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Ghana: Trends and Developments

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Trends and Developments

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Senet Corporate Solicitors

Senet Corporate Solicitors is a corporate law firm in Ghana offering proactive, practical and competent legal advisory services to individuals and corporate clients. Senet's areas of expertise include energy, banking and project finance, general corporate and commercial transactions, mergers and acquisitions, investments and joint ventures, mining, oil and gas, construction, regulatory and compliance matters, employment, real estate, and dispute resolution. Senet is a go-to law firm in Ghana for transactional legal work. The Senet team is made up of dedicated, competent and smart individuals who are committed to the philosophy, values and clients of the firm. The team has the capacity to handle both complex transactional work involving difficult legal concepts and regular legal tasks.

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This article focuses on recent trends within the power industry in Ghana – in particular, on net-metering and the lifting of the moratorium on the issuance of wholesale electricity supply licences. After a period of uncertainty regarding the exact requirements of the law relating to net-metering, the Energy Commission recently published a Net-Metering Code, 2023 to provide clear guidance to entities interested in engaging in net-metering. This article further discusses the lifting of the moratorium on the issuance of wholesale electricity supply licences by the Energy Commission.

Net-Metering as a Means of Alternative Energy

Introduction

Net-metering is a system of billing an electricity consumer to encourage such consumer to supplement the purchase of electricity with grid-connected renewable energy self-generation.

The Renewable Energy (Amendment) Act, 2020 established a Net-Metering Scheme for the purpose of encouraging self-generation of electricity from a renewable energy source on a power-cost-reduction or climate-change-mitigation basis, and not for income generation.

In May 2023, the Energy Commission published the Net-Metering Code 2023 (the "Code"), providing guidelines and technical connection conditions for the interconnection of renewable-energy-generating facilities to the low-voltage distribution network (nominal voltage <1kV) under the Net-Metering Scheme.

The Code is basically a guide for the procurement of power from a renewable energy source and for the implementation of the Net-Metering Scheme.

The Public Utilities Regulatory Commission (PURC) in consultation with the distribution utilities and the Energy Commission is mandated to determine the price at which a distribution utility shall procure electricity from a customer-generator under a net-metering scheme at any specific time.

The concept of net-metering involves a distribution utility, a customer-generator and a renewable-energy-generating facility. It involves electrical energy generated by a customer-generator and delivered to a distribution utility measured by an appropriate device to offset electrical energy supply by the distribution utility to the customer-generator during the applicable billing period.

A distribution utility or supplier is a person licensed under the Energy Commission Act, 1997 (Act 541) to distribute and sell electricity without discrimination to consumers in an area or zone designated by the Energy Commission Board.

A customer-generator is a customer of a distribution utility that generates electricity on the customer's side of the billing meter with a renewable-energy-generating facility that is primarily intended to offset part or all of the customer's electricity consumption.

A renewable-energy-generating facility is an electrical energy generation system that uses renewable energy resources as defined in the Renewable Energy Act, 2011 (Act 832), with an inverter facility that is electrically connected directly to a low-voltage distribution network and for which the total output of the facility is distributed and utilised locally without any requirement for use of the National Interconnected Transmission System.

The Energy Commission, in consultation with the PURC, has issued guidelines for the competitive procurement of power from renewable energy sources and for the implementation of the Net-Metering Scheme, discussed below.

Guidelines for net-metering in Ghana

Following publication of the Code by the Energy Commission, an electricity customer seeking to engage in net-metering must enter into a connection agreement with a distribution company that sets out the rights, obligations and liabilities of both parties and that is consistent with the Code and approved by the Energy Commission.

It is important to note that net-metering is designed for applications where renewable energy generation is not being used as a back-up to the main source of power supply. Instead, the excess energy is supplied to the distribution utility, on the assumption that the amount of energy supplied to the grid will not exceed the amount purchased over an annual tracking period.

As mentioned in the introduction, net-metering is not designed to be an income-generating mechanism, and a supplier or distribution utility will not have to make monetary payments to customer-generators.

As per the Code, only renewable-energy-generating facilities are eligible for the Net-Metering Scheme, and the maximum generating capacity of a net-metered facility is limited to 500 kW per customer.

The annual total generating capacity of net-metered facilities shall be determined by the Energy Commission in consultation with the PURC and the distribution utilities.

A customer-generator seeking a connection shall be subject to all applicable laws and be bound by the terms and conditions of the distribution utility's conditions of service.

Obligations of the customer-generator

In applying for connection to the distribution network, an applicant or customer-generator must:

- ensure that the design and installation of the renewable-energy-generating facility is in accordance with the specifications of the distribution utility to guarantee the safety and security of both the renewable-energy-generating facility and the distribution network;
- prior to the connection of the renewable-energy-generating facility to the distribution network, install an isolation device and a protection device approved by the distribution utility, and agree to allow the distribution utility's staff to access and observe the operation of these devices as required for the maintenance of the distribution network;
- ensure the automatic disconnection of the renewable-energy-generating facility from the distribution network, as per the generator protective relay settings specified in the connection agreement with the distribution utility, in the event of a power outage on the distribution network or any abnormal operation of the distribution network; and
- ensure that the electrical installations at the premises to be connected are carried out by an electrician duly certified under the Electrical Wiring Regulations, 2011 (LI 2008), and obtain from the electrician a duly signed and sealed installation completion certificate.

The customer-generator and the utility operator must ensure safe operation of the renewable-energy-generating facility and the utility network.

A customer-generator must ensure that all the equipment of a renewable-energy-generating facility is labelled and the necessary safety signage is provided on-site.

Obligations of the distribution utility

As per the Code, the distribution utility must provide an application form for a bi-directional meter, stating the terms and conditions to be satisfied by the applicant or the prospective customer-generator.

The terms and conditions should include provisions that the applicant:

- informs the distribution utility of the capacity of the renewable-energy-generating facility to be installed, estimated load and expected energy consumption at the applicant's premises;
- agrees to pay the requisite fee, including the capital contribution where necessary and an advance deposit for connection and net-metering equipment;
- permits reasonable access at reasonable times and adequate protection for the distribution utility's agent during meter reading, fault rectification, disconnection and other lawful activities connected with the supply at the applicant's premises;
- provides an accurate contact address for the delivery of electricity bills; and
- is not to connect supply which is not passed through a meter, or tamper with a meter or any ancillary equipment associated with the supply.

Where a distribution utility receives an application from a customer-generator, it must first certify that the renewable-energy-generating facility meets the minimum technical standards of the distribution network. The distribution utility should then provide, install and maintain the necessary equipment required for bi-directional flow of electricity and sale of electricity to a customer-generator.

A customer-generator, on the other hand, must ensure that the electrical installation is safe for the bi-directional supply of electricity, and provide safe and reasonable access to its premises for the distribution utility to undertake work related to the bi-directional flow of electricity. It is also important that a customer-generator keeps its premises clear from vegetation for the distribution utility's medium and low-voltage distribution network, and provides a suitable location at its premises for the installation of and easy access to the distribution utility's bi-directional meter.

Where a customer-generator or an applicant for a bi-directional connection fails to comply with the requirements of the Code for bi-directional supply of electricity, the distribution utility may:

- in the case of a customer-generator already connected to the distribution network, disconnect bi-directional electricity supply to the customer; or
- in the case of an applicant for a new connection, refuse to connect the applicant to the distribution network.

In addition to the obligations of a customer-generator espoused above, the customer-generator may not:

- use any electrical equipment or appliance that shall interfere with, cause damage to or degrade the quality of electricity supply to other customers on the distribution network;

- increase the contracted electricity demand without the consent of the distribution utility; or
- intentionally interfere or knowingly allow interference with the distribution network, meter or any equipment that is used for the supply of electricity to it.

The customer-generator must perform regular scheduled maintenance on the renewable-energy-generating facility as outlined by the manufacturer to ensure that connection devices, protection systems and control systems are maintained in good working condition and in compliance with all applicable laws.

The distribution utility must submit an annual net-metering report to the Energy Commission by March 31st of each year, and should include the following information for the previous calendar year:

- the total number of net-metered customer-generator facilities, by resource type;
- the total rated generating capacity of net-metered customer-generator facilities, by resource type;
- the total number of kWh received from net-metered customer-generators;
- the total estimated amount of kWh produced by net-metered customer-generators; and
- any other information required by the Energy Commission.

The renewable-energy-generating facility

The maintenance and operation of the renewable-energy-generating facility must be conducted in a manner that ensures the safety and security of both the renewable-energy-generating facility and the distribution network.

If the distribution utility determines that the renewable-energy-generating facility causes damage that adversely affects other distribution network customers or the distribution utility's assets, the facility must be disconnected immediately from the distribution network upon direction from the distribution utility, and the customer-generator must correct the problem at its expense.

Further to the above, the customer-generator of the renewable-energy-generating facility shall have the right to terminate the connection agreement with the distribution utility at any time, and in such an event the customer-generator shall be required to disconnect its generating facility and notify the distribution utility of such action.

Compensation and billing

As stated in the introduction, the purpose of net-metering is to encourage self-generation of electricity from a renewable energy source on a power-cost-reduction or climate-change-mitigation basis, and not for income generation. The Code provides guidelines for compensation and billing in a manner that reduces the cost of power to the benefit of the customer-generator, as follows:

- for every kWh that the customer-generator exports that is more than its consumption within the billing period, it shall receive a credit as per the Net-Metering Rate-Setting Guidelines by the PURC;
- for each billing period, the distribution utility must carry over any excess kWh credits earned by a customer-generator and apply those credits to subsequent billing periods to offset the customer-generator's consumption in those billing periods;
- the customer-generator must pay all approved taxes, levies and charges based

on its total electricity consumption from the distribution utility;
- excess kWh credits shall not be used to defray any fixed monthly customer charges, levies or taxes; and
- excess kWh credits accrued to the customer-generator at the end of one calendar year shall lapse.

If a customer-generator terminates service with the distribution utility or changes to another distribution utility, the former distribution utility shall not be required to provide compensation to the customer-generator for any outstanding excess kWh credits.

The customer-generator shall, however, be compensated where the decision to change to another distribution utility comes from the current distribution utility.

The price of the electricity injected by a customer-generator's system into the distribution network shall be credited as per the Net-Metering Rate-Setting Guidelines by the PURC.

The PURC on net-metering

In accordance with the statutory duty imposed on it, the PURC has published the rates for customer-generators applicable from 1 February 2023.

Based on the rates provided by the PURC, where the amount of electricity imported from a distribution company is equal to the amount exported to the distribution network, the customer-generator must pay the distribution company the import tariff on the energy imported as provided by the PURC Net-Metering Tariff Schedule.

Where the amount of electricity imported from the distribution network exceeds the amount exported to the distribution network, the customer-generator must pay the distribution company the import tariff on the imported energy mentioned in the above paragraph, and the export tariff on the net energy imported as provided by the PURC Net-Metering Tariff Schedule.

Where the amount of electricity exported into the distribution network exceeds the amount imported from the distribution network, the customer-generator must pay the distribution company the import tariff on the energy imported and receive a credit for the net energy exported for the export tariff.

Kindly find a link to the PURC Net-Metering Tariff Schedule here: www.purc.com.gh/attachment/594775-20230615060652.pdf

Conclusion

The focus of net-metering in Ghana is the encouragement of self-generation of electricity from renewable energy sources and not as a means of generating income. Net-metering in Ghana is simply a means to reduce the cost of power and mitigate climate change.

Lifting of the Moratorium on the Issuance of Wholesale Electricity Supply Licences

In 2020, the Energy Commission suspended the issuance of wholesale electricity supply licences for renewable-energy-embedded generation projects. On 5 April 2023, by publication of a notice on its website, the Energy Commission lifted the moratorium, thereby allowing industry players to submit applications for wholesale electricity supply licences to develop renewable-energy-generation projects for private use. The Energy Commission is, however, in the process of publishing guidelines for distributed renewable energy generation, which shall outline rules

for licensed entities operating within the renewable energy industry and their customers.

The notice published by the Energy Commission on the lifting of the moratorium has raised some questions in the minds of industry players. For example, there has been conflicting interpretation on whether the lifting of the moratorium only applies to power plants located at the site of the customer (ie, whether the notice applies to plants embedded within the distribution network system), or rather applies only to projects where the buyer of the power is a bulk customer and power can be wheeled to the relevant bulk customers though the transmission network of the Ghana Grid Company (GRIDCo). It is hoped that these uncertainties will be clarified upon publication of the guidelines by the Energy Commission. It is not clear, however, when these guidelines will be published.

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