

Food for Thought

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ELECTRICITY TARIFF MAY INCREASE BETWEEN 24% AND 39% IN 18 MONTHS IF NATURAL GAS PRICE FOR ELECTRICITY GENERATION REACHES MARKET PRICE ON 1ST JAN 2016

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ELECTRICITY TARIFF MAY INCREASE BETWEEN 24% AND 39% IN 18 MONTHS IF NATURAL GAS PRICE FOR ELECTRICITY GENERATION REACHES MARKET PRICE ON 1ST JAN 2016

In 2013, Energy Commission has announced that Incentive Based Regulation (IBR) will be on trial run starting 1st January 2014 and fuel cost pass through mechanism will be implemented too. Federal Government has also pledged to increase gas prices for electricity generation periodically to reach market price by end of 2015. This means also electricity tariff will be reviewed every six months if government follows the planned schedule.

Electricity sector uses around 1300 mmscfd (million standard cubic feet per day) natural gas for electricity generation and the first 1000 mmscfd will be at regulated (or well known as subsidy) price. The balance 300 mmscfd and above will be sold to electricity sector at market price. The tariff increase effective 1st January 2014 placed the Liquefied Natural Gas (LNG) price at RM 41.68 per mmBTU.

Based on the information above, AWER has carried out a linear modelling on electricity tariff increase due to increase in natural gas price for electricity generation.

SCENARIO 1: NATURAL GAS PRICE INCREASE IS PRORATED TO REACH MARKET PRICE BY 1ST JAN 2016

The first scenario is modelled using different natural gas prices. These increases are prorated to be passed through periodically. The modelling also estimates impact to future tariff increases if the natural gas price remains the same after a tariff increase. Table 1 shows the estimated natural gas price during possible tariff increase dates. Current LNG price is around RM 47 per mmBTU.

Table 2 shows the estimated average tariff at different natural gas price. Table 3 shows the estimated average tariff on 1st January 2016 (when natural gas reached market price) at different gas price and the estimated increase compared to current average tariff (38.53 cents / kWh).

Table 1: Estimated Natural Gas Price During Possible Tariff Increase Dates

<i>Possible tariff increase dates</i>	<i>Estimated natural gas price during tariff increase (RM per mmBTU)</i>
1st January 2014 (last tariff increase)	42
1st July 2014	47
1st January 2015	50
1st July 2015	53
1st January 2016	55

Table 2: Estimated Average Tariff at Different Natural Gas Price

<i>Estimated natural gas price during tariff increase (RM per mmBTU)</i>	<i>Estimated average tariff on</i>			
	<i>1st July 2014</i>	<i>1st January 2015</i>	<i>1st July 2015</i>	<i>1st January 2016</i>
42	40.85	43.12	45.40	47.68
47	41.88	44.58	47.29	49.99
50	41.88	45.29	48.33	51.38
53	41.88	45.29	49.21	52.76
55	41.88	45.29	49.21	53.69

Table 3: Estimated Average Tariff on 1st January 2016 at Different Natural Gas Price and The Estimated Increase Compared To Current Average Tariff

<i>Estimated natural gas price during tariff increase (RM per mmBTU)</i>	<i>Estimated average tariff on 1st January 2016</i>	<i>Estimated total increase compared to current average tariff</i>	<i>cents</i>	<i>%</i>
42	47.68	9.15	23.75	
47	49.99	11.46	29.74	

50	51.38	12.85	33.34
53	52.76	14.23	36.94
55	53.69	15.16	39.33

If the government takes this approach to increase natural gas price periodically to reach market price (which is the LNG pricing), **the estimated tariff increase are between 23.75% and 39.33% within 18 months compared to current average tariff.** In scenario 1 modelling, the coal price is remained and there is no increase in TNB base tariff.

SCENARIO 2: NATURAL GAS PRICE INCREASES AT FIXED RATE

The second scenario is modelled based on current market price of natural gas (RM 47 per mmBTU) and natural gas price increases at fixed rate. Table 4 shows the estimated average tariff at different increase rate of natural gas price. Table 5 shows the estimated average tariff on 1st January 2016 at different increase rate of natural gas price and the estimated increase compared to current average tariff (38.53 cents / kWh).

Table 4: Estimated Average Tariff at Different Increase Rate of Natural Gas Price

<i>Estimated fixed increase in natural gas price (RM per mmBTU)</i>	<i>Estimated average tariff on</i>			
	<i>1st July 2014</i>	<i>1st January 2015</i>	<i>1st July 2015</i>	<i>1st January 2016</i>
1.50	39.69	40.20	40.71	41.22
3.00	40.20	41.22	42.24	43.26
6.00	41.22	43.26	45.30	47.34
9.00	42.24	45.30	48.36	49.99

Table 5: Average Tariff On 1st January 2016 At Different Increase Rate of Natural Gas Price And The Increase Compared To Current Average Tariff

<i>Estimated fixed increase in natural gas price (RM per mmBTU)</i>	<i>Estimated average tariff on 1st January 2016</i>	<i>Estimated total increase compared to current average tariff</i>	<i>cents</i>	<i>%</i>
1.50	41.22	2.69	6.98	
3.00	43.26	4.73	12.27	
6.00	47.34	8.81	22.86	
9.00	49.99	11.46	29.74	

Based on the results in Table 5, **the estimated tariff increase are between 6.98% and 29.74% within 18 months compared to current average tariff.** The natural gas price needs to increase close to RM 9.00 per mmBTU every 6 months if federal government wants the natural gas price to reach market price by end of 2015 (if market price for natural gas remains at RM 47 per mmBTU). If natural gas price increases

over time, there will be increase in fixed increase rate as well. This can be seen clearly via Scenario 1 projected by AWER. In scenario 2 modelling, the coal price is remained and there is no increase in TNB base tariff.

From the modelling results of Scenario 1 and 2, tariff increase is unavoidable due to government's plan to increase natural gas price periodically until it reached market price. Therefore, the **Federal Government must implement TRANSPARENT TARIFF SETTING MECHANISM** to ensure the rakyat and businesses are prepared for possible impacts of tariff increase to their daily life and operation respectively.

COST COMPONENT OF ELECTRICITY TARIFF AND THE NEED FOR TRANSPARENT, COST EFFECTIVE AND EFFICIENT OPEN BIDDING PROCESS

Generation cost, transmission cost and distribution cost are the 3 main cost in electricity tariff. Based on presentation by Tenaga Nasional Berhad at the Energy Week in Singapore, the cost breakdown is as following: Generation cost (69%), Transmission cost (9%), Distribution cost (21%) and others (1%). The generation cost is further broken down to fuel cost (41%) and capacity charges (28%).

Based on the cost structure of electricity tariff, increase in fuel cost will give the biggest impact to tariff as it comprises 41% of cost to tariff. In addition to that, capacity charges are second in line with 28% impact to tariff. At the moment, Energy Commission is only regulating the transmission and distribution cost which amounts to 30% of the total cost of electricity tariff through Incentive Based Regulation (IBR).

Recent rumours on direct negotiation for Track 4A (new power plant) is a worrying issue. Malaysians have been haunted with lopsided Power Purchase Agreements (PPAs) for decades and these lopsided PPAs are products of direct negotiation. **Since fuel cost is passed through and gives high impact (41%) to tariff, Federal Government must ensure impact of new power plants' capacity charges to tariff is minimised and TRANSPARENT OPEN BIDDING PROCESS is the ONLY SOLUTION.**

In addition to that, some of the bidding criteria set by Energy Commission will cause higher bidding cost to certain bidders. For example, the "green field" (new location) and "brown field" (existing plants location) criteria set by Energy Commission is not necessary as there are only a small number of stakeholders are bidding and most of them have "brown fields". If the criterion of land is removed, it will allow bidders to find cheapest land available to reduce the land's cost impact to tariff and bid at lowest price. It will also reduce cost related to transmission lines connectivity to the Grid directly.

AWER views the current development seriously as its impact to our competitiveness internationally is high. Therefore, an independent panel must be formed to study the steps and criteria of bidding process set by Energy Commission and make necessary changes. Pledges made by Federal Government in 10th Malaysia plan, Malaysian Electricity Supply Industry (MESI) reforms and Economic Transformation Programme (ETP) must be fulfilled to ensure rakyat and businesses only pay for equitable and affordable tariff!

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