GHANA WHOLESALE ELECTRICITY MARKET BULLETIN

MARKET WATCH

Monthly Market Data Analysis

ISSUE NO. 3: 1st March 2016 to 31st March 2016

This Bulletin covers the major developments in the Ghana Wholesale Electricity Market (WEM) from 1st March, 2016 to 31st March, 2016. It analyses the performance of the key WEM indicators against their benchmarks, and examines the likely implications of any discernable trends for the future of the market. The Energy Commission (EC) welcomes and very much appreciates readers comments on the Bulletin. Reasonable care has been taken to ensure that the information contained in this Bulletin is accurate at the time of publication, but nevertheless, regrets any errors, omissions or inaccuracies therein.

HIGHLIGHTS OF THE MONTH

Electricity supply was lower than projected for March 2016 but peak load shot beyond 2000MW mark

Electricity consumption in March 2016 was 19.2% lower than forecasted. Similarly, peak load for the month was significantly lower than what had been projected. Table 1 shows a summary of the projected and actual electricity demand and supply for March 2016.

In March 2016 electricity supplied by the power plants was 1,164.3 GWh compared to the projected supply of 1,441.0 GWh contained in the 2016 Supply Plan. Generation in March 2016 was however higher than in January 2016 (1,093.7 GWh) and February 2016 (1,126.7 GWh) by 6.5% and 3.3% respectively.

The Ghana peak load of 2008MW recorded in March 2016 was also higher compared to 1,979MW and 1,975.4MW recorded in January 2016 and February 2016. The peak load in March 2016 was the highest recorded in several months during the load shedding period and after. The peak load in March 2016 was however lower than the figure of 2,326MW which was projected in the Electricity Supply Plan for March 2016. Is the elevated peak load in March 2016 indication that the Ghana load is picking up as expected following the load shedding? If yes, then there is the need to double efforts in respect of procurement of fuel for the several thermal power plants that are available but are most times not operated owing to fuel supply difficulties.

Table 1 Projected and Actual Outturn of electricity supply and demand in March 2016

	March 2016	
	Projected	Actual Outturn
Total Demand (GWh)	1,441.00	1,164.30
Supply by Power Plant (GWh)		
Akosombo	278.00	361.07
Kpong	53.00	71.03
Bui	71.00	158.65
TAPCO	174.00	135.22
TICO	202.00	105.01
Sunon Asogli - Phase I	115.00	55.90
Sunon Asogli - Phase II	114.00	-
CENIT	54.00	32.08
TT1PP	50.00	-
TT2PP	-	5.65
MRP	-	1.19
KTPP	25.00	-
Ameri Energy	154.00	90.87
Karpowership	151.00	147.63
Total Supply	1,441.00	1,164.30
Deficit		276.70
Reduction in Consumptiom		19.2%
Peak Load	2,326.00	2,008.30

Over-drafting of Akosombo and Bui in March 2016

Owing to the shut down of the Atuabo Gas Plant and the continued difficulties with natural gas supplies from Nigeria, Akosombo and Bui hydro power stations continued to provide the necessary back up even at the peril of the integrity of the two power stations. Peak generation from the Akosombo power plant has been consistently greater than the planned 375 MW for 2016. Peak generation at Akosombo power station in March 2016 recorded a high of 742MW up from 507 MW and 521 MW in January 2016 and February 2016 respectively. The Bui Generating Station also generated beyond what was planned for the period. Electricity generation from the Akosombo and Bui power plants over what was projected has been to provide relief to the power system at peak times and sometimes during off-peak periods when the power system was in distress owing to unplanned unavailability of the thermal generating resources.

Akosombo Dam operated below the minimum design operating level in March 2016

As a result of the challenges with the country's power generation resources, the operators of the Akosombo hydro electric power station were compelled to overdraft the dam to make up for the shortfalls since the beginning of the year 2016. This has happened in the face of the fact that similar difficulties had forced the country to run down the dam below what it should have been in order to stem the prolonged load shedding situation experienced in the past 2 years. The level of the Akosombo dam dropped below the 240feet minimum design operating level on 10th March 2016.

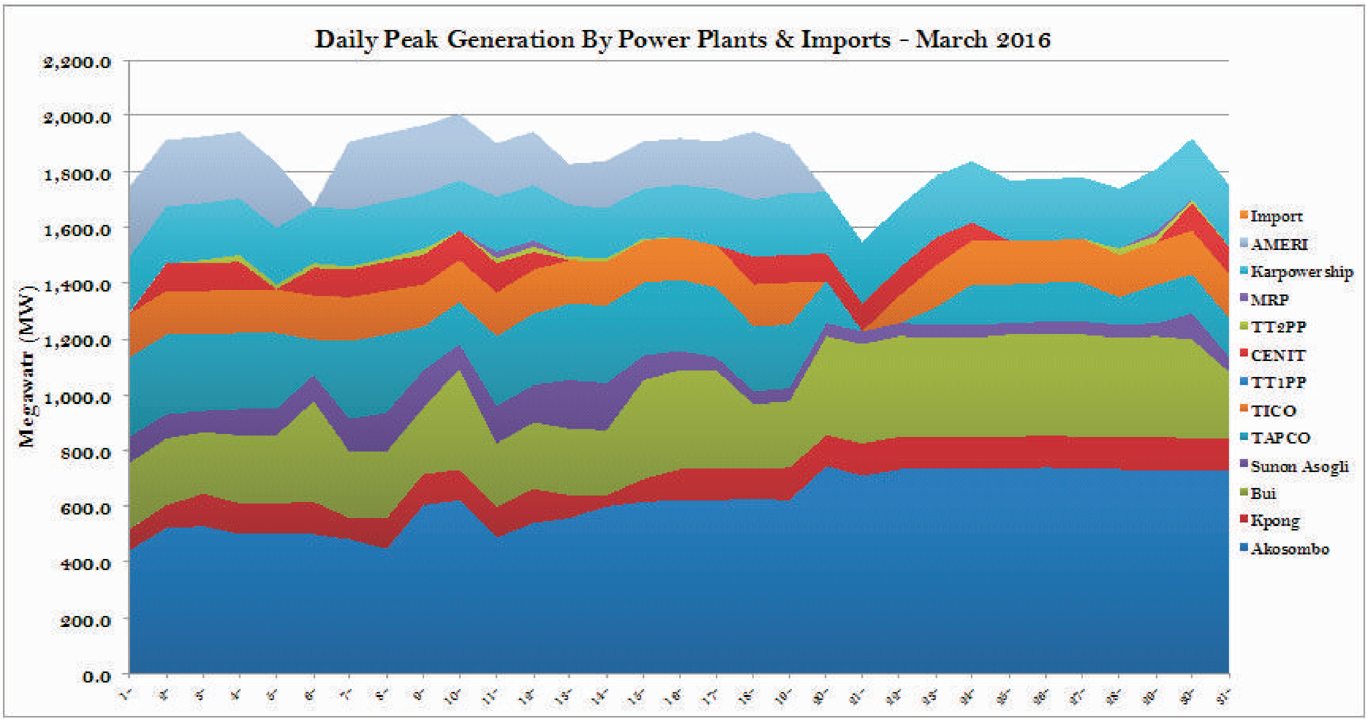
While this situation defies best operating practices for a hydro power station, this situation is not new to the operators of the power station. Indeed, in 2015, the power station was operated at a minimum level of 237.09 feet, which was below the minimum design operating level. Similar situations occurred in 2003, 2006, and 2007. Table 1 shows a summary of the yearly operating levels of the Akosombo power plant from 2003 to 2015.

Table 1 Comparative analysis of actual annual Akosombo Dam levels against minimum design operating level

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Minimum Level in the Year	236.62	245.39	244.25	236.87	235.15	245.38	253.8	257.82	266.28	261.88	255.63	243.8	237.09
Level at beginning of the Year	243.83	254.15	254.05	250.00	243.68	254.68	263.47	268.02	275.33	271.83	268.44	257.74	247.13
Maximum Level in the Year	256.04	256.7	254.05	250.00	256.5	266.35	270.37	277.54	275.33	271.83	268.44	257.74	247.13

The data suggests that the minimum design operating level has been breached whenever the beginning of the year level is 25o feet or below and drafting of the lake is not well managed. In that respect, it was predictable that the level of the Akosombo dam will go below the minimum design operating level in 2016, a situation which occurred on 10th March 2016.

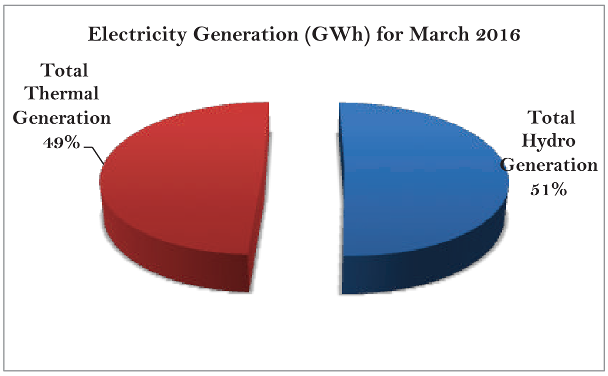
Peak Generation (MW) - March 2016						
Source of Supply	Week 1	Week 2	Week 3	Week 4	Maximum Non-Coincident Peak Generation	Generation at System Coincident Peak
Akosombo	529.0	622.0	742.0	736.0	742.0	622.0
Kpong	118.0	119.0	115.0	121.0	121.0	111.0
Bui	360.0	360.0	357.0	366.0	366.0	360.0
Sunon Asogli	118.3	175.2	87.9	92.6	175.2	86.1
TAPCO	286.0	282.0	261.0	146.0	286.0	150.0
TICO	160.0	158.0	152.0	156.0	160.0	156.0
TT1PP	-	-	-	-	-	-
CENIT	101.0	102.0	103.0	100.0	103.0	100.0
KTPP	-	-	-	-	-	-
TT2PP	22.1	23.5	6.0	19.5	23.5	-
MRP	-	20.5	-	20.2	20.5	-
AMERI Energy	248.3	247.6	244.2	-	248.3	240.0
Karpowership	201.7	201.8	220.0	220.1	220.1	183.2
Import	-	-	-	-	-	-
Trojan Power	-	-	-	-	-	-
Total Supply including imports	2,144.4	2,311.6	2,288.1	1,977.4	2,465.6	2,008.3
Total Generation without imports	2,144.4	2,311.6	2,288.1	1,977.4	2,465.6	2,008.3

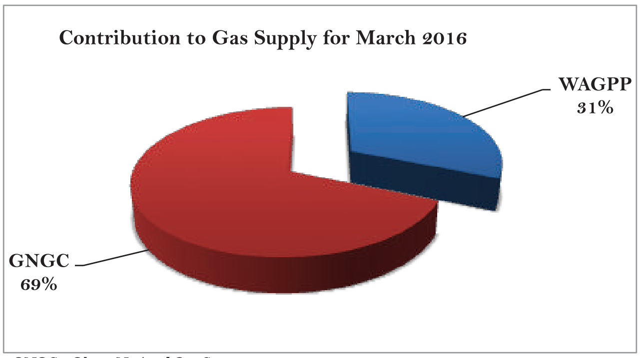


Ghana Electricity Demand for March 2016		
Maximum Peak Generation	MW	2,008.30
Minimum Peak Generation	MW	1,548.10
Average Peak Generation	MW	1,840.01
Total Energy Generated	GWh	1,164.30
Load Factor (LF)	%	77.9%

ECONOMIC FACT SHEET

Weekly Generation (GWh) - March 2016					
Power Plant	Week 1	Week 2	Week 3	Week 4	Total
Akosombo	63.27	65.80	84.58	147.42	361.07
Kpong	13.04	13.37	17.02	27.60	71.03
Bui	25.89	29.26	38.55	64.95	158.65
Sunon Asogli	14.57	20.82	10.52	9.99	55.90
TAPCO	43.30	37.77	28.65	25.50	135.22
TICO	24.98	25.00	23.17	31.86	105.01
TT1PP	-	-	-	-	-
CENIT	11.07	7.48	5.78	7.75	32.08
KTPP	-	-	-	-	-
TT2PP	2.19	1.94	0.23	1.29	5.65
MRP	-	0.77	-	0.42	1.19
AMERI Energy	36.51	33.18	21.18	-	90.87
Karpowership	32.91	29.83	33.20	51.69	147.63
Import	-	-	-	-	-
Trojan Power	-	-	-	-	-
Total Supply including imports	267.73	265.22	262.88	368.47	1,164.30
Total Generation without imports	267.73	265.22	262.88	368.47	1,164.30



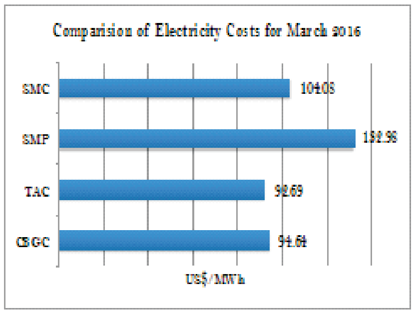


GNGC= Ghana National Gas Company
WAGPP = West African Gas Pipeline Project

Average Gas Flow (mmscfd) -March 2016					
Location	Week 1	Week 2	Week 3	Week 4	Monthly Average
Etoki	16.20	34.32	6.67	11.79	18.51
Tema	26.20	76.80	12.42	11.75	22.44
Aboadze	76.84	83.52	82.04	-	49.45

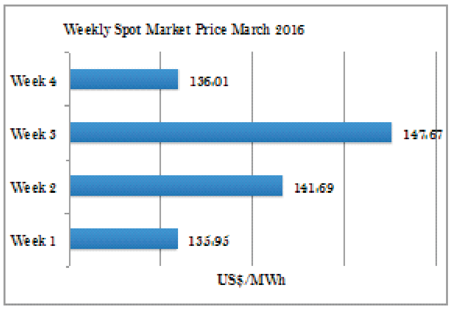
Water Level (ft) - March 2016					Change in water level
Hydro Dam	Week 1	Week 2	Week 3	Week 4	(feet)
Akosombo	240.20	239.92	239.63	238.88	(1.32)
Bui	574.03	572.62	571.02	568.41	(5.62)
Akosombo Minimum Design Operating Level	240.00	240.00	240.00	240.00	
Akosombo Maximum Level	278.00	278.00	278.00	278.00	

Month at a Glance				
	Units	Current Month	Previous Month	Change
Average Market Energy Cost	US$/MWh	69.02	73.86	(4.84)
Average Market Capacity Charge (AMCC)	US$/MWh	23.67	25.19	(1.52)
Total Average Market Cost (TAC)	US$/MWh	92.69	99.05	(6.36)
System Marginal Cost (SMC)	US$/MWh	104.08	94.97	9.11
System Marginal Capacity Charge (SMCC)	US$/MWh	28.89	29.37	(0.47)
Spot Market Price (SMP)	US$/MWh	132.98	124.34	8.63
Composite Bulk Generation Charge (CBGC)	US$/MWh	94.64	94.64	-
Deviation of TAC from CBGC	US$/MWh	1.95	(4.41)	6.36
Deviation of SMP from CBGC	US$/MWh	(38.34)	(29.70)	(8.63)



CBGC = Composite Bulk Generation Charge; SMC = System Marginal Cost; SMP = Spot Market Price

Power Plant	Maximum Non-Coincident Peak Generation (MW)	Plant Utilisation Factor (%)	Electricity Generation (GWh)	Gas Consumption (MMBTU)	LCO Consumption (MMBTU)	HFO Consumption (MMBTU)
Akosombo	742.00	65.41	361.07	-	-	-
Kpong	121.00	78.90	71.03	-	-	-
Sunon Asogli	175.20	42.88	55.90	578,809.57	39,917.90	-
Bui	366.00	58.26	158.65	-	-	-
Trojan Power	-	-	-	-	-	-
TAPCO	286.00	63.55	135.22	-	1,180,261.01	-
TT1PP	-	-	-	-	-	-
TICO	160.00	88.21	105.01	593,986.47	151,053.18	-
MRP	20.50	7.80	1.19	15,783.88	1,088.54	-
CENIT	103.00	41.86	32.08	-	313,019.00	-
KTPP	-	-	-	-	-	-
TT2PP	23.50	32.32	5.65	81,840.49	5,644.17	-
AMERI Energy	248.30	49.19	90.87	926,106.53	-	-
Imports	-	-	-	-	-	-
Karpowership	220.10	92.00	147.63	-	-	1,008,036.83
Total	2,465.60		1,164.30	2,196,526.94	1,690,983.80	1,008,036.83



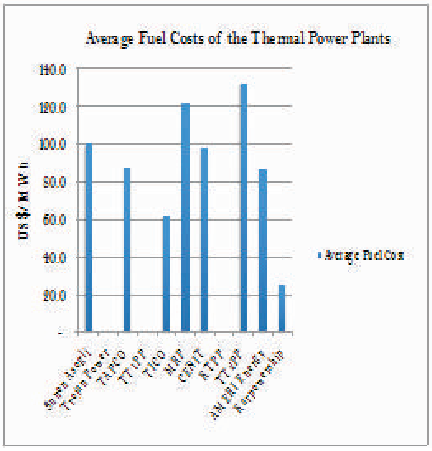
Spot Market Price = SRMC of Energy + SRMC of Capacity

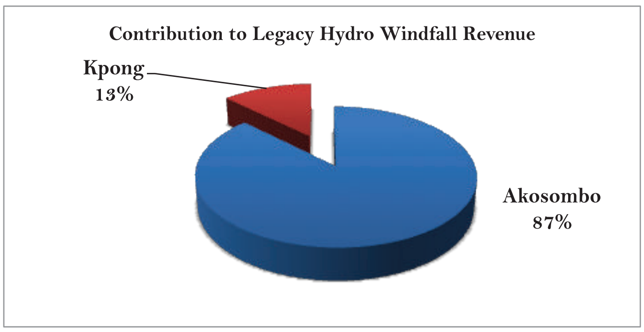
		Current Month	Previous Month	Change
Total Thermal Power Plants Fuel Cost	US$	39,587,501.69	49,501,398.91	(9,913,897.22)
Average Thermal Power Plants Fuel Cost	US$/MWh	69.02	73.86	(4.84)

Legacy Hydro Windfall Revenue for March 2016				
Power Plant	Average Cost (US$/MWh)	Average SMP (US$/MWh)	Difference (US$/MWh)	Windfall Revenue (US$)
Akosombo	33.10	132.98	99.88	36,062,471.77
Kpong	59.20	132.98	73.78	5,240,357.37
Total				41,302,829.14

SMP=Spot Market Price

Average Fuel Prices		
Fuel Type	Unit	Delivered Cost
Natural Gas	US$/MMBTU	8.60
LCO	US$/BBL	54.63
HFO	US$/Tonne	165.00
DFO	US$/Tonne	340.00





Other Market News and Trends

1. Enclave Power Company expands electricity distribution concession areas

Enclave Power Limited is the only fully private sector-owned electricity distribution company licensed by the Energy Commission (EC) to distribute and sell electricity in Ghana. Enclave Power Ltd was granted a Provisional Licensed on 19th October 2009 to operate in the Free Zones Enclave (FZE) in Tema. The company's electricity sales have grown from 38.7 GWh in 2009 to 42.6 GWh in 2015. The Free Zone Enclave is an export-oriented industrial enclave adjacent to the Tema Industrial Area. Enclave Power Ltd has recently applied for and has been granted a license to expand its operations by installing electricity distribution infrastructure to distribute and sell electricity within the Dawa Industrial Zone, a privately owned industrial park located in the West Dangbe District of the Greater Accra region. The industrial park has a total land area of 2,003.34 acres. The company has also been granted a Provisional License to expand its electricity distribution activities to the Murphy Residential Homes which is also located adjacent the industrial park at Dawa. The Murphy Homes Project has a land area of 354 acres and is expected to cater for 2,000 families and other associated commercial facilities. In addition the project has acquired 5,000 acres of land in the Dawa enclave to build a complete township. As part of the distribution infrastructure in the concession, Enclave Power is constructing a 40MVA 330/33kV Bulk Supply Point to receive from the National Interconnected Transmission grid in combination with other primary and secondary substations to distribute electricity to both the industrial park and the residential estates. The construction of the distribution infrastructure in the concession area is far advanced. Enclave Power intends to create the South Eastern Electricity Distribution Concession to expand its operations further towards the south-eastern parts of the country. The creation of the South Eastern Electricity Distribution Concession will give full effect to the government's vision of encouraging increased private sector participation in the distribution and sale of electricity in Ghana in line with the provisions of the Energy Commission Act 541 and its subsequent subsidiary legislations. Indeed, the EC Act 541 mandates the EC to create a regime for competitive procurement and sale of electricity throughout the country by privately owned companies with the view to enhancing efficiency and reliability in the procurement and supply of electricity.

2. Embedded electricity generation capacity is rising in Ghana and could be the "game changer"

Embedded electricity generation facilities are power plants that are connected to and produce and evacuate electricity directly through the distribution network that is connected to the high voltage National Interconnected Transmission System. In Ghana, embedded generation facilities are licensed to operate within the 33kV and 11kV electricity distribution network. Embedded generation facilities enhance the reliability of electricity supply by not only bringing electricity supply closer to the load and thus eliminating the installation and use of costly infrastructure for high voltage wires as well as transmission losses, but it will also allow the diversification of fuel in the generation of electricity through co-generation.

The Energy Commission has so far issued two (2) operating Embedded Electricity Generation licenses and six (6) Provisional Embedded Generation Licenses to five (5) companies operating in mainly the southern parts of the country. The largest operational Embedded Generation license has been issued to Trojan Power Limited for the installation and operation of a total of 113MW of embedded generating facilities in the country. Trojan Power has currently installed 25MW of gas turbine units which is being expanded to 75MW with new gas turbines in the Tema Power Enclave. In addition Trojan Power is refurbishing 18MW diesel units also in the Tema Power Enclave. In line with its business model, Trojan Power Limited is expanding its jurisdiction into the large towns in the country and has recently taken over a 20MW diesel generating units in Kumasi. The diesel units are part of the Emergency Power units which were procured by the government in 2006.

Genser Power Ghana Limited has also been granted embedded generation licenses to install and operate 35MW of embedded generation facilities in the country. It is currently operating a 5MW plant supplying electricity to Unilever Limited through the co-generation of process heat for the factory as well as electricity.

Marinus Energy Limited has also been granted a license to build and operate a 93MW (ISO) power plant to supply electricity into the ECG's distribution substation and network at Essiama in the Western Region. The power plant will be operated on waste gas from the Ghana Gas Company's Processing Plant at Atuabo.

The Energy Commission has received and is currently processing several applications for provisional licenses for embedded generation facilities in the country. A greater deployment of embedded electricity generation facilities in the country would definitely enhance the reliability of electricity supply

3. Automatic Timer Switches (ATS): a short-term solution to avoiding load shedding at peak periods

Automatic Timer Switches (ATS) are switches that can be programmed to automatically switch off and on an electrical appliance in homes, commercial facilities and industries during periods decided by the users of the switches. ATS are widely used in the world for various operations. Besides being able to reduce consumption of electricity, ATS are a very good tool for implementing energy conservation in the use of electrical appliances because they are cheaper and come in different configurations to suit the needs of the user.

The Energy Commission is promoting the use of ATS as a tool to manage system peak periods. The model being promoted by the EC is to install about 2 million ATS on refrigeration appliances throughout the country to switch them off during peak periods and back on after peak period. The target is to achieve about 200MW reduction of load during the peak period. ATS are easy to procure and install and also cheaper compared to installing a power plant of equivalent generating capacity. While it requires about 24 months to install a 200MW gas turbine, installation of equivalent number of ATS would require about 6 months or less to fully deploy. Thus ATS would not only avoid the cost of capital investments in the power plant but will also avoid the cost of fuel to operate the power plant. It is estimated that at a unit cost of US$17.0/unit of ATS which is inclusive of distribution and installation costs, an investment of US$34 million would be required to install ATS equivalent to the generating capacity of the Kpone Thermal Power Plant (KTPP).

By Energy Commission's estimates, the payback period of deploying 2 million ATS as against operating the 220MW KTPP power plant is about fifteen (15) months in the short run which assumes the savings associated with the cost of fuel alone of the KTPP running on natural gas in the simple cycle mode. The payback period is shorter (about five (5) months) when all the cost of KTPP including the capital investment costs as well as the fixed operating costs of the KTPP are taken into account. The justification for ATS, financially, is even clearly more superior when using the Levelized Cost of Electricity (LCOE) methodology as the basis of comparison between the deployment of ATS and the installation and operation of a gas turbine power plant. The Energy Commission has computed the LCOE of the ATS programme to be about US cents 2.0/kWh compared to the LCOE of about US cents 27.0/kWh for the gas turbine plant. The LCOE estimates are based on the assumption of a life span of 10 years for the ATS and 20 years for a gas turbine plant (KTPP) operating at peak periods of 4 hours daily. Indeed, it makes economic sense to provide ATS “free of charge” to electricity consumers who are ready to voluntarily participate in the ATS programme. In some other jurisdictions, electricity consumers who participate in such programmes, at their own cost, are re-imbursed directly or indirectly by the utility companies.

4. National Rooftop Solar Programme (NRSP) to transform the electricity distribution sector

Renewable energy is gradually becoming the energy source of choice world wide driven largely by global climate change considerations. It is reported that over 70% of total electricity supply capacity installed in 2015 was from renewable energy sources led by wind and solar energy. Besides the global climate considerations, renewable energy is rapidly becoming financially competitive compared to the traditional electricity generating technologies, even though substantial government subsidies as well as regulatory push are still required to accelerate the uptake of Rooftop Solar Programme by the market. A major factor in favour of renewable energy, particularly solar PV, going forward into the near term future is its modularity and as well as the fact that it is easy to install and operate requiring skills and expertise that are widely available and easily developed. Solar PV technology, in particular, for most experts is becoming the technology of choice for electricity generation in countries well-endowed with the resource, several of which are ironically developing countries. The major impediment to rapid absorption of solar PV generating systems in many countries, currently, is the unfriendly regulatory environment, high costs and distorted subsidy strategies. These difficulties can however be surmounted through proper planning that is guided by deeper understanding of the dynamics of the changing landscape for power generation and supply brought about by the new era of smart technologies. To open the way for these new and improved technologies to blossom, there is the need for policy makers and regulators to sharpen and rethink their approach to renewable energy technologies particularly solar PV. To achieve this, there is the need to “kill” the misinformation among policy makers and regulators of the developing electricity supply landscape about the opportunities offered by solar PV technology.

With the “smarting up” of grid interactive solar PV technology and operations of electricity grids in general, a major plank of medium-to-long-term development priority of the Government of Ghana is to increase the inclusion of solar energy solutions in the national electrical energy supply platform. This vision is being given the requisite policy push by the President of Ghana himself through his numerous pronouncements on the implementation of the National Rooftop Solar Programme. One of the opportunities offered by this programme is the possibility of transforming the electricity distribution and sale in Ghana as envisaged under the Power Sector Reforms Programme. The Energy Commission has enhanced this opportunity through the grant of licenses for businesses to import, produce, assemble, install and maintain solar PV systems in the country. There is also the possibility for these licensees to enter into bilateral agreements with customers, as they may agree, to take full control of their electricity supply needs that can be met with a combination of solar PV and the grid supply. The momentum for this model of electricity supply is quite high spurred on by the NRSP besides the enormous benefits it could bring to electricity consumers and the private sector investors involved in the solar PV business. Indeed, it will give true meaning to Ghana's power sector reforms which, among other objectives, is intended towards increasing private sector participation in the distribution and sale of electricity.

The Energy Commission will, within the context of its regulatory mandates, continue to promote this business model for enhancing the rapid uptake of solar PV technology. The Energy Commission is, as well, beginning a programme to support real estate developers with free solar PV panels of up to 500Watts for homes that are purchased in 2016 and in future. Under the programme for real estate developers, the Energy Commission will install the solar panels as long as the new owners of the property and the estate developer agree to install the requisite balance of systems (BOS) including the replacement of all lamps to LED lamps. This approach is intended to promote the use of more efficient lamps in the country as well.

5. Global recovery of oil prices: emerging issues and implications for Ghana's power sector

Crude oil has been and continues to be an important source of fuel for electricity generation in Ghana even with recent introduction of natural gas in the fuel mix for electricity generation. Indeed, these two fuels have become the back-bone of power sector developments in the past decade, providing the alternative to the predominant and cheap hydro electricity that Ghana enjoyed before. Therefore any developments in the oil and gas sectors should be of great interest to policymakers and energy experts in Ghana. The prolonged collapse of oil prices, since mid 2014, has given the impression, falsely or otherwise, that the lower prices will persist into the immediate future.

The collapse of oil prices has therefore engaged the rapt attention of energy experts and policymakers world wide as well as in Ghana. It is common these days, in Ghana, to hear some energy practitioners try to link the natural gas pricing to crude oil prices for electricity generation and argue that the proposed prices of natural gas to be supplied from the new natural gas projects is excessive. Even though literature on oil and gas is replete with empirical evidence that show that there is no strong correlation between oil and natural gas prices on the global market, the argument linking natural gas prices with oil prices has been strong on the basis that oil prices, which had dipped to about US$27/barrel in March 2016, will drop further for a prolonged period. In reality, however, the delivered cost of crude oil in Ghana today is around US$10.0/MMBTU assuming the current oil commodity price of US$38/barrel plus other associated costs using Volta River Authority's (VRA's) methodology and estimates which, in addition to the commodity price, accounts for about 10 other cost elements including freight, agency fees, fees for processing and establishment of letters of credit (LCs), financing costs, etc. The additional costs elements could add about US$15/barrel to the commodity price depending on the quantities that are purchased. Some energy experts have cautioned against the belief that crude oil prices will continue to tumble or remain at the very low levels. They argue that, the current very low global prices of crude oil compared to the high of US$115/barrel attained, a couple of years ago, is a temporary phenomenon taking a cue from the history of global oil price movements which is replete with predictable uncertainties. While it is agreeable that domestic natural gas prices should be comparatively lower for Ghana to become competitive in achieving the vision of becoming a net exporter of electricity in the sub-region, it is equally dangerous to argue against the proposed prices of natural gas on the basis of the current low prices of crude oil.

The world market price of crude oil will definitely rally back towards the familiar US$100 mark in the medium term. Indeed, the price of crude oil (Brent) has began recovering from the low US$26.7/barrel mark in mid-January 2016 to about US$40.5/barrel in the third week of March 2016 before easing-off to about US$36.75 at the end of March 2016. The global prices of oil will change as long as the fundamentals that dictate it includes the political factor. While we may not see the very astronomical increases in oil prices, the prices would definitely gravitate upwards towards "politically acceptable" optimum values in due course boosted by the oil market fundamentals including demand and supply, existing production capacity, stock levels, geopolitics, speculative behavior as well as pressure from the crude oil producer (this time from both OPEC and Non-OPEC countries).

The current rallying of oil prices should, therefore, not be seen as a temporary phenomenon but as signs of the trends to come. In that respect, the current relief enjoyed by crude oil importers should be managed cautiously. The low price regime should rather be seen as an opportunity to embrace more robust policy interventions that would have lasting positive impact on the energy sector going forward. In the case of Ghana's power sector, discussions on the current low global price of oil should be done cautiously especially as it relates to alternative fuels for electricity generation. What should rather engage policymakers and energy experts is the need to diversify the types and sources of fuel for electricity generation and not debates on comparing prices of alternative fuel supplies. The recent prolonged period of load shedding has exposed the unacceptably high cost to the economy of shortages in electricity supplies which are caused, by not only inadequate generating capacity, but also quite frequently, by unreliable fuel supplies. Ghanaian energy experts and policymakers should re-engage themselves to addressing issues of ensuring flexibility of fuel supplies for electricity generation with a focus on medium to long-term development agenda for the power sector and the economy in general.

Acronym

Acronyms

CSP = Concentrated Solar Power
EC = Energy Commission
EMOP = Electricity Market Oversight Panel
GoG = Government of Ghana
KTPP = Kpone Thermal Power Plant
LC = Letter of Credit
LI = Legislative Instrument
MWh = Megawatt hours
NITS = National Interconnected Transmission System
PURC = Public Utilities Regulatory Commission
WEM = Wholesale Electricity Market
CBGC = Composite Bulk Generation Charge (gazetted by the PURC)
ECG= Electricity Company of Ghana
HFO = Heavy Fuel Oil
GWh = Gigawatt Hours
kWh = Kilowatt hours
LCO = Light Crude Oil
LED = Light Emitting Diode
MoP = Ministry of Power
PPA = Power Purchase Agreement
PV = Photovoltaic

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