

## The power market in Ghana

1. **What are the main sources of legislation, market codes and regulation governing the power market in Ghana?**

- (a) **Energy Commission Act, 1997 (Act 541) (the "Energy Commission Act")**: The Energy Commission Act established the Energy Commission (the "Commission") with the main object of regulating and managing the utilisation of energy resources in the Republic of Ghana and to co-ordinate all policies in relation to them. The Commission is responsible for granting licences to public utilities for the transmission, wholesale supply, distribution and sale of electricity and natural gas in Ghana. The Electricity Transmission (Technical, Operational and Standards of Performance) Rules, 2008 (LI 1934) and the Electricity Regulations, 2008 (LI 1937) are subsidiary legislation enacted under the authority of the Energy Commission Act for the proper management of the power sector of Ghana.
- (b) **Public Utilities and Regulatory Commission Act, 1997 (Act 538) (the "PURC Act")**: The Public Utilities Regulatory Commission ("PURC") is responsible for the regulation of utility services by public utilities to consumers. Under the PURC Act, the PURC, among other things, approves rates chargeable by public utilities, ensures competition among public utilities, monitors standards of performance of public utility service provision and ensures the protection of consumer rights.
- (c) **Volta River Development Act, 1961 (Act 46) (the "VRD Act")**: The VRD Act established the oldest power entity in Ghana: the Volta River Authority ("VRA"). The VRD Act tasked the VRA with the purpose of "generating electricity by means of the water power of the Volta River and by any other means."
- (d) **Bui Power Authority Act, 2007 (Act 740) (the "Bui Power Act")**: The Bui Power Authority was established by the Bui Power Act to oversee the development of a particular hydroelectric power project on the Black Volta River at Bui and any other potential hydroelectric power sites on the Black Volta River.
- (e) **The National Electricity Grid Code, 2009 (the "Code")**: The Code was developed by the Energy Commission and sets out the requirements, procedures, practices and standards that govern the development, operation, maintenance and use of the National Interconnected Transmission System in Ghana ("NITS"). The overarching objective of the Code is to ensure that NITS provides fair, transparent, non-discriminatory, safe, reliable, secure and cost efficient delivery of electrical energy.
- (f) **Environmental Protection Agency Act, 1994 (Act 490) (the "EPA Act")**: The EPA Act established the Environmental Protection Agency ("EPA"). The EPA functions as the principal environmental watch dog in Ghana. All power projects must receive approval from the EPA in order to commence any works relating thereto.
- (g) **Renewable Energy Act, 2011 (Act 832) (the "Renewable Energy Act")**: The Renewable Energy Act is the most recent energy-related legislation geared towards the encouragement of the Government of Ghana's drive to boost the renewable sector in Ghana. Please see question 8 below for more information on the Renewable Energy Act.



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2. **How is Ghana's power market structured? What level of integration is there between generation, transmission and distribution – i.e., is the market competitive or monopolised? Who are the principal market participants?**

The Commission and the PURC are the regulatory bodies within the power sector regulating the activities of the relevant stakeholders. The Commission is the technical regulator of the industry and is the body responsible for assessing applications for licenses, either as generators, transmitters or distributors of electrical power. The PURC, on the other hand, among other things, sets tariffs and monitors compliance with performance standards of the service providers in the power supply chain.

Prior to 2008, generation and transmission of electricity was controlled largely by the VRA. The situation however changed with the reform of the power sector by the amendment to the Volta River Development Act. The Volta River Development Act, 2005 (Act 692) essentially hived off the transmission function of the VRA and put its functions and core staff in a private limited liability owned company called GRIDCo. Under the current law, only one entity can hold the transmission license at any one time and GRIDCo is the current holder.

The generation and distribution side is open to competition and there are numerous opportunities for participation by Independent Power Producers ("IPPs"). The VRA, which is by far the dominant player in the power sector, boasts the following assets: the Akosombo Dam, the Kpong Dam, the Aboadze Thermal Plant, the Tema Thermal Plant and a 10% stake in the Takoradi International Company ("TICO"). The remaining 90% stake in TICO is owned by a subsidiary of UAE investment firm, TAQA.

The resultant effect of the break-up of the transmission function of the VRA was in keeping with the Government's objective to reform the power sector and allow for IPPs to get into the power sector. This initiative has led to the injection of investment into the Ghanaian power sector by a number of IPPs. These have largely been on the generation side.

As at January 2013, the following IPPs had commenced or were in the process of commencing operations in Ghana: Sunon Asogli Thermal Plant (200MW) and the CENIT Thermal Plant (100MW). There are however a long list of entities that have obtained provisional licenses from the Commission to undertake electricity generation and the provision of ancillary services.

Since the passage of the Renewable Energy Act, IPPs have shown an interest in investment in renewable energy technology, particularly solar.

On the distribution side, there are only three companies operating in Ghana at the moment. These are the Electricity Company of Ghana ("ECG"), The Northern Electricity Company ("NEDCo") (a wholly owned subsidiary of the VRA) and Enclave Power Company ("EPC").

The existing legal regime envisages a spot as well as a bilateral market for power trading. The present position is largely bilateral as there are not yet enough players for a fully functioning liquid spot power trading market. GRIDCo, as market operator, is currently working at establishing systems and procedures to support enhanced market operations.

3. **From a practical point of view, is the existing infrastructure of the standard required to support the power market? Are there plans for re-development/expansion of the existing infrastructure?**

The power market is evolving and there is a lot of interest being shown in the sector by IPPs. GRIDCo as the market operator is working towards putting systems and procedures in place to support market operations.

4. **What is the current energy mix in Ghana?**

At present, the only generation sources are hydropower and thermal. Hydropower accounts for about 65% of energy generated with 35% coming from thermal generation. In respect of hydropower, there are currently two plants at Akosombo and Kpong. A new hydropower plant, the Bui Power Plant, is currently undergoing commissioning and has an installed capacity of 400MW.

There are 650MW of single cycle plants and 530MW of combined cycle plants. These are owned and operated by VRA, TICO, Sunon Asogli Power Plant and CENIT Energy Ltd.

5. **How much capacity is on-line and under-construction? What objectives are there for future installed capacity and where is this established?**

Ghana has an online capacity of about 1500MW with a further 770MW under construction. Ghana will require about 200MW each year to keep up with growing demand.

6. **What are some of the key considerations for any IPP (or lender) intending to develop a project in Ghana?**

Licensing Regime – By virtue of section 11 of the Energy Commission Act, participation in any segment of the power sector, either for transmission, wholesale supply, distribution or sale of electricity, requires a license.

Under the Energy Commission Act, a license may only be granted to (a) a citizen of Ghana, or (b) a body corporate registered under the Companies Act, 1963 (Act 179) or under any other law of Ghana, or to a partnership registered under the Incorporated Private Partnerships Act, 1962 (Act 152). This implies that IPPs must incorporate locally either fully or as external companies. IPPs may also enter into joint ventures with local entities.

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The Board of the Commission is required to make a decision of any application within a maximum period of 16 days. Applications will be granted as a matter of course unless there is compelling reason not to do so on grounds of paucity of technical data, national security concerns, public safety or any other reasonable justification.

Issues of Nationalisation – The 1992 Constitution of Ghana guarantees all investors against expropriation without the payment of fair and adequate compensation. Also, expropriation may only take place if it is necessary in the interest of defence, public safety, public order, public morality, public health, town and country planning or the development or utilization of property in such a manner as to promote the public benefit. Currently, therefore, this is not a significant obstacle.

**7. Specifically, what regulatory consents need to be obtained for developing a project in Ghana?**

In addition to the granting of a licence by the Commission, before any project can take place, the EPA must give the green light for the project after a detailed environmental impact assessment has been carried out as regards the potential effects of the project on the environment.

**8. What incentives exist for IPPs?**

IPPs in the renewable/clean energy sector may greatly benefit from the recent coming into force of the Renewable Energy Act. The Act seeks to provide for financial incentives (including a lucrative feed-in tariff) for renewable energy projects. These are yet to be finalised.

More specifically, the PURC has power to mandate feed-in-tariffs for renewables which includes a requirement that, for each energy purchase, an offtaker will have to obtain a certain percentage from renewable sources to benefit. Whilst the Commission is tasked with recommending exemptions from taxes, duties and levies with respect to machinery, equipment and other input into renewable projects.

Under the Renewable Energy Act, electricity distribution companies and bulk customers will be mandated to purchase a specified percentage of power from renewable sources or pay a premium to the Commission.

The Feed in Tariff ("FiT") set by the PURC will remain in force for a ten-year period and subsequently subject to review, every two years thereafter.

It is worth noting that all foreign IPPs may also register under the Ghana Investment Promotion Centre Act ("GIPC") to benefit from its investor friendly packages, including:

- (a) Unconditional transferability through any authorised dealer bank in freely convertible currency of:
  - (i) dividends or net profits attributable to the investment;
  - (ii) payments in respect of loan servicing where foreign loan has been obtained;
  - (iii) fees and charges in respect of any technology transfer agreement registered under the GIPC; and
  - (iv) the remittance of proceeds (net of all taxes and other obligations) in the event of sale or liquidation of the enterprise or any interest attributable to the investment.
- (b) Guarantee against expropriation. Expropriation can only be done in the public interest or for a public purpose. The law requires that the expropriation must only be made upon the payment of fair and adequate compensation (which is subject to judicial review as to the adequacy of the compensation paid). The compensation must be paid without undue delay and authorization for its repatriation in convertible currency shall be issued. See more in question 6 above.
- (c) Companies have the benefit of being able to have their disputes settled by international arbitration. More importantly, where there is disagreement between the investor and the Government as to the method of dispute settlement to be adopted, the choice of the investor shall prevail.
- (d) The GIPC provides assistance and guidance to companies and also acts as liaison between the company and relevant Government departments, agencies and any other public authorities.
- (e) Expatriate employees engaged in a company to which the GIPC applies are entitled to utilise banking facilities through authorised dealer banks for the purpose of making remittances abroad where the remittances do not exceed the total official wage of the expatriate personnel.
- (f) Subject to application to the GIPC, exemption of import duties, sales tax or excise duties are available on the plant, machinery, equipment or parts thereof where the plant, machinery, equipment or parts of the plant machinery or equipment are not zero-rated under the Customs Harmonised Commodity and Tariff Code scheduled to the Customs, Excise and Preventive Service Act, 1993.

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Alternatively, an IPP (whether foreign or local) may choose to register under the aegis of the Freezones Act, 1995 (Act 504) with the following benefits:

- (a) 100% exemption from payment of direct and indirect duties and levies on all imports for production and exports from free zones.
- (b) 100% exemption from payment of income tax on profits for ten years and shall not exceed 8% thereafter.
- (c) Total exemption from payment of withholding taxes from dividends arising out of free zone investments.
- (d) Relief from double taxation for foreign investors and employees.
- (e) No import licensing requirements.
- (f) Minimal customs formalities.
- (g) 100% ownership of shares by any investor - foreign or national in a free zone enterprise is allowed.
- (h) There are no conditions or restrictions on: repatriation of dividends or net profit; payments for foreign loan servicing; payments of fees and charges for technology transfer agreements; and remittance of proceeds from sale of any interest in a free zone investment.

**9. What is the position in relation to power export? Is there an export market and how does it work?**

The current framework allows for the export of power. Indeed, in order to foster regional trade in power and related matters, the Economic Community of West African States ("ECOWAS") has established two institutions whose objectives are directed in this regard.

The West African Power Pool ("WAPP") is tasked with the responsibility of addressing issues of power deficiency within the West African Sub-Region by integrating the power systems of the member states to create a unified electricity market. On the other hand, the ECOWAS Regional Electricity Regulatory Authority ("ERERA") is primarily responsible for regulating cross-border electricity interconnections in West Africa. The mandate of these two institutions is to ensure reliable power supply in the West African Sub-Region.

In the light of the above, power generators in Ghana are at liberty to enter into Power Purchase Agreements with offtakers outside of Ghana.

In 2011, for instance, the total energy transmitted by GRIDCo outside Ghana to La Compagnie Ivoirienne d'Electricité ("CIE"), La Communaute Electrique Du Benin ("CEB"), La Societe Nationale D'Electricite Du Burkina ("SONABEL") and the Youga Mine in Burkina Faso came to 774.991GWh.

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