Other Market News and Trends

Five (5) of the companies with a combined total capacity of 1,713MW have their PPAs signed with ECG and are in the process of acquiring the requisite credit enhancements (PRG or PCOA) in order to proceed to financial close. The Government has recently suspended the grant of GCSAs implying that power companies requiring credit enhancement from Government would be granted either a PRG or a PCOA but not both. Table 5.1 shows the list of power plants with signed PPAs.

Table 5.1 Power Plants with signed PPs

No.	Developer	Date Signed	Plant Capacity Committed	Project Site	Technology	Fuel types	Current Status
1	Jacobsen Jelco Ghana Limited	20th December, 2012	360	Aboadze	Combine Cycle Gas Turbine	Natural Gas as Primary fuel and Light Crude oil as Secondary Fuel	GSCA obtained for project. Financial closure expected in 2016
2	Amandi Energy Ltd	31st July, 2013	203	Aboadze	Combine Cycle Gas Turbine	Natural Gas as Primary fuel and Light Crude oil as Secondary Fuel	GSCA obtained for project. Financial closure expected in 2016
3	Astro Power Ltd	13th October, 2014	200	Takoradi	Combine Cycle Gas Turbine	Natural Gas as Primary fuel and Light Crude oil as Secondary Fuel	PPA signed. GSCA application made to Ministry of Power
4	Chrispod Hydro Power Ltd	13th October, 2014	350	Aboadze	Combine Cycle Gas Turbine	Natural Gas as Primary fuel and Light Crude oil as Secondary Fuel	Addendum to PPA signed and submitted to Ministry of Power
5	Rotan Power	23rd December, 2014	660	Aboadze	Combine Cycle Gas Turbine	Natural Gas as Primary fuel and Light Crude oil as Secondary Fuel	PPA signed. Developer seeking PCOA commitment from Ministry of Finance
	Total		**1,773**				

The following power plants have PPAs that have been initialed with ECG but are not yet signed even though some of them are pursuing credit enhancement facilities with the Government of Ghana. Table 5.2 is the list of the power plants with PPAs initialed but not concluded.

Table 5.2 Power Plants with initialed PPAs

No.	Developer	Date Signed	Plant Capacity	Project Site	Technology	Fuel Types	Current Status
1	Volta River Authority (TAPCO)	N/A	330	Aboadze	Combine Cycle Gas Turbine	Natural gas/LCO	PPA Initialed
2	Trojan Phase 20MW Tema Diesel	N/A	20	Tema	Simple Cycle	Diesel	PPA Initialed. Old generating units leased by MoP to Trojan
3	Trojan Phase 20MW Kumasi Diesel	N/A	20	Kumasi	Simple Cycle	Diesel	PPA Initialed. Old generatig units leased by MoP to Trojan
4	Trojan 50MW Gas	N/A	50	Tema	Simple Cycle	Natural gas	PPA Initialed
5	Wuta Energy	N/A	220	Atuabo	Combine Cycle Gas Turbine	Natural gas and HFO	PPA Initialed
6	OneEnergy	N/A	1000	Aboadze	Combine Cycle Gas Turbine	Natural gas as Primary Fuel and LCO as Secondary Fuel	PPA Initialed. GCSA application made to MoP
	Total		**1,640**				

The EC, as it seeks to become one of the most reputable regulatory institutions in Africa, intends, in the coming years, to strengthen its licensing regime to ensure that the process of procuring power supplies is more transparent and fair.

Acronyms

EC = Energy Commission
EMOP = Electricity Market Oversight Panel
GCSA = Government Consent & Support Agreement
KTPP = Kpone Thermal Power Plant
LI = Legislative Instrument
kWh = Kilowatt hours
NITS = National Interconnected Transmission System
PCOA = Put/Call Option Agreement
PRG = Partial Risk Guarantee
PV = Photovoltaic
CBGC = Composite Bulk Generation Charge (gazetted by the PURC)
HFO = Heavy Fuel Oil
GWh = Gigawatt Hours
LCO = Light Crude Oil
MWh = Megawatt hours
MoP = Ministry of Power
NPV = Net Present Value
PPA = Power Purchase Agreement
PURC = Public Utilities Regulatory Commission
WAGPP = West African Gas Pipeline Project

For any enquiries please contact the:
MOP Administrator, EMOP Secretariat, Energy Commission, Accra.
Telephone: +233-302813756/7/9;
Or
email: marketoversightpanel@yahoo.com.

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GHANA WHOLESALE ELECTRICITY MARKET BULLETIN

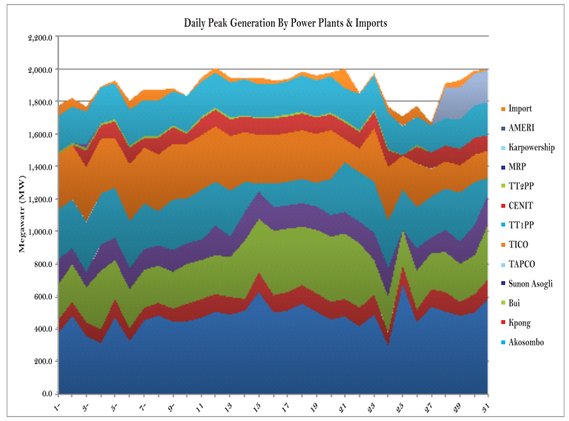
MARKET WATCH

Monthly Market Data Analysis

ISSUE NO.1:1st January 2016 to 31st January 2016

OPERATIONAL FACT SHEET

Peak Generation (MW)						
Plant/Source of Supply	Week 1	Week 2	Week 3	Week 4	Maximum Peak Generation	Generation at Coincident System Peak
Akosombo	520.00	514.00	629.00	674.00	674.00	507.00
Kpong	116.00	112.00	118.00	119.00	119.00	108.00
Bui	359.00	354.00	400.00	393.00	400.00	258.00
Sunon Asogli	180.00	182.40	165.00	186.00	186.00	182.40
TAPCO	312.00	312.00	303.00	308.00	312.00	272.00
TICO	346.00	344.00	305.00	332.00	346.00	339.00
TT1PP	-	-	-	61.00	61.00	-
CENIT	102.00	102.00	99.00	102.00	102.00	100.00
KTPP	-	-	-	-	-	-
TT2PP	13.20	12.90	13.00	12.90	13.20	12.90
MRP	20.50	-	-	-	20.50	-
AMERI Energy	-	-	-	195.21	195.21	-
Karpowership	220.20	220.10	219.80	220.00	220.20	219.70
Import	71.00	65.00	-	-	-	26.00
Trojan Power	-	-	-	-	-	-
Total Supply including imports	2,259.90	2,218.40	2,251.80	2,605.11	2,649.11	2,005.00
Total Generation without imports	2,188.90	2,153.40	2,251.80	2,605.11	2,649.11	1,979.00

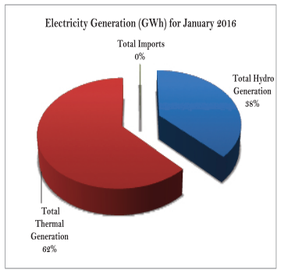


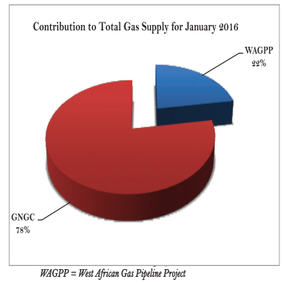
Average Gas Flow (mmscfd)					
Location	Week 1	Week 2	Week 3	Week 4	Monthly Average
Etoki	32.53	37.26	29.12	29.12	32.01
Tema	33.93	26.52	29.86	29.86	29.99
Aboadze	111.34	89.28	107.04	107.04	103.68

Water Level (ft)					Change in water level
Hydro Dam	Week 1	Week 2	Week 3	Week 4	(ft)
Akosombo	242.04	242.36	241.48	241.48	(0.56)
Bui	585.78	583.12	580.95	580.95	(4.83)
Akosombo Minimum Operating Level	240.00	240.00	240.00	240.00	
Akosombo Maximum Level	278.00	278.00	278.00	278.00	
Akosombo % full	5.4%	6.2%	3.9%	3.9%	

Ghana Demand Analysis for January 2016		
Maximum Peak Generation	MW	1,979.00
Minimum Peak Generation	MW	1,955.30
Average Peak Generation	MW	1,965.88
Total Energy Generated	GWh	1,122.42
Total Energy Imported	GWh	1.66
Ghana Load Factor (LF)	%	76.23

Weekly Generation (GWh)					
Power Plant	Week 1	Week 2	Week 3	Week 4	Total
Akosombo	51.37	59.28	66.44	80.18	257.27
Kpong	10.69	12.57	13.51	16.71	53.48
Bui	13.59	25.41	42.38	33.73	115.11
Sunon Asogli	20.86	21.06	22.23	32.11	96.27
TAPCO	50.90	43.88	22.85	57.36	174.99
TICO	54.80	54.02	44.57	46.25	199.64
TT1PP	-	-	-	0.43	0.43
CENIT	8.73	14.09	13.75	17.70	56.27
KTPP	-	-	-	-	-
TT2PP	1.94	1.92	1.73	1.60	7.18
MRP	0.55	-	-	-	0.55
AMERI Energy	-	-	-	6.94	6.94
Karpowership	36.00	36.17	35.57	46.95	154.49
Import	1.66	-	-	-	1.66
Trojan Power		-	-	-	-
Total Supply including imports	251.09	268.40	264.63	339.96	1,124.08
Total Generation without imports	249.43	268.40	264.63	339.96	1,122.42





WAGPP = West African Gas Pipeline Project

ECONOMIC FACT SHEET

		Current Month	Previous Month	Change
Average Market Energy Cost	US$/MWh	76.61		
Average Market Capacity Charge (AMCC	US$/MWh	28.94		
Total Average Market Cost (TAC)	US$/MWh	105.54		
System Marginal Cost (SMC)	US$/MWh	87.33		
System Marginal Capacity Charge (SMC(	US$/MWh	29.49		
Spot Market Price (SMP)	US$/MWh	116.82		
Composite Bulk Generation Charge (CBG	US$/MWh	94.64		
Deviation of TAC from CBGC	US$/MWh	(10.90)		
Deviation of SMP from CBGC	US$/MWh	(22.18)		

Power Plant	Maximum Non-Coincident Peak Generation (MW)	Plant Utilisation Factor (%)	Electricity Generation (GWh)	Gas Consumption (MMBTU)	LCO Consumption (MMBTU)	HFO Consumption (MMBTU)	DFO Consumption (MMBTU)
Akosombo	674.00	51.30	257.27	-	-	-	-
Kpong	119.00	60.17	53.28	-	-	-	-
Sunon Asogli	186.00	69.56	96.27	933,296.93	-	-	-
Bui	400.00	38.68	115.11	-	-	-	-
Trojan Power	-	-	-	-	-	-	-
TAPCO	312.00	75.39	174.99	1,377,704.14	-	-	9,547.07
TT1PP	61.00	0.95	0.43	5,356.51	-	-	-
TICO	346.00	77.55	199.64	1,488,150.10	-	-	1,147.53
MRP	20.50	3.62	0.55	7,597.70	-	-	-
CENIT	102.00	74.15	56.27	-	659,398.81	-	952.96
KTPP	-	-	-	-	-	-	-
TT2PP	13.20	73.15	7.18	93,471.02	-	-	-
AMERI Energy	195.21	4.78	6.94	70,854.10	-	-	-
Imports	-	-	1.66	-	-	-	-
Karpowership	220.20	92.00	154.49	-	-	1,517,170.50	-
Total	2,649.11		1,124.08	3,976,430.50	659,398.81	1,517,170.50	11,647.58

Power Plant	Cost of Gas Consumed (US$)	Cost of LCO Consumed (US$)	Cost of HFO Consumed (US$)	Cost of DFO Consumed (US$)	Total Fuel Cost (US$)	Average Fuel Cost (US$/MWh)	Average Energy Charge (US$/MWh)
Sunon Asogli	8,399,672.38	-	-	-	8,399,672.38	87.26	89.85
Trojan Power	-	-	-	-	-	-	-
TAPCO	12,674,878.12	-	-	14,320.61	12,689,198.72	72.51	75.01
TT1PP	45,316.07	-	-	-	45,316.07	105.39	108.60
TICO	12,589,749.87	-	-	1,721.33	12,591,471.20	63.07	71.75
MRP	64,276.52	-	-	-	64,276.52	116.32	126.44
CENIT	-	5,187,674.69	-	1,429.44	5,189,104.13	92.21	95.38
KTPP	-	-	-	-	-	-	-
TT2PP	790,764.86	-	-	-	790,764.86	110.07	113.18
AMERI Energy	599,425.65	-	-	-	599,425.65	86.37	89.01
Karpowership	-	-	13,134,654.78	-	13,134,654.78	85.02	93.32
Total	35,164,083.47	5,187,674.69	13,134,654.78	17,471.37	53,503,884.31	-	-

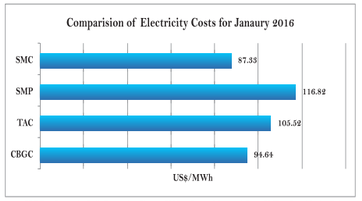
Average Energy Charge is the sum of fuel costs and other non-fule Variable O&M costs

Total Thermal Power Plants Fuel Cost	US$	53,503,884.31
Average Thermal Power Plants Fuel Cost	US$/MWh	76.61

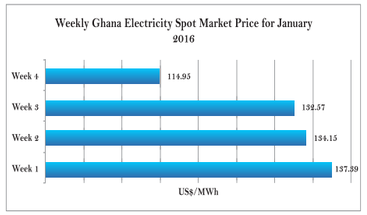
Legacy Hydro Windfall Revenue for January 2016				
	Average Cost	Average SMP	Difference	Windfall Revenue
Power Plant	(US$/MWh)	(US$/MWh)	(US$/MWh)	(US$)
Akosombo	33.10	116.82	83.72	21,537,647.37
Kpong	59.20	116.82	57.62	3,069,537.18
Total				24,607,184.55

SMP=Spot Market Price

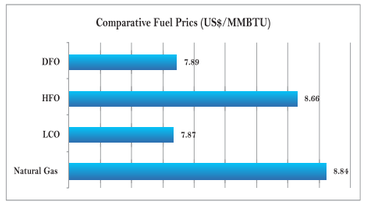
Average Fuel Prices		
Fuel Type	Unit	Delivery Cost
Natural Gas	US$/MMBTU	8.84
LCO	US$/BBL	42.80
HFO	US$/Tonne	390.00
DFO	US$/Tonne	340.00

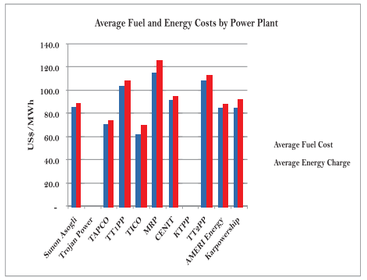


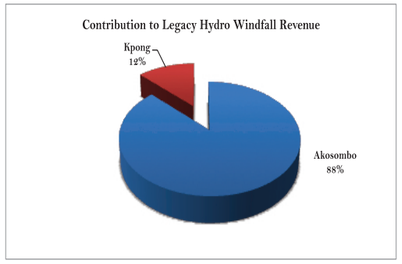
CBGC = Composite Bulk Generation Charge, SMC = System Marginal Cost, SMP = Spot Market Price



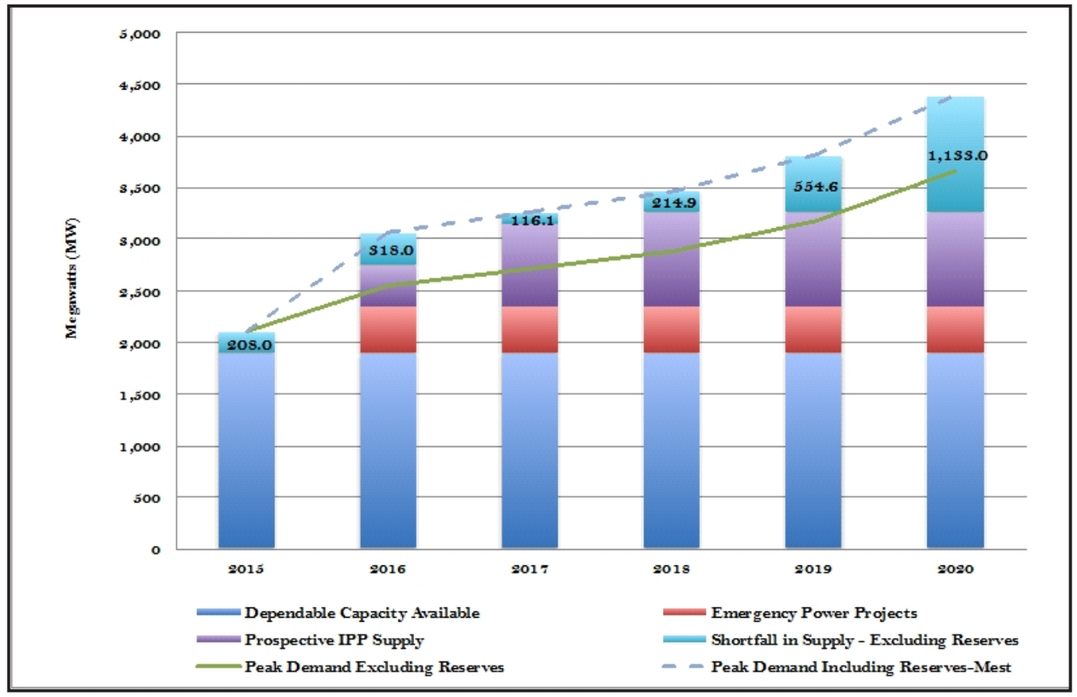
Spot Market Price = SRMC of Energy + SRMC of Capacity







Figures 2; Expected Capacity Balance including reserve requirements over the next 5 years if all proposed investments are completed - Business As Usual



5. Status of Licensees in the Wholesale Electricity Market

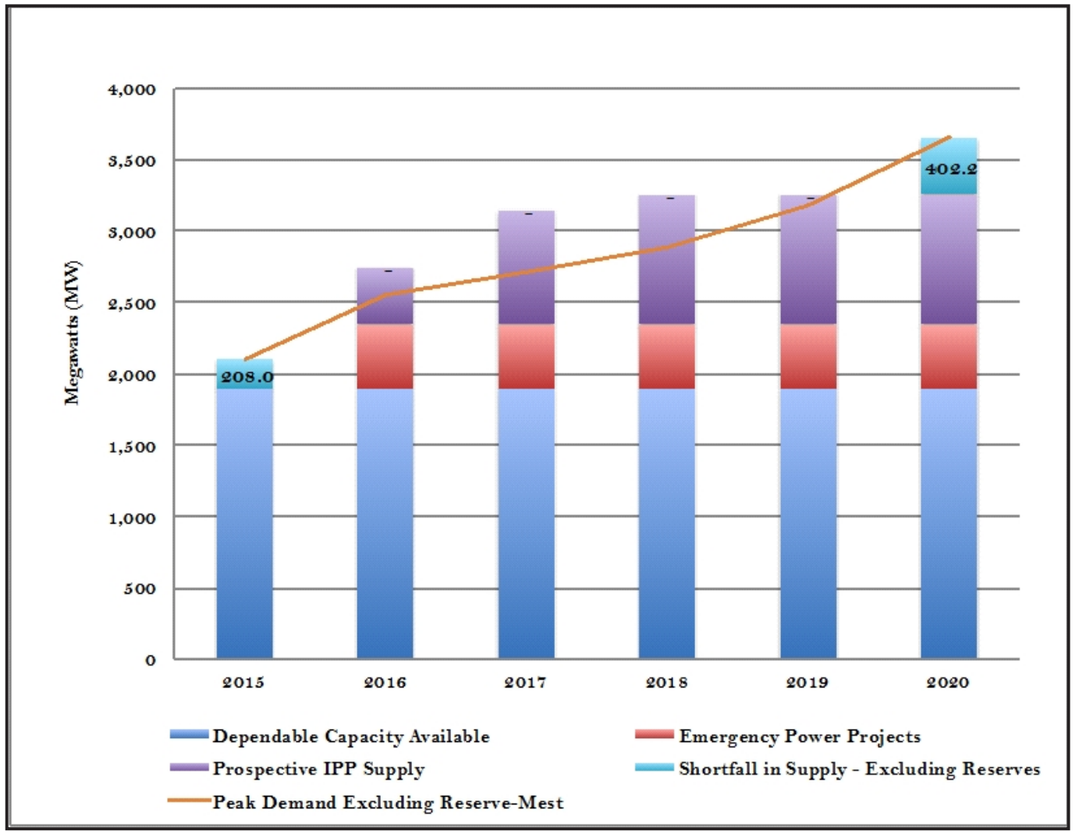
Currently there are 77 Wholesale Electricity Suppliers who have been granted licenses to generate electricity from conventional thermal sources; 36 Bulk Customers have been permitted to negotiate with wholesale electricity suppliers for electricity supplies for their own use; and 3 distribution companies have been authorised to procure electricity from wholesale suppliers to distribute and sell to other consumers. Of the 77 Wholesale Electricity Suppliers licensed, 10 of them are operational, 22 of them have acquired Siting Permits and 9 of them have been granted Construction Permits. Forty-five (45) of the licensed Wholesale Electricity Suppliers are Provisional which is the first stage in the licensing and permitting process prescribed by the EC.

The Karpowership Power Plant and the AMERI Power Plant with a combined total installed capacity of 480MW have both been deployed as Emergency Power Plants (EPP) on fast track basis. In additions to these 2 power plants, the Kpone Thermal Power Plant (KTPP) will be operational in 2016 with a dependable capacity of 220MW. Barring fuel supplies difficulties these generation resources will augment the power supply situation substantially. On the basis of these developments, the status of the rest of the other previously assigned Emergency Power Projects need to be reviewed. Transforming them into regular IPP projects will ensure better management of additional capacity procurement into the electricity market.

Among the power plants that have been issued with construction permits, Phase II of the Sunon Asogli power plant (360MW) and Cenpower Generation power plant (340MW) are under construction and are scheduled for completion in 2016 and 2017 respectively.

Figures 1 and 2 show the results of projections for capacity balance for the BaU Scenario with and without reserve requirements.

Figure 1: Expected Capacity Balance without reserves over the next 5 years if all proposed investments are completed - Business As Usual



Projections for the available system dependable capacity assumes that the Karpowership power plant (220MW) and AMERI power plant (230MW) are the only Emergency Power Plants (EPPs) that will be operational during the period while the available regular IPPs that be commissioned are (i) KTPP (220MW), (ii) Sunon Asogli Power Plant Phase 2 (180MW in 2016 and additional 180 in 2017), and (iii) Cenpower plant (220MW in 2017 and additional 110MW in 2018). During this period, the dependable capacities of Akosombo and Kpong Generating Stations are assumed at 500MW and 105MW respectively. Under this scenario, capacity shortfall will occur from 2020 onwards.

Using the same assumptions and with a reserve margin of 20%, shortfalls in meeting system capacity requirements will occurs through out the period (2015-2020). The capacity shortfalls will grow from 320MW in 2016 to about 1,100MW in 2020 as shown in figure 2.

1. Implementation of Electricity Regulations, LI 1937 and establishment of the EMOP

As a regulatory body, the Energy Commission (EC), under its enabling statute, Energy Commission Act, 1997, Act 541, has responsibility for overseeing the proper regulation and governance of the Electricity Supply Industry (ESI). The EC performs the regulatory function, through elaboration and enforcement of legislative instruments (LIs), licensing conditions as well as technical rules of practice including codes of conduct and standards of performance rules. The EC, beyond the regulatory mandates, also has the unique responsibility for planning to ensure that all reasonable demands for energy are satisfied in a safe manner. The Electricity Regulations, LI 1937 which came into force in 2008 has provided for the establishment of a Wholesale Electricity Market for bulk trading of electricity, ancillary services or any other related electricity supply product or service.

The key participants in the WEM are:

(i) wholesale suppliers who install and operate facilities to procure or produce electricity for sale,;
(ii) bulk customers who purchase electricity in bulk for their own consumption;
(iii) distribution companies who purchase electricity for sale to customers; and
(iv) any identifiable entity which is capable of providing any related ancillary services.

The structure of the WEM comprises (i) the Spot Market and (ii) Bilateral Market. The Bilateral Market covers all transactions carried out under contract between the market participants while the Spot Market covers transactions required to balance demand and supply outside the direct contracts. Electricity supplied on the Spot Market are to be sold at the System Marginal Cost which is determined as the additional cost of producing one more unit of electricity in the National Interconnected Transmission System (NITS). A special feature of the Ghana WEM is that the LI 1937 precludes Akosombo and Kpong Hydro Generating Stations from any bilateral contract. This provision is intended to mitigate excessive distortion of the market by the predominantly low cost electricity from the Akosombo and Kpong Hydro Generating Stations. Indeed, as the contribution of hydro electricity in the national electricity mix diminishes, the era of low cost hydro electricity is fading into a future that will be characterized by high-cost thermal based electricity supplies.

As part of the institutional arrangements for the operationalization of the WEM, the LI 1937 has provided for the establishment of the Electricity Market Oversight Panel (EMOP) to specifically supervise the administration and operation of the WEM as well as ensuring the long-term optimization of hydro-electricity supply sources in the country independently of the Transmission Utility who has the responsibility for the operation and maintenance of the National Interconnected Transmission System (NITS).

The EC has created the EMOP Secretariat to coordinate the operations of the EMOP. Part of the responsibilities of the EMOP Secretariat is to collect and analyse information relating to the Wholesale Electricity Market. The scope of the weekly report covers both technical and economic issues, particularly electricity generation costs and pricing data related to the operations in the WEM. Other relevant news regarding developments in the WEM will also be reported.

Beginning January 2016, the EMOP Secretariat will publish data and information related to the WEM. The analyses will be carried out on a monthly basis.

This report covers the period from 1st January 2016 to 31st January 2016. The EC will appreciate comments on the Market Watch Bulletin. A reasonable care has been taken to ensure that the information contained in this Bulletin is not misleading or untrue at the time of publication, however any errors, omissions or inaccuracies in the Bulletin shall not be considered deliberate.

2. Ghana is a Leader in Utility-Scale Solar PV in West Africa.

The 20MW Utility-Scale Solar PV plant located at Gomoa Onyeadze, near Winneba in the Central Region of Ghana is the first of its kind in West Africa and one of the largest in south of the Sahara. The power plant which has been developed by BXC Company Limited, a subsidiary of BXC Beijing, China, is connected to the distribution network and the electricity generated is sold under a Power Purchase Agreement (PPA) with the major electricity distribution utility, Electricity Company of Ghana. The Renewable Energy Act of Ghana requires that electricity generated from renewable energy sources should be given priority dispatch at a guaranteed Feed-in-Tariffs (FIT) that are prescribed by the Public Utilities Regulatory Commission (PURC).

The solar power plant, which is currently operational, was constructed within 18 months from April 2014 to October 2015. BXC was granted a Provisional License by the Energy Commission in June 2013.

The installation consists of 80,000 solar panels each of 250Wp capacity. The power plant has 40 inverters each of 500kW capacity and 20 transformers of 1000kVA capacity each. Power is evacuated through a 33kV sub-station which is about 8km away from the power plant site. The power plant occupies a land area of 100 acres. The plant is estimated to produce 30,000 MWh of electricity annually saving an estimated 42,000 tonnes of carbon dioxide (CO2) yearly. The power plant is currently operated by 10 technical staff who are supported by about 20 casual labourers who are engaged from time to time, as may be necessary, and mainly for cleaning the panels. There are two major problems limiting the operation of the power plant. First, during this part of the year there is dust accumulation on the panels due to the dusty harmarttan weather. The dust deposits reduce the efficiency of the panels. Secondly, the power plant cannot inject power into the distribution system when grid supply of electricity in the network is curtailed.

The power plant is unique in many ways besides being the largest of its kind in West Africa. The US$30 million power plant is a wholly private-owned power plant. Indeed, the development of the project gives meaning to GoG's power sector reforms programme which was initiated to promote private sector investments and Independent Power Producer (IPP) initiatives in Ghana's power sector. The project also provides a practical opportunity to establish the realistic costs of similar facilities in Ghana as well as enable the economic regulator, PURC, to determine the appropriate FITs for utility-scale solar PV power plants in Ghana.

By the Energy Commission's estimates, the break-even price for the project to achieve a zero Project NPV is about US$ 168.5205/MWh assuming a project life of 20 years and real discount rate of 10 percent. Based on the simulations conducted, the break-even price for a similar sized solar power plant of the same cost located in a well endowed solar resource location such as Wa, in the Upper West region is estimated at 154.4636 US$/MWh. This represents a reduction in cost of generation of about 9.1%. The lower cost is attributable to the difference in solar insolation levels between Winneba in the Central region and Wa which is located in the richly-endowed solar resource area of the Upper West region of Ghana.

3. Legacy Hydro could have raked-in about US$26 million in Windfall Revenue in January 2016 if LI 1937 were implemented

The Akosombo and Kpong hydro power plants are referred to as "legacy" hydro facilities because of their advanced operational age and on the basis of which their capital costs are largely depreciated for accounting purposes. The Electricity Regulations, Legislative Instrument (LI) 1937 prescribes that electricity generated from Akosombo and Kpong Hydro power plants are not subject to bilateral contracts and should be sold in the Spot Market at the Spot Market Price (SMP). The LI 1937 also provides that the Spot Market Price should be based on the System Marginal Cost (SMC). Currently the price of electricity from Akosombo and Kpong Generating Stations used in the determination of electricity tariffs are based on their historical accounting costs. In the month of January 2016, the average Spot Market Price has been calculated as US$116.82/MWh compared to the historical accounting cost of US$33.1/MWh and US$59.2/MWh for electricity generated from Akosombo and Kpong hydro power plants respectively. The SMP has been calculated as the weighted costs of the marginal units using an optimized load duration curve for January 2016.

On the basis of these calculations, the windfall revenue, resulting from pricing electricity Akosombo and Kpong at the higher Spot Market Price than the historical accounting costs, is estimated to be US$ 24.6 million in the month of January 2016. Table 3.1 shows the calculation of the windfall revenue for the week under review.

Table 3.1. Windfall Revenue from Legacy Hydro in January 2016.

Legacy Hydro Windfall Revenue for January 2016				
	Average Cost	Monthly SMP	Difference	Windfall Revenue
Power Plant	(US$/MWh)	(US$/MWh)	(US$/MWh)	(US$)
Akosombo	33.10	116.82	83.72	21,537,647.37
Kpong	59.20	116.82	57.62	3,069,537.18
Total				24,607,184.55

SMP = SRMC of Energy + SRMC of Capacity

It is estimated that an amount of about US$200 million could accrue annually as windfall revenue from the legacy hydro being priced at the Spot Market Price as provided for in Electricity Regulations, LI 1937. The Windfall Revenue could be another source of funds for retiring the lingering debts resulting from non-payment of fuel supplies for power generation. The windfall could also be used to provide targeted subsidies to vulnerable classes of consumers and industries in a very transparent manner without distorting the electricity market competition principles as envisaged in the power sector reforms programme.

4. AMERI Power Plant becomes operational

The Board of the Energy Commission visited the 250MW capacity AMERI Power Plant at the Aboadze Power Enclave, near Takoradi. The AMERI Power Plant is the newest of the 3 thermal power plants domiciled in the Aboadze Power Enclave. The AMERI Power Plant brings the total operational thermal power plant capacity in the Aboadze Power Enclave to 880MW. During pre-commissioning each of the gas turbines recorded capacities of between 23MW and 24MW.

5. Energy Commission completes electricity demand projections for 2015-2035

The Energy Commission (EC), among others, has responsibility for planning to ensure that all reasonable energy demands of the country are met. The EC in carrying out this function prepared a Strategic National Energy Plan (SNEP) in 2008. The SNEP covered the period 2006 – 2020. The EC is in the process of reviewing the SNEP in order to take into account new developments in the economy as well as technological developments and changes in electricity use pattern. The review covers the period 2015 – 2035.

The EC has completed energy demand projections for the period 2015 to 2035. The demand projections are based on two (2) Scenarios: Business-as-Usual (BaU) Scenario and the Accelerated Economic Growth (AEG) Scenario. The major drivers used in developing the Scenarios are economic growth rate (GDP), population growth rate, sectorial growth rate in respect of households, industry, services, agriculture, transport as well as electricity consumption of the Volta Aluminum Company's smelter given that Valco is a major consumer of electricity in Ghana. The projections also take into account suppressed-demand in the electricity system. Suppressed demand is accounted for in view of the fact that the EC methodology builds the demand projections using a bottom-up approach that takes into consideration specific consumption of appliances and their utilization. The approach used accounts automatically for both commercial losses and suppressed demand in the determination of consumer's final demand. Table 5.1 shows the electricity demand projections, in GWh, for the period 2015 – 2025.

Table 5.1 Electricity consumption projections: (GWh) 2015-2025

Scenaario	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
BaU scenario	16,406	17,462	18,616	19,837	21,808	25,157	26,585	28,084	29,661	31,318	33,061
AEG scenario	18,009	20,135	21,673	23,314	25,022	28,841	30,824	32,924	35,148	34,096	36,373

Based on these estimates, EC has analysed the demand and supply balance of the power sector from 2016 – 2020 in order to establish the potential shortages in power supply for the period. The analysis has been done for both the BaU Scenario and the AEG Scenario. In both cases the impact of system reserve requirements have also been assessed.