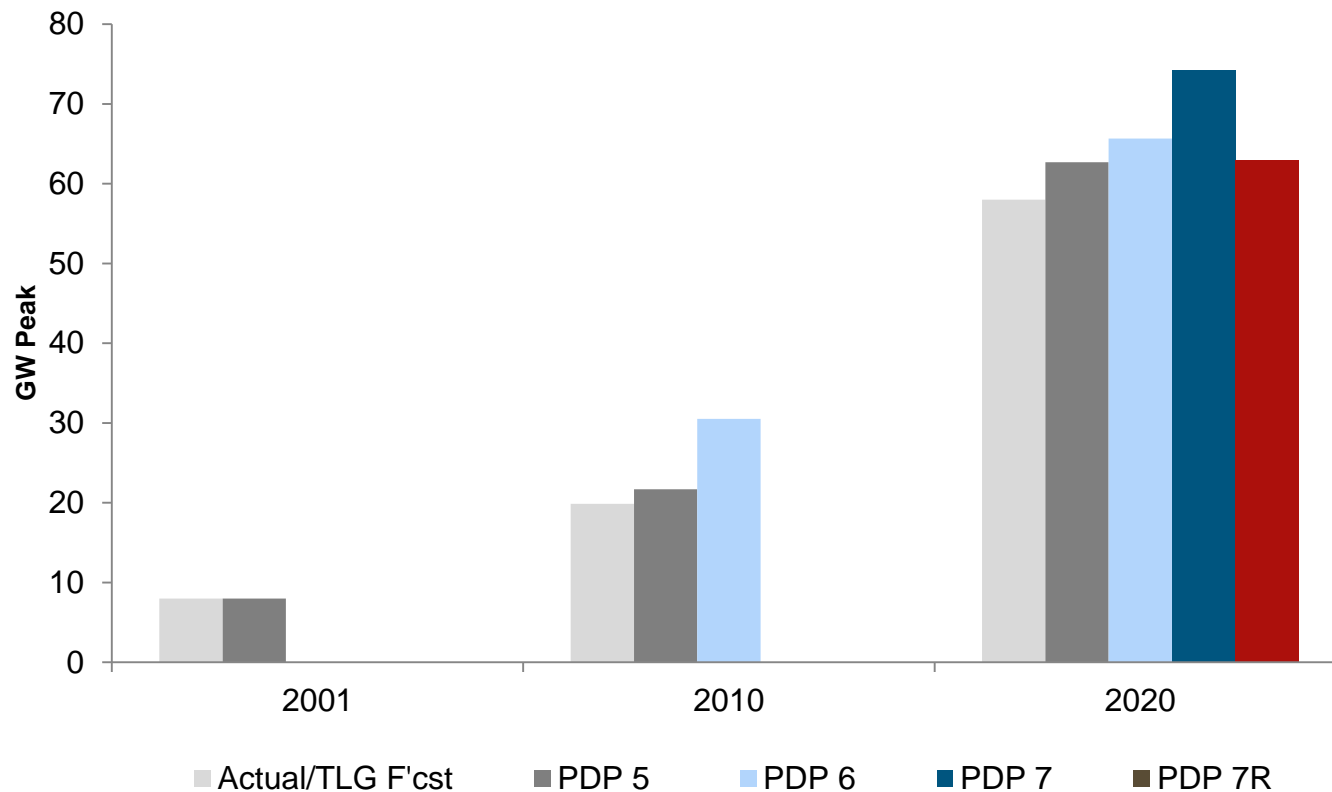
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- Trying to squeeze market prices into a subsidised retail tariff implies that a design of transitional arrangement that will have to pick winners and losers
- Examples of what will happen can be seen in many other markets
- Both South Korea and Western Australia have hit rocky patches when the total cost of electricity supply was much higher than the sum of customer revenues
- In WA this ultimately resulted in a complete back-flip on the restructuring and the rejoining of the disaggregated generation and retail companies
- In South Korea it has resulted in a policy driven “fudge factor” which adjusts market revenues downwards so that they fit into the allowed tariff

Neither of these approaches result in good investment signals

## A good market relies on good information: This is hard to find in Vietnam

- For example: Load forecasting is not an unbiased estimate of future load, but rather an aspirational statement





## On balance, we see problems ahead for Vietnam

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- Vietnam needs investment in the power sector
- A tight supply-demand balance and growing demand suggests market prices should be high
- Evidence of the lack of willingness to allow profits by the regulator does not align well with a market structure
- While the market design proposed offers a good spot market, the rest of the market remains undecided
- Retail price subsidies make it hard to see how market prices (particularly high ones) could be passed through to consumers
- With no privatisation, there is no force to prevent continued fudging of prices to allow subsidies to continue

The pre-requisites for the introduction of an electricity spot market do not yet exist in Vietnam. Its hard to see how the market could be introduced in the current environment without significant changes

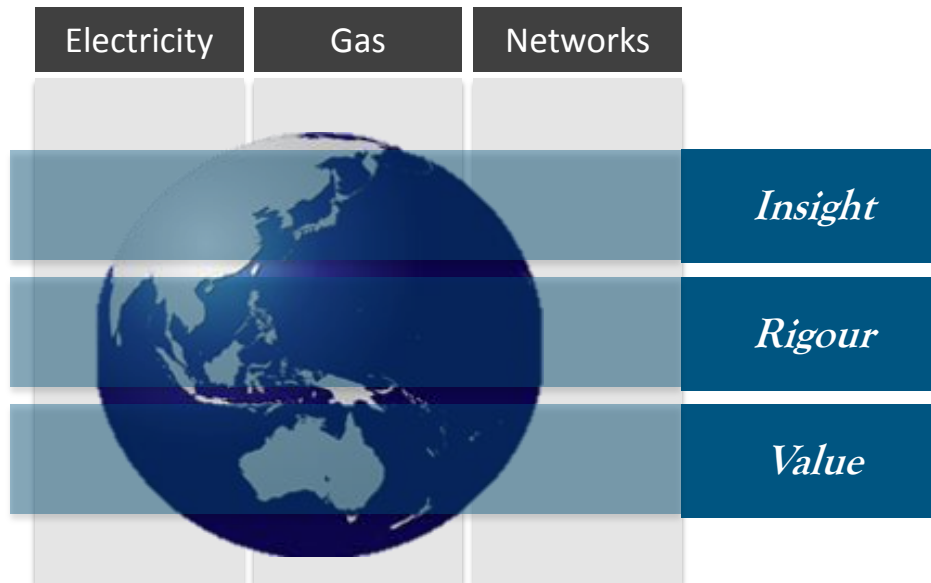
## The destination may end up being less important than the journey

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- A market right now would probably fail
- But the activities associated with implementing the market may have unintended benefits
  - Increased understanding of the implications of the competitive model
  - Highlight the difficulties and risks of the current low electricity prices and subsidies
  - Force players to consider what laws are required to ensure private sector entry continues
  - Stakeholders will need to consider the risks of the new market and develop strategies and understanding to manage risk

Every journey starts with a single step, and Vietnam has taken the first one

# Thanks



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