



GUIDE

GHANA

Regulatory framework and taxation guide for captive projects
C&I Renewable Energy Projects in Ghana

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Currency units

GHS	Ghanian Cedi
EUR	Euro
USD	United States Dollar

Conversion rate as of 26.01.2024

GHS 1= EUR 0.0743

USD 1 = EUR 0.9354

EUR 1 = GHS 13.4557

Source: <https://fxtop.com/en/historical-exchange-rates.php>

Technical units

kWh	Kilowatt hour
kW	Kilowatt
MW	Megawatt
MWp	Megawatt peak
W	Watt

Abbreviations/acronyms

BOG	Bank of Ghana	IFRS	International Financial Reporting Standards
CapEx	Capital Expenditure	LIBOR	London Interbank Offered Rate
CGT	Capital Gains Tax	LLC	Limited Liability Company
CHP	Combined Heat and Power	LLP	Limited Liability Partnership
CIT	Corporate Income Tax (referred to as Companies Income Tax in Ghana)	LP	Limited Partnership
CITA	Ghanaian Companies Income Tax Act	NEDCo	Northern Electricity Distribution Company
CST	Communications Service Tax	NHIL	National Health Insurance Levy
C&I	Commercial and Industrial	NITS	National Interconnected Transmission System
DTA	Double Taxation Agreement	O&M	Operations and Maintenance
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortisation	PDP	Project Development Programme
ECG	Electricity Company of Ghana	PE	Permanent Establishment
EPC	Engineering, Procurement and Construction	PIT	Personal Income Tax
FiT	Feed-in-Tariff	PITA	Personal Income Tax Act
GAAP	Generally Accepted Accounting Principles	PPA	Power Purchase Agreement
GAS	Ghanaian Accounting Standards	PV	Photovoltaic
GETFund	Ghana Education Trust Fund	RE	Renewable Energy
GHS	Ghanaian Cedi	SPV	Special Purpose Vehicle
GIPC	Ghana Investment Promotion Centre	TCC	Tax Clearance Certificate
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	TIN	Tax Identification Number
GRA	Ghana Revenue Authority	TPO	Third Party Ownership
GRIDCo	Ghana Grid Company	VAT	Value Added Tax
IAS	International Accounting Standards	VATA	Value Added Tax Act
ICC	International Criminal Court	VRA	Volta River Authority
		VRPP	Variable Renewable Power Plant
		WDV	Written Down Value
		WHT	Withholding Tax

Disclaimer

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ENERGY SOLUTIONS – MADE IN GERMANY

The German Energy Solutions Initiative

The German Energy Solutions Initiative, coordinated and financed by the German Federal Ministry for Economic Affairs and Climate Action (BMWK), aims to globalise German and European technologies and expertise in climate-friendly energy solutions.

Years of promoting smart and sustainable energy solutions in Germany have led to a thriving industry known for world-class technologies. Thousands

of specialised small and medium-sized enterprises (SMEs) focus on developing renewable energy systems, energy efficiency solutions, smart grids and storage technologies. Cutting-edge energy solutions are also built on emerging technologies like Power-to-Gas, fuel cells and green hydrogen. The initiative's strategy is shaped around ongoing collaboration with the German business community.

THE PROJECT DEVELOPMENT PROGRAMME (PDP)

Implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the Project Development Programme (PDP) is an integral part of the German Energy Solutions Initiative. The PDP combines development cooperation with private-sector engagement to promote climate-friendly energy solutions and facilitate market access for German and European small businesses in selected developing and emerging countries. This fosters economic growth and international cooperation, and contributes to climate change mitigation. The PDP works closely with the German Chambers of Commerce Abroad (AHK) to implement tailor made local solutions.

The PDP team keeps a constant eye on key market sectors in the target countries for providers of climate-friendly energy solutions. Using these insights, they generate sector analyses for areas where renewable energies or energy efficiency measures can compete effectively without extra subsidies.

PROJECT OPPORTUNITIES IN DEVELOPING AND EMERGING COUNTRIES

The markets in developing countries and emerging economies are promising, but also pose challenges for international business partners. The PDP team provides free and impartial advice to local companies, in particular, and puts them in contact with German or European business partners.

The team collects data from the energy consumer and evaluates it from a technical and economic perspective, thus developing financially viable projects focused on renewable energies and energy efficiency with local companies. It also offers business initiation opportunities with German or European small and mid-sized companies.

At the same time, the project provides training courses, analyses and studies on the risks and potential of renewable energies to help support market development. Visiting reference projects within the countries also promotes the creation of private-sector business partnerships.

In addition to commerce and industry, operators of refugee camps are a further target group for the transition to renewable energies as many still use diesel generators to supply energy or water.

The focus of activities currently lies in 15 countries across Southeast Asia, South Asia, Sub-Saharan Africa, and the Middle East.

Executive summary

GHANA'S LEGAL FRAMEWORK FOR RENEWABLE ENERGY

Ghana's power grid, the National Interconnected Transmission System, is owned and operated by the Ghana Grid Company (GRIDCo). GRIDCo is also fully state-owned. The marketing and distribution of electricity is undertaken by the state-owned Electricity Company of Ghana (ECG) in the populous south of the country and by the Northern Electricity Distribution Company (NEDCo), a subsidiary of the Volta River Authority (VRA), in the north. Enclave Power Company is the only private, licensed power company in Ghana that is fully Ghanaian-owned and has nearly 15 years of experience in power distribution.

Electricity prices in Ghana are generally not subsidised and are cost-oriented, but there is a uniform pricing system. Household electricity prices increased by around 50% in 2023. During the corona pandemic, however, electricity costs for low-income customers were subsidised.

The connection of renewable energy plants to the electricity grid is regulated by the sub-codes for renewable energies developed by the Energy Commission. The two renewable energy sub-codes set the minimum requirements for the technical connection and performance that a variable renewable power plant (VRPP) must meet to be connected to the national interconnected transmission system (NITS) or a distribution system in Ghana, and lay down rules and standards to help system operators connect a VRPP to the national grid.

Zusammenfassung

RECHTLICHER RAHMEN FÜR ERNEUERBARE ENERGIEN IN GHANA

Das ghanaische Stromnetz, das National Interconnected Transmission System, befindet sich im Besitz der Ghana Grid Company (GRIDCO) und wird von dieser betrieben.

GRIDCO befindet sich ebenfalls vollständig in Staatsbesitz. Die Vermarktung und Verteilung von Strom wird im bevölkerungsreichen Süden des Landes von der staatlichen Electricity Company of Ghana (ECG) und im Norden von der Northern Electricity Distribution Company (NED-CO), einer Tochtergesellschaft der Volta River Authority (VRA), betrieben. Enclave Power Company ist das einzige private, zugelassene Stromunternehmen in Ghana, das sich vollständig in ghanaischem Besitz befindet und über fast 15 Jahre Erfahrung in der Stromverteilung verfügt.

Im Allgemeinen werden die Strompreise in Ghana nicht subventioniert und sind kostenorientiert. Es gibt allerdings ein einheitliches Preissystem in Ghana. Die Strompreise für Haushalte sind 2023 um rund 50 % gestiegen. Während der Corona-Pandemie wurden die Stromkosten für einkommensschwache Kunden jedoch subventioniert.

Der Anschluss von Anlagen zur Nutzung erneuerbarer Energien an das Stromnetz wird durch die von der Energiekommission entwickelten Subcodes für erneuerbare Energien geregelt. Die beiden Unterkodizes für erneuerbare Energien legen Mindestanforderungen für den technischen Anschluss und die Leistung fest, die eine Anlage für variable erneuerbare Energien (VRPP) erfüllen muss, um an das nationale Verbundnetz (NITS) oder ein Verteilernetz in Ghana angeschlossen zu werden, und enthalten Regeln und Standards, die den Netzbetreibern helfen, eine VRPP an ihr Netz anzuschließen.

TARGETS TO INCREASE THE RENEWABLE ENERGY SHARE

Ghana's primary energy sources for grid electricity are thermal and hydro power plants. With the dwindling hydro resources and increasing energy needs, Ghana's mix has become more fossil-fuel dependent since 2015. However, in the Renewable Energy Master Plan for 2030, Ghana aims to increase the renewable electricity share in its grid from 2-10%. In addition, it is anticipated that around 200 MW of renewable energy will be added to the electricity mix through decentralised power plants and 20 MW of stand-alone solar PV plants.

Ghana is currently trying to reduce its dependence on fossil-fuel powered plants and increase energy security within the country, which can only be achieved through the utilisation of indigenous renewable resources.

TAILORED GUIDE TO ACCOUNTING AND TAX FRAMEWORKS FOR RENEWABLE ENERGY

To support both new market entrants and existing players, this guide offers a comprehensive overview of the accounting and taxation framework for EPC and TPO contracts in Ghana. It provides detailed information on how to handle depreciation, taxes and profits from a regulatory and reporting perspective. The focus goes beyond analysing various tax mechanisms for different contracts on a commercial and industrial scale in renewable energy, starting from the import of materials, project execution, to the transfer of profits from Ghana. The taxes within Ghana applicable to such proceeds and revenues are also covered.

ZIELE ZUR STEIGERUNG DES ANTEILS ERNEUERBARER ENERGIEN

Ghanas primäre Energiequellen für Netzstrom sind Wärme- und Wasserkraftwerke. Angesichts der schwindenden Wasserkraftressourcen und des steigenden Energiebedarfs ist Ghanas Energiemix seit 2015 stärker von fossilen Brennstoffen abhängig geworden. Im Masterplan für erneuerbare Energien für 2030 strebt Ghana jedoch an, den Anteil der erneuerbaren Energien am Stromnetz von 2 % auf 10 % zu erhöhen. Darüber hinaus wird erwartet, dass rund 200 MW an erneuerbaren Energien durch dezentrale Kraftwerke und 20 MW an autonomen Photovoltaikanlagen zum Strommix hinzugefügt werden.

Ghana versucht derzeit, seine Abhängigkeit von Kraftwerken, die mit fossilen Brennstoffen betrieben werden, zu verringern und die Energiesicherheit im Lande zu erhöhen, was nur durch die Nutzung einheimischer erneuerbarer Ressourcen erreicht werden kann.

MASSGESCHNEIDERTER LEITFADEN ZU RECHNUNGSLEGUNGS- UND STEUERSTRUKTUREN FÜR ERNEUERBARE ENERGIEN

Um sowohl neue Marktteilnehmer als auch bestehende Akteure zu unterstützen, bietet dieser Leitfaden einen umfassenden Überblick über den buchhalterischen und steuerlichen Rahmen für EPC- und TPO-Verträge in Ghana. Er enthält detaillierte Informationen über die Handhabung von Abschreibungen, Steuern und Gewinnen aus Sicht der Vorschriften und der Berichterstattung. Der Schwerpunkt liegt auf der Analyse verschiedener Steuermechanismen für unterschiedliche Verträge im kommerziellen und industriellen Bereich der erneuerbaren Energien, angefangen von der Einfuhr von Materialien über die Projektdurchführung bis hin zum Transfer von Gewinnen aus Ghana. Auch die in Ghana geltenden Steuern für solche Erlöse und Einnahmen werden behandelt.

This guide provides an easy entry point for German and European companies looking to engage in the Ghanaian market but seeking assistance with the applicable accounting and tax regulations for various contract types. Additionally, the guide offers insights for local off-takers regarding applicable regulations on the treatment of renewable energy systems in their financial statements for different contract models.

The structure allows readers to jump directly to the relevant contract model to review the applicable regulations, making the guide more accessible and reducing complexity. Diagrams and tables in the text support the understanding of processes and provide a clear view of default tax rates under different categories. The guide is suitable for both a quick overview and a detailed understanding of the relevant accounting and tax regulations in Ghana.

Dieser Leitfaden bietet einen einfachen Einstieg für deutsche und europäische Unternehmen, die sich auf dem ghanaischen Markt engagieren wollen und Unterstützung bei den geltenden Rechnungslegungs- und Steuervorschriften für verschiedene Vertragsarten suchen. Darüber hinaus bietet der Leitfaden Einblicke in die geltenden Vorschriften für die bilanzielle Behandlung von Erneuerbare-Energien-Anlagen in den verschiedenen Vertragsmodellen für lokale Abnehmer.

Die Struktur ermöglicht es den Lesern, direkt zum jeweiligen Vertragsmodell zu springen, um die geltenden Vorschriften zu überprüfen, was den Leitfaden leichter zugänglich macht und die Komplexität reduziert. Diagramme und Tabellen im Text unterstützen das Verständnis der Prozesse und bieten einen klaren Überblick über die Standardsteuersätze in den verschiedenen Kategorien. Der Leitfaden eignet sich sowohl für einen schnellen Überblick als auch für ein detailliertes Verständnis der relevanten Rechnungslegungs- und Steuervorschriften in Ghana.

A large, bold, teal-colored number '1' is positioned on the left side of the slide. The background features a light blue gradient with a white horizontal band at the top. A yellow parallelogram is located in the upper right, and a dark teal triangle is in the lower right.

Background

1.1 Commercial and industrial power consumer projects

Falling system prices for renewable energy (RE) systems, an environment challenging the development of large-scale utility projects and rising power prices for commercial and industrial power consumers (C&I consumers) have led RE project developers to increase their focus on the development of distributed renewable energy systems with C&I consumers as direct counterparts (C&I projects).

With the C&I market segment gaining traction in various jurisdictions and increasingly threatening the traditional business model of electricity utilities, the segment is also attracting increasing attention from regulators.

Delivery models in the C&I segment can generally be differentiated between:

- ‘EPC models’, where the C&I consumer is self-financing the RE project, and
- ‘third-party ownership models’, where investment and, most often, the operational risks are borne by the RE service provider

Under third-party ownership models, RE system services are provided to C&I consumers through a variety of contractual structures, such as power purchase agreements (PPA) or lease agreements, with the possible transfer of system ownership to the C&I consumer at some point during the project lifetime.

The concrete contract design of these delivery models not only raises various regulatory concerns for developers and beneficiaries, but also has implications for accounting/financial reporting and tax treatment, which need to be particularly well considered by the C&I consumer.

With the aim of a functional and efficient market for C&I projects, the project development programme (PDP) intends to mitigate existing information asymmetries, leading to high transaction costs and risks, by providing market information knowledge products for RE project developers as well as C&I consumers. This study considers the information needs of Germany-based RE developers in particular.

This study focuses on the regulatory, tax and corporate aspects to be considered for the three dominant delivery models in the C&I segment: EPC model, PPA model and lease model. Similar studies have been carried out by GIZ for other countries in Sub-Saharan Africa and Asia.

1.1.1 Solar or hybrid power generation systems

This study looks at C&I projects where power generation equipment is deployed 'on-site', i.e. on the premises of a C&I consumer.

In this context, power generation equipment may consist of:

- photovoltaic (PV) and storage systems,
- PV and diesel generator systems, or
- PV and natural gas hybrid systems.

A combination of these systems is also possible. This study focuses on on-site power generation systems with an installed capacity between 50 kW and 20 MW (the RE/hybrid system).

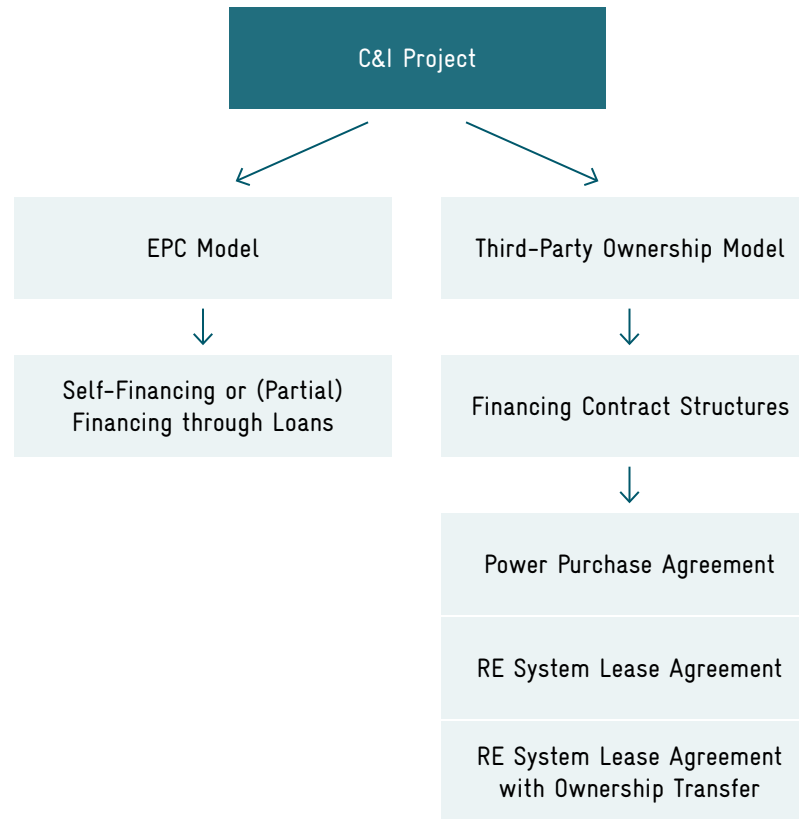
The C&I consumer can be either off-grid or on-grid. The RE/hybrid system may be grid-connected or function as 'an islanding system' that is only connected to the on-site distribution grid. The RE/hybrid systems are specifically designed by the RE service provider to adapt the power supply to the needs (e. g. load profile, existing net metering, feed-in tariff - FiT) of the C&I consumer.

This study does not consider systems reliant on wheeling¹, i.e. off-site PPA or virtual PPA and/or open access, etc.

1.1.2 Delivery models in C&I projects

The delivery models in C&I projects can be represented as follows:

FIGURE 1. Delivery models in C&I projects



Source: Own illustration (BBH, 2023)

¹ Wheeling is the transportation of electric energy from within an electrical grid to an electrical load beyond the grid boundaries.

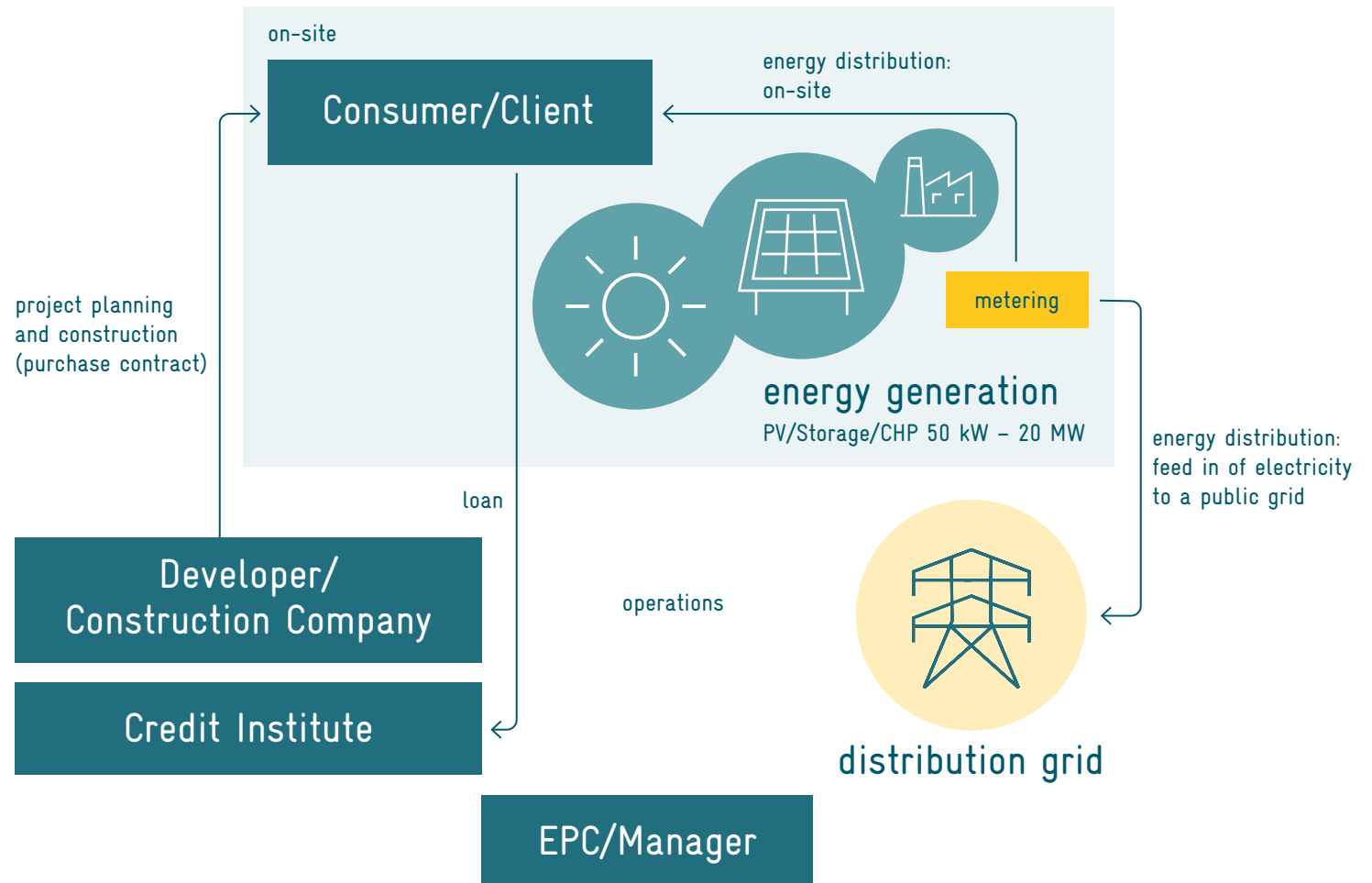
Upfront purchase model (EPC model)

EPC stands for engineering, procurement and construction.

In this delivery model, the EPC contractor provides a detailed engineering design of the RE/hybrid system according to the C&I consumer's needs. The EPC contractor will then procure equipment and parts required for the RE/hybrid system from manufacturers and construct the RE/hybrid system on the C&I consumer's premises. In this model, the consumer is the off-taker as well as the RE service provider in the same entity.

Under the EPC model, the C&I consumer must finance the RE/hybrid system themselves (self-financing). The C&I consumer may avail loans to partially finance the system. This delivery model impacts the C&I consumer's capital expenditures (CapEx).

FIGURE 2. Upfront purchase model/EPC model



Leasing model with ownership transfer

A lease is ‘an agreement between two parties whereby one party allows the other to use his/her property for a certain period of time in exchange for a periodic fee².’

In the context of third-party ownership models, the lease structure means that the RE service provider leases a RE/hybrid system to the C&I consumer. The RE service provider installs a RE/hybrid system on the C&I consumer’s premises and retains ownership.

The C&I consumer is legally the operator of the RE/hybrid system and generates electricity to cover their needs in exchange for rent. However, the C&I consumer can hire a RE service provider for operations and maintenance (O&M) services.

Lease structures in the C&I segment usually have:

- contract periods from 5 to 15 years,
- a transfer-of-ownership clause at the end of the contract term,
- early purchase options,
- down payments,
- fixed payment rates (independent of the energy output),

- O&M guarantee, and
- a clause on payment in local or foreign currency.

Nevertheless, leases do in fact include a wide variety of contract features, some additional or even contrary to those mentioned above.

Legally, leases are classified, according to the country, in different categories (e.g. equipment lease, finance lease, etc.) with distinct legal regimes.

In Ghana, there are certain contractual obligations and performance guarantees that both parties typically agree upon. These obligations and guarantees help to ensure the smooth operation of the leasing arrangement and protect the interest of both parties, such as:

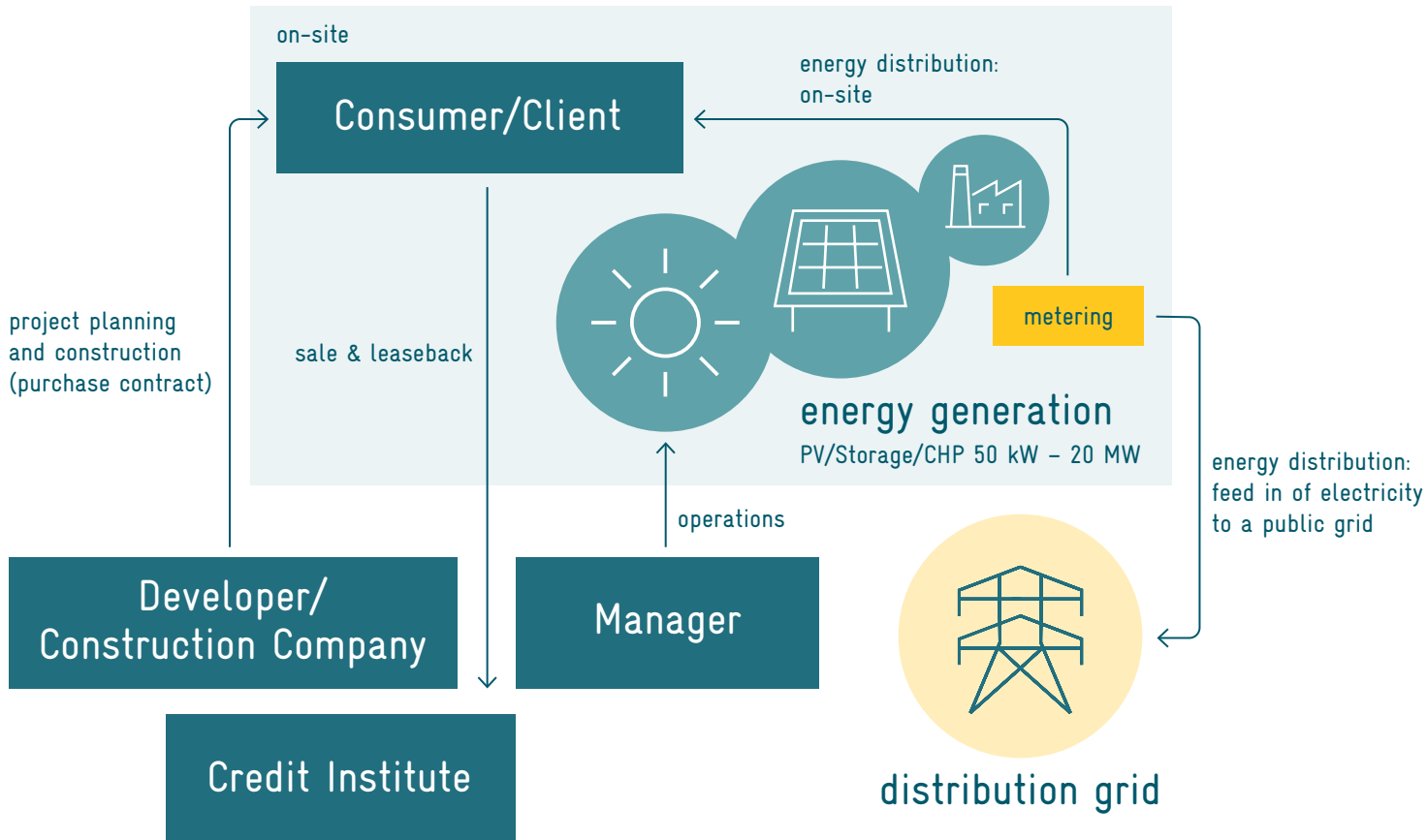
- Performance guarantees – the constructor may provide performance guarantees to the consumer to ensure that the energy system meets specific performance criteria. These guarantees encompass factors such as energy generation capacity, efficiency levels, uptime and maintenance requirements. The purpose of these guarantees is to ensure that the energy system operates as intended and delivers the promised benefits.
- Contractual obligations – the lease agreement establishes the specific obligations of both parties.

The lessor (constructor) is responsible for tasks related to the installation, operation, maintenance and repair of the energy system. The lessee, on the other hand, is obliged to adhere to usage and maintenance guidelines and make timely payments on the lease. Clear delineation of responsibilities ensures the smooth functioning of the energy system during the lease period.

- Ownership transfer – the leasing model with ownership transfer entails the transfer of ownership from the lessor to the lessee upon completion of the agreed lease term. The lease agreement explicitly details the terms and conditions governing this ownership transfer, including any associated costs or procedural requirements. Once the transfer is complete, the lessee assumes full ownership and all accompanying responsibilities for the energy system.
- Contractual termination – the lease agreement outlines the conditions and procedures for terminating the contract. Such circumstances may include breach of contract, non-payment of rent or any other mutually agreed conditions. The agreement specifies the rights and obligations of both parties in the event of contract termination, including any applicable penalties or compensation.

² Farlex Financial Dictionary (2009): Leasing, <https://financial-dictionary.thefreedictionary.com/leasing> (Accessed on 28.10.2021).

FIGURE 3. Leasing model with ownership transfer



Renting model with ownership transfer

Rent is ‘a regular, usually monthly, payment that a person makes in exchange for the use of an asset he/she does not own. That is, rent is the payment on a lease³.’ The term is most often used to refer to payments on a leased dwelling or other piece of real estate.

In the context of third-party ownership models, the rent structure means that the RE service provider rents a RE/hybrid system out to the C&I consumer. The RE service provider installs a RE/hybrid system on the C&I consumer’s site and sells ownership to the credit institute for a lease financing contract between the consumer and the credit institute.

The C&I consumer is legally the operator of the RE/hybrid system and generates electricity to cover their needs in exchange for rent. However, the C&I consumer may hire a RE service provider for operation and maintenance (O&M) services. In general, the C&I consumer is the off-taker in this model, while the developer is the RE service provider.

Rent structures in the C&I segment usually have:

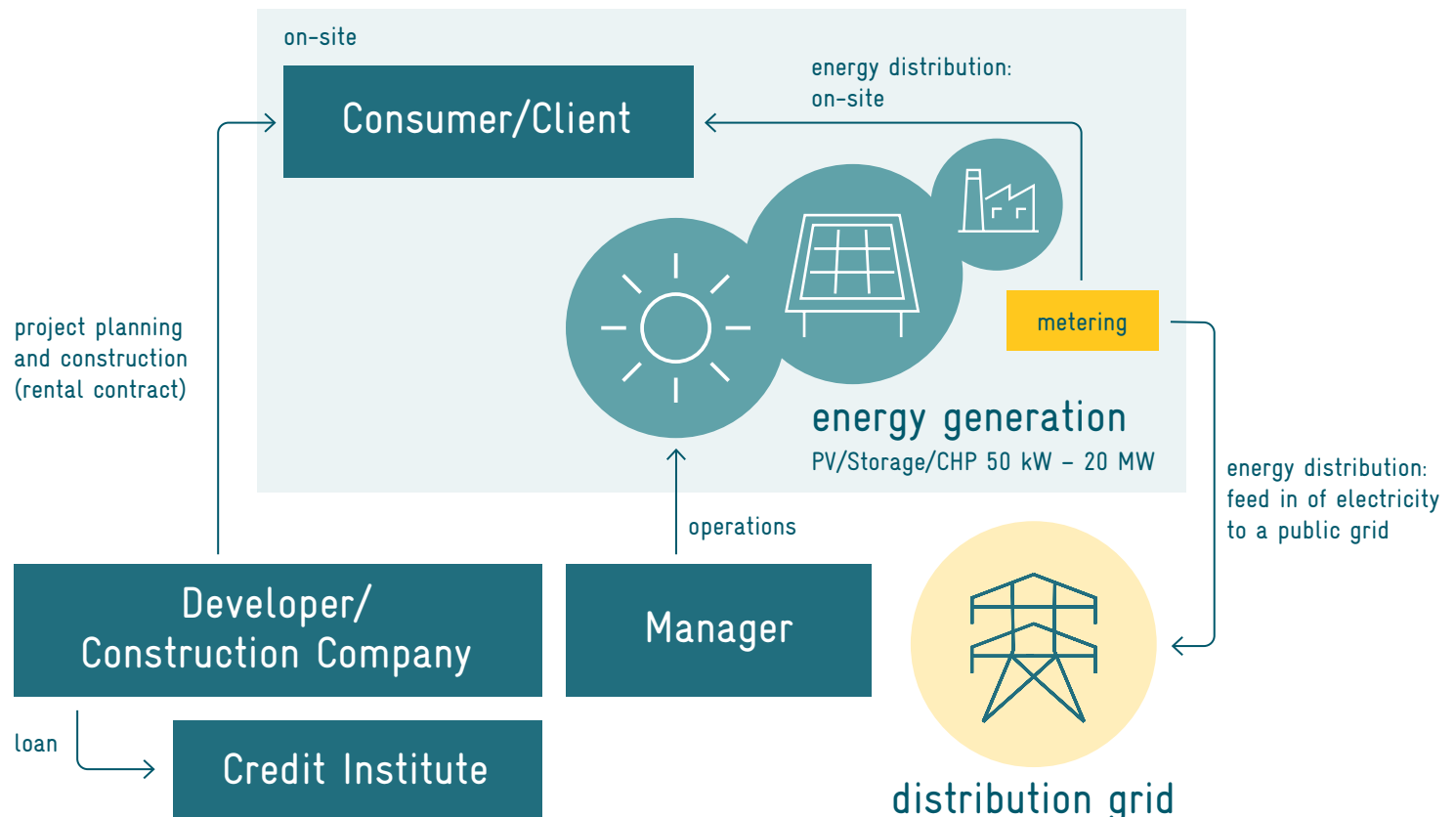
- contract periods from 5 to 15 years,
- a transfer-of-ownership clause at the end of the contract term,

- early purchase options,
- down payments,
- fixed payment rates (independent of the energy output),

- O&M guarantee, and
- a clause on payment in local or foreign currency.

Nevertheless, rents do in fact include a wide variety of contract features, some additional or even contrary to those mentioned above.

FIGURE 4. Renting model with ownership transfer



3 Farlex Financial Dictionary (2009): Renting, financial definition of renting (thefreedictionary.com) (Accessed on 28.01.2023).

Source: Own illustration (BBH, 2023)

1.1.3 Build-own-operate-transfer (BOOT) model and PPA

Build-own-operate-transfer (BOOT)

The build-own-operate-transfer model is a widely used framework in infrastructure projects, including renewable energy endeavours such as power generation facilities. The following provides a formal description of how this model typically functions:

- **Build** – in the BOOT model, a private entity (referred to as the developer or construction company) assumes responsibility for financing, designing and constructing the power generation facility. This encompasses various types of renewable energy projects, such as solar, wind or other renewable sources.
- **Own** – once the facility is completed, the developer assumes ownership and operation of the power generation facility. It undertakes the maintenance, operation and management activities for the facility for a specific duration, usually ranging from 15 to 25 years.
- **Operate** – during the operational phase, the developer sells the electricity generated by the facility to an off-taker, typically a utility company or a large energy consumer, through a long-term PPA. The

PPA establishes the terms and conditions of the electricity sale, including pricing structures and the duration of the agreement.

- **Transfer** – on expiry of the agreed period (typically aligned with the duration of the PPA), ownership of the power generation facility is transferred to the off-taker or another designated entity. This transfer may involve a nominal or predetermined price, contingent on the terms outlined in the agreement.

In this model, the C&I consumer is the off-taker, while the developer is the RE service provider.

Power purchase agreement structure

A PPA is a contract between two parties, one which generates electricity (the seller) and one looking to purchase electricity (the buyer).

The PPA defines all commercial terms for the sale of electricity between the two parties, including when the project will begin commercial operations, the schedule for delivery of electricity, penalties for under-delivery, payment terms and termination.

The PPA fixes the price for the electricity provided by the seller (here the RE service provider) to the consumer (here the C&I consumer) over a fixed period.

At the end of the PPA, there are numerous options:

- **reconditioning** – signing of a new PPA and updating the entire RE/hybrid system with the latest technology,
- **contract extension** – extending the contract duration for a fixed period,
- **decommissioning** – removing the RE/hybrid system, and
- **transfer** – transferring the RE/hybrid system to the C&I consumer.

There are two types of PPAs: physical and virtual (or synthetic/structured). Whilst physical PPAs are characterised by the ‘physical’ delivery of the energy generated to the off-taker, virtual PPAs are financially settled arrangements between two contracting parties who do not need to be in the same grid region⁴.

⁴ Farlex Financial Dictionary (2009): Leasing, <https://financial-dictionary.thefreedictionary.com/leasing> (Accessed on 28.10.2021).

Only physical PPAs are considered in the context of this study.

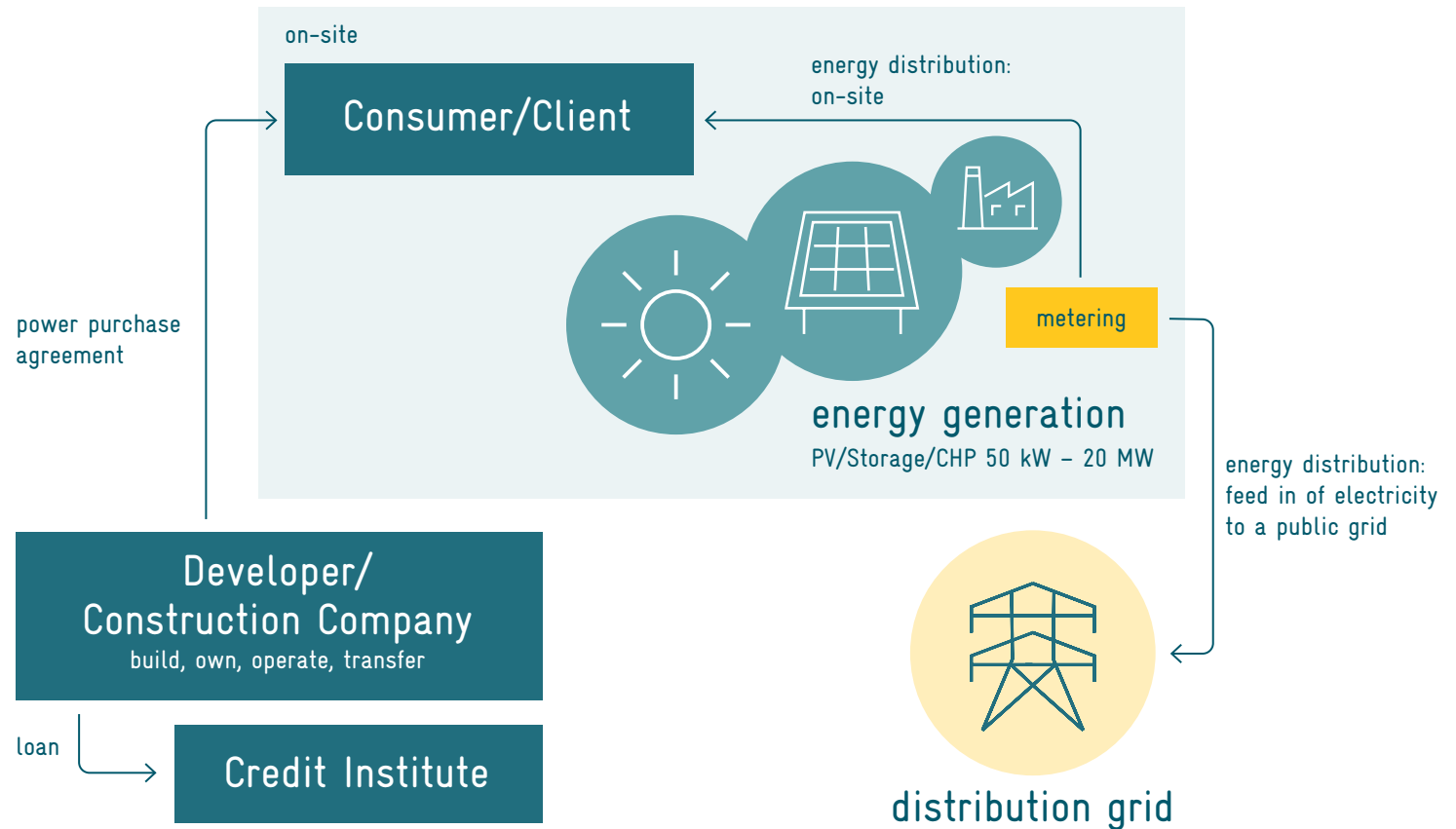
These PPAs often have the following characteristics in the C&I segment:

- long-term contract periods,
- options to transfer ownership of the RE/hybrid system,
- variable payment rates (dependent on the energy output),
- performance guarantee, and
- payment in local or foreign currency.

Nevertheless, PPAs do in fact include a wide variety of contract features, some additional to or even contrary to those mentioned above.

The BOOT model with PPA offers numerous advantages for both developers and off-takers. Developers can secure long-term revenue through the PPA, ensuring a stable and predictable income stream. Off-takers benefit from a reliable supply of electricity over an extended period at predetermined prices, supporting energy security and renewable energy objectives.

FIGURE 5. Build-own-operate-transfer (BOOT) model and PPA



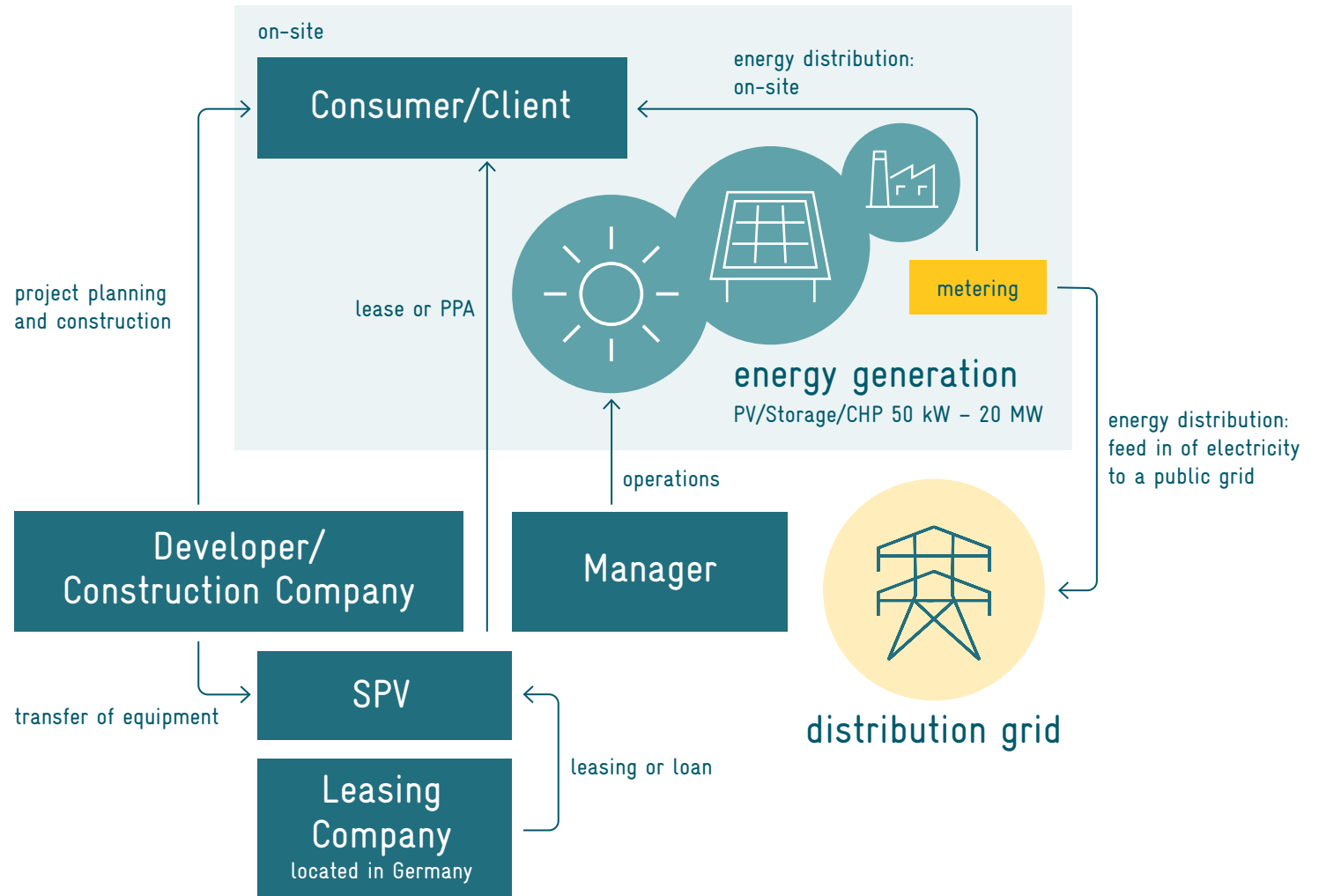
Third-party ownership (TPO) model

The third-party ownership model is a financing solution for C&I consumers to obtain the benefits of having a RE/hybrid system on their sites without the upfront costs involved in purchasing the system.

The RE service provider owns and maintains the RE/hybrid system, while the C&I consumer can use the RE/hybrid system to produce electricity or directly use the electricity generated. For the C&I consumer, the TPO model has the advantage of being relieved of the upfront costs (CapEx). By shifting the CapEx to the third-party entity, the consumer can conserve their own financial resources and avoid the need for significant upfront capital investment.

The main contractual structures involved in the third-party ownership model are PPAs as well as lease or rental agreements.

FIGURE 6. Third-party ownership (TPO) model



Source: Own illustration (BBH, 2023)

1.2 Market snapshot – Ghana

This study looks at the taxation framework(s) and the financial requirements in Ghana for developing C&I projects.

1.2.1 Overview of the electricity market in Ghana

Ghana's power grid, the National Interconnected Transmission System, is owned and operated by the fully state-owned Ghana Grid Company (GRID-Co). The marketing and distribution of electricity is undertaken by the state-owned Electricity Company of Ghana (ECG) in the populous south of the country, and by the Northern Electricity Distribution Company (NEDCo), a subsidiary of the Volta River Authority (VRA), in the north. Enclave Power Company is the only private, licensed power company in Ghana that is fully Ghanaian-owned and has nearly 15 years of experience in power distribution.

In general, electricity prices in Ghana are not heavily subsidised and are determined based on cost recovery principles. It should be noted that Ghana operates under a uniform pricing system. Household electricity prices increased by around 11% in July 2019. Since then, the Public Utilities Regulatory Commission (PURC) has announced a series of tariff increases for electricity. The most recent, an increase of 18.36%,

was announced in May 2023 with effect on 1 June 2023⁵. During the COVID-19 pandemic, electricity costs for low-income customers were subsidised. Electricity tariffs are regulated by the PURC. Tariff structures vary based on consumer categories (residential, commercial, industrial) and consumption levels. The government aims to strike a balance between ensuring affordable electricity prices for consumers while ensuring the financial viability and sustainability of the electricity sector.

The connection of renewable energy plants to the electricity grid is regulated by the sub-codes for renewable energies developed by the Energy Commission. The two renewable energy sub-codes set the minimum requirements for the technical connection and performance that a variable renewable power plant (VRPP) must meet to be connected to the national interconnected transmission system (NITS) or a distribution system in Ghana, and lay down rules and standards to help system operators connect a VRPP to their grid.

Ghana's rapid economic development is challenged by high energy costs, high levels of government debt (including in the energy sector), low-level access to credit, high borrowing costs and regional trade

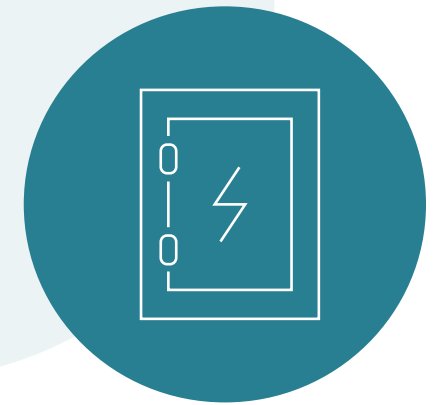
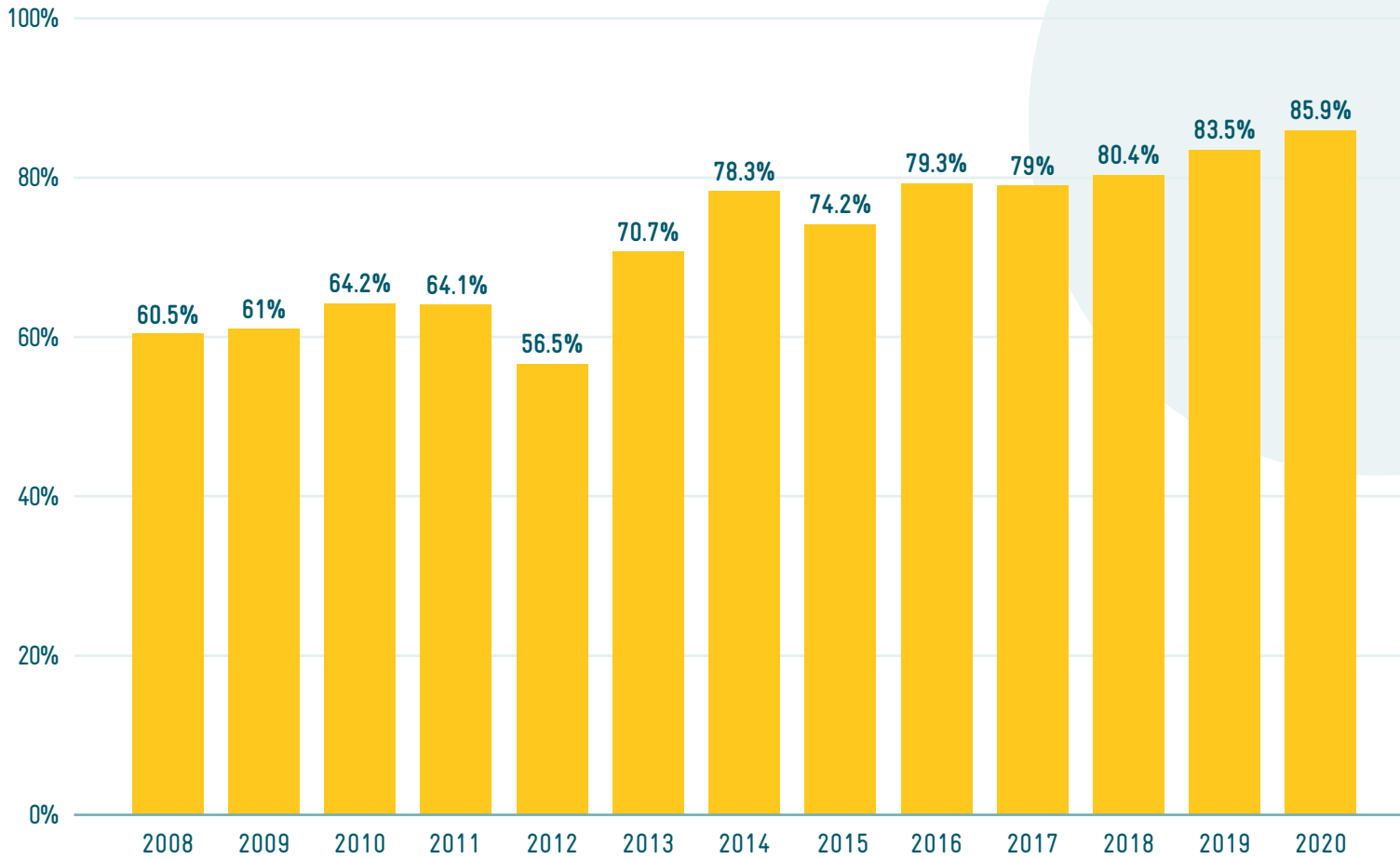
barriers. This led to an increase in electricity demand, which required a surge in installed generation capacity and power generation. In recent years, the government of Ghana has entered into PPAs under conditions that have been considered quite unfavourable. These agreements have contributed to the emergence of overcapacities in the electricity sector, leading to challenges and pressure on the price of electricity and the overall financial stability of the sector.

One of the key issues with these PPAs is relatively high feed-in tariffs offered to independent power producers (IPPs) for the purchase of electricity. These tariffs have been set at levels that are often higher than the prevailing market rates and do not adequately reflect the actual cost of electricity generation.

Ghana has steadily increased access to electricity from 64% in 2010 to 86% in 2020 (Figure 7).

⁵ Source: Citi Newsroom (2023): [PURC justifies 18.36% rise in electricity tariff which takes effect on June 1](#)

FIGURE 7. Electricity access rate



2

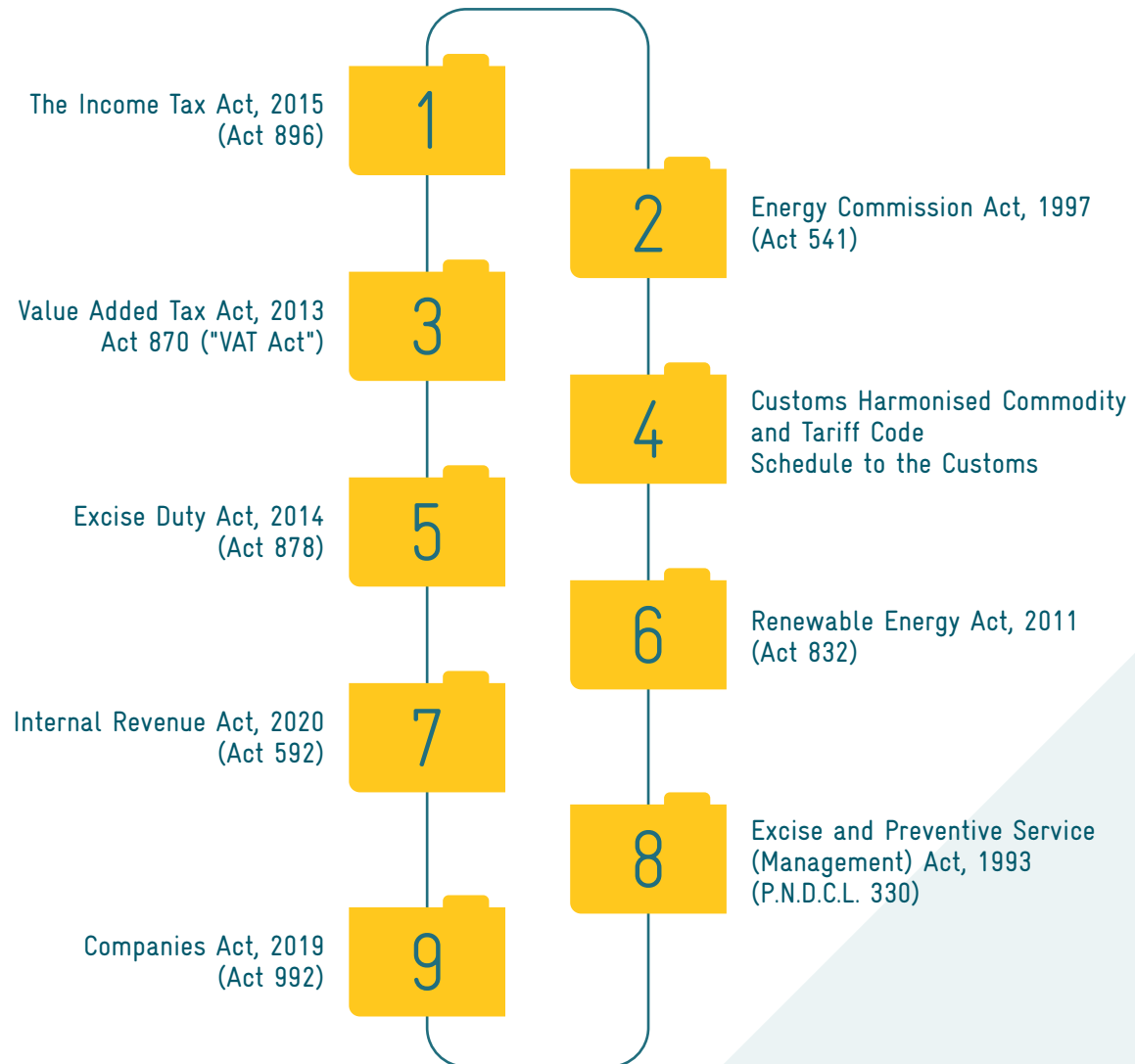
Foundations

2.1 Taxation regulations

Relevant tax and tax depreciation regulations

The main law governing the income tax system in Ghana is the Internal Revenue Act, 2000 (Act 592) (IRA), as amended from time to time. The Ghana Revenue Authority (GRA) is the governmental body mandated to collect and assess taxes. The GRA enforces the provisions of the tax acts and serves as the first arbiter between parties in the event of a dispute. The Ministry of Finance and Economic Planning is responsible for overseeing the GRA. The bases of opinion for the taxation regulations are displayed in the following figure:

FIGURE 8. Bases for opinion



Taxes payable in Ghana

Domestic taxes are taxes chargeable on profits or gains under the laws of the country in which an entity is established or a person is resident. Domestic taxes are classified under direct and indirect taxes. Direct tax is intended to be paid by the person or the organisation upon whom/which the tax is levied, the impact and incidence being on the same person or organisation. Indirect tax, however, is levied on one person with the expectation that the tax will be shifted or passed on to another.

Domestic taxpayers are segmented into the following categories:

- Large taxpayers are defined as large organisations and businesses with an annual turnover exceeding GHS 5 million. These are served by the Large Taxpayer Office.
- Medium taxpayers are individuals or organisations with annual turnover between GHS 90,000 and GHS 5 million. These are served by the Medium Taxpayer Office.

Case law

In Ghana, the legal system is based on the English common-law system, which means that the decisions of higher courts are binding on lower courts. This principle of precedent ensures that legal decisions are consistent and predictable, and that lower courts are guided by the decisions of higher courts in similar cases.

In addition to the Ghana Law Reports and decisions of the International Criminal Court (ICC), there are

also other legal databases and online resources that provide access to case law in Ghana. These resources include the Ghana Legal Information Institute and the African Legal Information Institute, which provide free access to legal information and case law from Ghana and other African countries.

Overall, case law plays an important role in shaping the legal system in Ghana and providing guidance to judges, lawyers and other legal practitioners.

TABLE 1. Categories of taxpayers and applicable taxes and rates

INDIVIDUAL TAXPAYERS	CORPORATE TAXPAYERS
Personal Income Tax, 0–30%	Corporate Income Tax, 20–25%
Value Added Tax, 15%	Value Added Tax, 15%
Stamp Duties, varying rates	Stamp Duties, varying rates
Withholding Tax, 5–20%	Withholding Tax, 5–20%
Capital Gains Tax, 5–15%	Capital Gains Tax, 5–15%
Gift Tax, 10%	Payroll or Employee Tax, 0–30%

Tax clearance certificates

A tax clearance certificate (TCC) is a document issued by the GRA to individuals and businesses as proof that they have met their tax obligations. TCCs are often required when individuals or businesses are seeking to engage in certain transactions, such as bidding for government contracts, obtaining business licences or opening bank accounts.

To obtain a TCC in Ghana, an individual or business must first register for tax with the GRA and file their tax returns for the previous year. They must also settle any outstanding tax liabilities, penalties and interest charges owed to the GRA. In addition, an applicant must have satisfied any other condition that the Commissioner General may determine.

Once these requirements have been met, the individual or business can apply for a TCC by applying to the GRA. The application must include all necessary supporting documents, such as tax returns, receipts of tax payments and proof of compliance with tax laws and regulations.

The processing time for a TCC application varies depending on the complexity of the case and the GRA's workload. Generally, the process can take up to a few weeks to complete.

It is important to note that a TCC is only valid for a specific period, usually one year. After that period, the individual or business must apply for a new TCC by following the same process.

A tax clearance certificate is required for the following transactions:

- bidding for any contracts awarded by ministries, parastatals, departments and agencies within the government or for any government tenders,
- obtaining business licences,
- opening bank accounts,
- immigration purposes,
- sale or transfer of property;
- importing and clearing goods in commercial quantities from a port or a factory in Ghana;
- registering any document conferring title to land, and
- departure (at the point of departure) of a foreigner who has resided and earned in Ghana.

In addition, a TCC may also be required when acting as an authorised supplier to the government.

Taxation of companies (legal forms)

Companies operating in Ghana are subject to various taxes, including corporate income tax, value added tax, withholding tax and other taxes and levies.

Companies in Ghana are required to pay corporate income tax (CIT) on their profits. The current corporate income tax rate is 25%. Companies are required to file their tax returns and pay their taxes within four months after their financial year end.

Companies are also required to register for VAT if their annual taxable supplies exceed GHS 200,000. The current VAT rate in Ghana is 15%, and companies are required to file VAT returns monthly or quarterly, depending on their turnover.

In addition, companies in Ghana are required to deduct and remit withholding tax (WHT) on certain payments made to suppliers, contractors and service providers. The current WHT rates in Ghana vary depending on the nature of the payment, ranging from 5–20%.

Companies in Ghana are required to pay capital gains tax (CGT) on gains arising from the disposal of assets such as property, stocks and shares. The current CGT rate is 25%.

Furthermore, companies in Ghana may also be subject to other taxes and levies, such as the National Health Insurance Levy (NHIL), the Ghana Education Trust Fund (GETFund) levy and the Communications Service Tax (CST).

In addition to the above taxes, companies in Ghana are required to comply with various tax compliance requirements, such as keeping proper accounting records, filing tax returns and making tax payments on time. Failure to comply with these requirements may result in penalties and interest charges.

Residency

A company is resident in Ghana for tax purposes if that company:

- is incorporated under the laws of Ghana; or
- has exercised its management and control in Ghana throughout the year.

Persons who do not meet the above requirements shall be deemed to be non-resident persons.

A resident company is subject to tax on its worldwide income, regardless of where the income is earned.

On the other hand, a non-resident company is only subject to tax on its Ghana-sourced income. Ghana-sourced income is income derived from Ghana or

deemed to arise in Ghana, such as income from a business conducted in Ghana, rent from property located in Ghana and gains arising from the disposal of assets situated in Ghana.

Assessment period

The assessment period is the period during which the GRA can review a company's tax affairs and issue an assessment for any tax liabilities that may be due. The assessment period for companies in Ghana is governed by the Internal Revenue Act, 2015 (Act 896) and the VAT Act, 2013 (Act 870).

The assessment period for CIT in Ghana is four years from the end of the tax year to which the assessment relates. The assessment period for VAT is three years from the end of the tax period to which the assessment relates.

During the assessment period the GRA has the power to review a company's tax returns, accounting records and other documents related to its tax affairs. If the GRA identifies any errors or omissions in the company's tax returns, it may issue an assessment for any additional tax liability that may be due.

A company is free to choose its financial year. Once a particular financial year has been chosen, it cannot be changed unless prior written approval has been obtained from the GRA Commissioner General.

Accounting and valuation methods

The tax base is derived from the financial statements prepared in accordance with International Financial Reporting Standards (IFRS) and International Accounting Standards (IAS) in accordance with the Internal Revenue Act, 2000 (Act 592) (IRA).

Value added tax (VAT)

VAT is a tax on consumption that is charged on goods and services at every stage of production and distribution. In Ghana, VAT is governed by the VAT Act, 2013 (Act 870) and the VAT (Amendment) (No. 2) Act, 2022 (Act 1087).

The standard VAT rate in Ghana is 15%, but certain goods and services are subject to lower rates or exemptions. The VAT system in Ghana operates on a self-assessment basis, which means that businesses are responsible for determining their own VAT liability and filing their tax returns with the GRA.

Under the VAT system in Ghana, businesses that are registered for VAT are required to charge VAT on the goods and services they supply, and they can reclaim any VAT they have paid on their business inputs. This means that VAT paid on purchases and expenses can be deducted from the VAT collected on sales and the difference paid to the GRA.

Businesses with a taxable turnover of GHS 200,000 or more within a 12-month period are required to register for VAT. Once registered, businesses must file VAT returns on a monthly or quarterly basis, depending on their turnover, and pay any VAT due within 21 days of the end of the filing period.

In addition to the standard VAT rate, suppliers on the standard rate scheme are required to charge VAT in conjunction with the associated levies: NHIL of 2.5%, GETFund of 2.5%, COVID-19 Health Recovery Levy of 1% and CST where applicable. As a result, the effective VAT rate stands at 21%.

In addition to the standard VAT rate, certain goods and services are subject to reduced rates or exemptions.

INPUT VAT

VAT incurred by a company on goods purchased for resale and raw materials used for production is recoverable from output VAT collected while VAT incurred on overhead expenses is tax deductible.

VAT ON THE PURCHASE OF ASSETS

VAT incurred on the purchase of assets is neither deductible nor recoverable but capitalised along with the cost of assets to be recovered via the capital allowance medium.

Corporate income tax

CIT is a tax on the profits earned by companies in Ghana. The tax is governed by the Income Tax Act, 2015 (Act 896), and administered by the GRA.

The standard corporate income tax rate in Ghana is 25%, but certain industries or sectors may be subject to different tax rates. For example, mining companies are subject to a CIT rate of 35%.

Companies in Ghana are required to file their tax returns and pay any taxes due within four months of the end of their financial year. Companies that fail to comply with their tax obligations may be subject to penalties and interest charges.

The Ghanaian government has introduced several tax incentives to encourage investment and promote economic growth. These incentives include tax holidays, accelerated depreciation and tax credits for certain types of investments. Companies that qualify for these incentives may be able to reduce their tax liabilities and improve their profitability. The exact qualification requirements may vary depending on the specific incentive.

The CIT rates in Ghana are as shown below:

TABLE 2. CIT rates in Ghana

CLASSIFICATION OF COMPANIES	TURNOVER THRESHOLD	TAX RATE (%)
Micro	Not more than GHS 2 million	1
Small	Above GHS 2 million but less than GHS 10 million	1
Medium	Above GHS 10 million but less than GHS 80 million	1
Large	GHS 80 million and above	25

Companies are required to file their tax returns and pay their tax liabilities within a certain timeframe. The deadline for filing tax returns is four months after the end of the company's financial year. Companies that fail to file their tax returns on time or fail to pay their tax liabilities may be subject to penalties and interest charges. Late filing of annual tax returns attracts a penalty of 10% of the tax due, plus an additional 2% per month for each month the return is late.

MINIMUM TAX

Minimum tax is a form of tax that is imposed on companies that have not made any profits or have made profits that are less than the amount of tax that would be payable under the normal tax rules. It is a mechanism for ensuring that companies pay a minimum level of tax, regardless of their actual profits.

The minimum tax rate for companies in Ghana is 1% of the company's turnover for the year. However, the minimum tax is subject to a cap of 0.5% of the company's gross turnover for the year if the company's total tax payable is less than 0.5% of its gross turnover.

The minimum tax is payable by all companies in Ghana, regardless of their size or industry. However, certain companies are exempt from paying the min-

imum tax, including newly incorporated companies in their first year of operation, companies engaged in farming and companies that operate within the free zones.

Taxes on interest

In Ghana, interest income is subject to tax under the Income Tax Act, 2015 (Act 896). The tax is levied on the gross interest income earned by individuals, partnerships and companies.

The tax rate on interest income varies depending on the type of entity earning the interest income:

- **Individuals** – individuals in Ghana are not subject to interest taxation by a resident financial institution.
- **Companies** – companies in Ghana are subject to a rate of 8% WHT on their interest income. However, WHT does not apply to interest received by a resident financial institution.

Under the Ghanaian Income Tax Act, certain income may be exempt from taxation. To qualify for the exemption, the following conditions must be met:

- The interest income must be earned from an approved financial institution or a debt security issued by the government of Ghana or an approved international financial institution.

- The interest income must be derived by a resident individual or entity, or a non-resident individual or entity with a permanent establishment in Ghana.
- The interest income must not be derived by a non-resident individual or entity without a permanent establishment in Ghana.
- The interest income must not be derived from a business or trade carried on in Ghana.
- The interest income must not be connected to an activity or transaction carried out in Ghana.

Taxes on dividends

In Ghana, dividends are subject to both CIT and WHT. The corporate income tax is paid by the company that declares and pays the dividend, while the WHT is deducted by the company and paid to the government on behalf of the shareholder receiving the dividend.

The WHT on dividends in Ghana is currently 8%. This means that when a company declares and pays a dividend, it is required to deduct 8% of the gross dividend amount and remit it to the GRA on behalf of the shareholder receiving the dividend.

However, there are certain exemptions and reduced rates available for certain types of shareholders. For example:

- Resident individuals are subject to the 8% WHT tax on dividends, but they can claim a credit for the tax paid against their final tax liability.
- Non-resident individuals are subject to a reduced WHT rate of 8% on dividends, but this rate may be further reduced under a double tax treaty.
- Resident companies are subject to the 8% WHT on dividends, but if the recipient company owns at least 10% of the paying company's shares for at least 12 months, the WHT may be reduced to 0%.

Income from operating sites

In Ghana, income from operating sites is subject to tax under the Income Tax Act, 2015 (Act 896). Operating sites include mines, quarries and other similar sites that generate income from the extraction or exploitation of natural resources.

The tax rate on income from operating sites is determined by the type of mineral or natural resource being extracted and is usually a combination of CIT and royalty tax.

Companies' operating sites in Ghana are subject to a corporate income tax on their profits, at a standard rate of 25%. They are also required to pay a royalty

tax on their mineral or natural resource production. The royalty tax varies depending on the type of resource being extracted, and ranges from 3–12.5% of the gross value of the resource.

In addition to these taxes, companies' operating sites in Ghana may also be subject to other taxes and levies, such as WHT on payments to non-residents, customs duties on imported equipment and VAT on goods and services.

Withholding tax

WHT is a tax collected at source from payments made to a non-resident person or entity for services rendered or goods supplied in Ghana. The WHT system is used to ensure that non-residents pay their fair share of taxes on their Ghana-sourced income.

In Ghana, there are several types of WHT applicable to different types of payment:

- **WHT on services** – this applies to payments made to non-resident persons or entities for services rendered in Ghana. The WHT rate for services is generally 15% but may be reduced under a tax treaty between Ghana and the non-resident's home country.
- **WHT on dividends** – this is a tax on dividends paid to non-resident shareholders, as mentioned in the previous answer. The WHT rate for div-

idends is currently 8% but may also be reduced under a tax treaty.

- **WHT on interest** – this is a tax on interest paid to non-resident lenders or investors. The WHT rate for interest is generally 8% but may also be reduced under a tax treaty.
- **WHT on rent** – this is a tax on rent paid to non-resident landlords. The WHT rate for rent is generally 15% but may also be reduced under a tax treaty.

Ghana has a double taxation agreement (DTA) with Germany. The various withholding tax rates applicable to payments to non-residents under Ghana's tax laws and double tax treaties apply.

Capital allowances

Capital allowances in Ghana are tax deductions available to businesses for the purpose of calculating their taxable income. They are provided for in the Income Tax Act, 2015 (Act 896) and allow businesses to deduct a certain portion of their capital expenditure from their taxable income.

Capital allowances can be claimed for qualifying assets that are used for the purposes of the business, such as buildings, plant and machinery, and vehicles. The amount of the allowance that can be claimed varies depending on the asset and its useful life.

In Ghana, there are two types of capital allowances that businesses can claim:

- **Initial allowance** – this is a one-time allowance that can be claimed in the first year of the asset's use. The rate of initial allowance varies depending on the type of asset, but generally ranges from 5–50% of the cost of the asset.
- **Annual allowance** – this is a recurring allowance that can be claimed each year over the useful life of the asset. The rate of annual allowance also varies depending on the type of asset, but generally ranges from 5–50% of the cost of the asset.

The amount of capital allowances that can be claimed in any given year cannot exceed the taxable income of the business for that year.

The capital allowance rates for depreciable assets can be found in Table 3. PV or hybrid systems and their components are typically classified under the 'Plant and machinery' category for capital allowance purposes. The specific rate at which capital allowances can be claimed for PV or hybrid systems depends on their classification as 'Renewable Energy Systems' and whether they meet the criteria for accelerated depreciation.

Balancing allowances and charges

Balancing allowances and charges are tax adjustments made to capital allowances claimed by a business in respect of assets that have been disposed of or transferred. These adjustments ensure that the total capital allowances claimed by a business over the life of an asset do not exceed its cost.

In Ghana, a balancing charge arises when the disposal or transfer price of an asset is greater than its tax written down value (WDV). The balancing charge is the excess of the disposal or transfer price over the WDV and is added to the business's taxable income for the year in which the disposal or transfer occurs.

This means that the business will pay tax on the amount of the balancing charge.

On the other hand, a balancing allowance arises when the disposal or transfer price of an asset is less than its WDV. The balancing allowance is the excess of the WDV over the disposal or transfer price and is deducted from the business's taxable income for the year in which the disposal or transfer occurs. This means that the business will pay less tax, or even receive a tax refund, depending on the amount of the balancing allowance.

TABLE 3. Capital allowance rates

QUALIFYING EXPENDITURE	INITIAL ALLOWANCE (%)	ANNUAL ALLOWANCE (%)
Building	20	10
Plant and machinery	20-50	5-50
Vehicles	30	20
Computer hardware and software	40	25

It is important for businesses to keep proper records of their asset disposals or transfers to accurately calculate their balancing allowances or charges. The GRA may require businesses to provide supporting documentation to verify their calculations.

Applicable depreciation type and rate

In Ghana, businesses can claim tax deductions for the depreciation of fixed assets used in their operations. The depreciation rate and methods used depend on the type of asset and its useful life, as determined by the GRA.

The GRA allows three depreciation methods for tax purposes: straight-line, reducing balance and sum-of-years. These will be explained in detail in Section 2.3.

The depreciation rates for different categories of assets are prescribed in the Income Tax Act, 2015 (Act 896) and its subsequent amendments.

It is important to note that certain assets may have a different useful life or depreciation rate based on their condition or usage, and businesses are required to maintain accurate records and calculations to support their claims for depreciation. Additionally, businesses must comply with the GRA's guidelines and regulations for the treatment of depreciation on tax returns and financial statements.

Capital gains tax

CGT is a tax on profit earned from the sale or disposal of certain assets, such as real estate, stocks and other investments. In Ghana, capital gains are taxed under the Income Tax Act, 2015 (Act 896).

Under Ghanaian law, the capital gains tax rate is 15% for resident individuals and 20% for non-residents.

The tax is calculated on the net gain realised from the disposal of the asset, which is the sale price minus the cost of acquiring and maintaining the asset. The gain can be offset by any losses that have been incurred in the same year or carried forward from previous years.

The types of assets that are subject to CGT in Ghana include shares, securities, real estate and other forms of investment property. However, certain assets are exempt from CGT, such as government securities and assets used for personal or household purposes.

It is important to note that certain transactions, such as transfers of assets between related parties, may be subject to special rules and restrictions. In addition, non-residents may be subject to different rules and tax rates to those of residents.

CGT is paid as a sub-component of the business income tax that is paid annually. With regard to deductibility, an expense is deductible if it is wholly, exclusively and necessarily incurred by the person in

the production of the business or investment income for the year. A deduction shall be disallowed for an expense that is of a capital nature. An expense that is of a capital nature includes an expense that secures a benefit that lasts for more than 12 months.

CGT in Ghana is usually self-assessed and paid by the taxpayer, although the GRA may conduct audits or investigations to verify the accuracy of taxpayers' assessments. Failure to comply with the CGT requirements can result in penalties and interest charges.

Stamp duties

Stamp duty is a tax on certain types of documents or transactions in Ghana. The stamp duty tax is governed by the Stamp Duty Act, 2005 (Act 689) and administered by the GRA.

The types of documents or transactions that are subject to stamp duty include:

- **Legal documents** – this includes contracts, deeds, powers of attorney and other legal documents.
- **Financial instruments** – this includes cheques, bills of exchange, promissory notes and share certificates.
- **Property transactions** – this includes land and property transfers, leases and mortgage documents.

- **Other transactions** – this includes insurance policies, gaming and betting transactions and other types of commercial transactions.

Stamp duty varies depending on the type of document or transaction, and the value of the transaction. For example, the stamp duty rate for property transfers is 0.5% of the value of the property, while the rate for certain types of financial instruments is 0.075%.

Those party responsible for paying the stamp duty tax depends on the nature of the transaction. For example, in property transactions, the buyer is usually responsible for paying the stamp duty tax. In other cases, such as legal documents, this may be shared between the parties involved.

Failure to pay the stamp duty tax may result in penalties and interest charges, as well as legal consequences such as the invalidation of the document or transaction.

Customs duties and excise taxes

Customs duties and excise taxes are forms of indirect taxes imposed on goods and services in Ghana.

These duties are taxes levied on imported goods and are collected by the GRA at the country's ports of entry. The customs duty rates vary depending on the nature of goods, their country of origin and

their value. Some goods may be subject to additional taxes such as import VAT, which is currently set at a standard rate of 15%. The customs duties collected by the GRA are used to generate revenue for the government and to protect domestic industries by making imported goods relatively more expensive.

Excise taxes, on the other hand, are taxes on goods produced or consumed within the country. These taxes are typically imposed on products deemed harmful to public health or the environment, such as alcohol, tobacco and petroleum products. Excise taxes can either be specific, meaning they are based on the quantity of the product, or ad valorem, meaning they are based on the value of the product. The excise tax rates in Ghana vary depending on the product and are subject to periodic review.

Businesses engaged in the production or importation of goods subject to customs duties and excise taxes must register with the GRA and comply with the applicable tax laws and regulations.

Import duty

Import duty is a type of tax imposed on goods imported into Ghana from foreign countries. This is collected by the GRA at the point of entry into the country, such as seaports, airports or land borders.

The import duty rate in Ghana depends on several factors, including the type of goods being imported, their value and their country of origin. Rates can range from 0% to over 40%, with the average rate being around 10%. Some goods, such as essential medicines, are exempt from import duty. The specific import duty rate for RE equipment can vary depending on the nature of the equipment, its classification under the Ghana Customs Harmonised Commodity and Tariff Code and any applicable trade agreements or exemptions. The government of Ghana has implemented certain initiatives to support the development of the renewable energy sector. This includes providing exemptions or reduced duty rates for specific RE equipment to encourage investment and promote the growth of clean energy projects.

Importers in Ghana are required to pay the applicable import duty before their goods can be released from customs. Failure to pay the import duty can result in the goods being seized, fines being imposed or other legal consequences. Importers must also comply with any other regulatory requirements, such as obtaining the necessary permits and licences, and ensuring that the goods meet all relevant safety and quality standards.

The import duty collected by the GRA is an important source of revenue for the government and is used to fund public services and infrastructure development. The government periodically reviews and adjusts the import duty rates to reflect changes in the economy and to protect local industries from unfair competition from foreign goods.

Administrative fees

In addition to import duty, administrative fees may also be charged on goods imported into Ghana. These fees are usually imposed by the Customs Division of the GRA and are intended to cover the costs of administering the customs process.

The administrative fees can vary depending on the type and value of the goods being imported, as well as the customs clearance process used. For example, if an importer uses a customs agent to clear their goods, they may be required to pay additional administrative fees to cover the agent's services.

Like import duty, revenue collected from administrative fees and excise taxes is an important source of revenue for the government and is used to fund public services and infrastructure development. The government may periodically adjust the rates of these fees and taxes in response to changes in the economy or to meet other policy objectives.

Ability and methods to carry forward losses

In Ghana, companies that experience tax losses are allowed to carry forward these losses to offset future taxable income. The ability to carry forward tax losses is an important feature of the tax system, as it allows businesses to smooth out their tax liabilities and maintain profitability over the long term.

The duration for which tax losses can be carried forward depends on the size of the company and the type of loss. For example, small and medium-sized enterprises are generally allowed to carry forward tax losses for up to 5 years, while large companies can carry forward losses for up to 10 years.

There are different methods that can be used to carry forward tax losses in Ghana, including:

- **Deducting losses from future profits** – when a company generates taxable income in a subsequent tax year, it can deduct the amount of its carried-forward losses from this income, reducing the amount of tax owed.
- **Applying tax losses against capital gains** – in some cases, companies may be able to apply carried-forward losses against capital gains, which can reduce the amount of tax owed on these gains.

- **Carrying back losses** – in certain circumstances, companies may be allowed to carry back losses to offset taxable income from prior years, which can result in a refund of taxes previously paid.

2.1.1 Taxation of transfers of funds and equipment

The taxation of the transfer of funds and equipment depends on the specific context of the transfer. Transfers of funds or equipment can trigger different types of taxes, such as VAT, withholding tax, CGT and customs duties, among others.

For example, if a company transfers funds to a foreign entity for the purchase of equipment, it may be subject to withholding tax on the amount transferred, depending on the specific transaction and tax laws in Ghana. Additionally, if the equipment is imported, customs duties and VAT may also apply.

Similarly, if a company sells equipment, it may be subject to CGT on the profit made from the sale thereof. If the equipment is exported, export duties may also apply.

2.1.2 Taxation of foreign income in Germany and double taxation agreements

Ghana has double taxation agreements (DTAs) with many countries. The provisions of the DTAs (including nil or lower tax rates) prevail over the provisions of the Income Tax Ordinance, 1984 (ITO) for the countries that are a party to the DTA. If a foreign company is a resident of a country with which Ghana has a DTA in place, it may be entitled to certain tax benefits. However, to enjoy the tax benefits provided in the DTA, separate certification is required from the tax authorities.

The main benefits provided by the DTA between the Federal Republic of Germany and the Republic of Ghana are highlighted below:

- **Article 7 - Business Profits.** The profits of an enterprise of a Contracting State shall be taxable only in that State unless the enterprise carries on business in the other Contracting State through a permanent establishment situated therein. If the enterprise carries on business as aforesaid, the profits of the enterprise may be taxed in the other State but only so much of them as is attributable to that permanent establishment.

No profits shall be attributed to a permanent establishment by reason of the mere purchase by that permanent establishment of goods or merchandise for the enterprise.

- **Article 10 – Dividends.** Dividends paid by a company which is a resident of a Contracting State to a resident of the other Contracting State may be taxed in that other State.

However, such dividends may also be taxed in the Contracting State of which the company paying the dividends is a resident and according to the laws of that State, but if the recipient is the beneficial owner of the dividends is subject to tax in respect of the dividends in that other Contracting State, the tax so charged shall not exceed:

- 5 per cent of the gross amount of the dividends if the beneficial owner is a company (other than a partnership) which holds directly at least 10 per cent of the capital of the company paying the dividends;
- 15 per cent of the gross amount of the dividends in all other cases.

This paragraph shall not affect the taxation of the company in respect of the profits out of which the dividends are paid.

- **Article 11 – Interest.** Interest arising in a Contracting State and paid to a resident of the other Contracting State may be taxed in that other State.

However, such interest may also be taxed in the Contracting State in which it arises and according to the laws of that State, but if the beneficial owner of the interest is a resident of the other Contracting State, the tax so charged shall not exceed 10 per cent of the gross amount of the interest.

- **Article 12 – Royalties and Service Fees.** Royalties or services arising in a Contracting State and paid to a resident of the other Contracting State may be taxed in that other State.

However, such royalties or services may also be taxed in the Contracting State in which they arise and according to the laws of that State, but if the beneficial owner of the royalties or services fees is a resident of the other Contracting State, the tax so charged shall not exceed 8 per cent of the gross amount of the royalties or service fees.

2.2 Financing and transfer of funds and equipment

Financing of funds and equipment refers to the process of obtaining funds and equipment for business operations through various financial arrangements such as loans, leases or hire purchase agreements. In Ghana, the tax implications of financing such assets depend on the type of financing arrangement used.

For instance, if a company obtains financing through a loan, the interest paid on the loan is tax deductible under the CIT regime. However, the interest expense deduction is limited to 30% of earnings before interest, taxes, depreciation and amortisation (EBITDA).

Similarly, if a company leases equipment, the lease payments may be tax deductible under the CIT regime, subject to certain conditions. The lease arrangement must be a true lease, where the leasing company retains ownership of the asset, and the lessee pays for the use of the asset. The lease payments should also be reasonable and arm's length.

In some cases, the financing arrangement may involve the transfer of ownership of the asset to the company after a certain period, as in the case of hire purchase agreements. In such cases, the tax treatment would depend on the specific terms of the agreement and whether the company has obtained legal ownership of the asset.

The transfer of funds and equipment may have tax implications in Ghana. When a company transfers funds or equipment to another party, it may be subject to taxes such as WHT, stamp duty or CGT.

If funds are transferred out of Ghana to a foreign country, they may be subject to exchange control regulations and foreign exchange rules. These regulations may require the company to obtain approval from the Bank of Ghana (BOG) or other relevant authorities before the transfer can be made.

Regulations mandate that fund transfers are carried out through the banking system. Funds must be transferred through the SWIFT banking system, which must include:

- ordinary customer,
- beneficiary customer, and
- purpose of transaction.

When equipment is transferred between companies, it may be subject to customs duties, excise taxes or VAT depending on the nature of the equipment and the terms of transfer. The parties involved in the transfer may need to obtain relevant permits, licences or certificates from the respective authorities before the transfer can be made.

When international money transfers are routed through the Ghanaian banking system, the bank charges a percentage of the value as a fee. Beneficiaries of international equipment transfers can apply to the Commissioner General of the GRA for tax exemptions. This is done by applying to the GRA. Beneficiaries must fulfil certain preconditions to be eligible. While the specific preconditions may vary depending on the regulations and incentives in place at the time of the application, the following common factors may need to be considered:

- compliance with import regulations,
- eligibility for specific incentives,
- demonstrating the need for tax exemptions, and
- proof of ownership or authorisation.

For inward transfers, the BOG requires that the money is converted into Ghanaian cedis by an authorised bank, which must confirm to the BOG that such an amount has been transferred to them. Once there is such evidence with due dates, the local company can remit funds, provided it has enough funds, while the authorised bank will provide the foreign exchange cover.

The Ghana Investment Promotion Centre (GIPC) Act guarantees the repatriation of dividends or profits, funds to pay for foreign loans, fees and charges in respect of a technology transfer agreement registered under the GIPC Act, and remittance of proceeds, net of all taxes and other obligations, if the foreign investor liquidates their interests in Ghana, when such transfers are made through an authorised dealer bank.

2.2.1 Relevant tax and tax depreciation regulations

The tax and tax depreciation regulations that apply to financing and the transfer of funds and equipment in Ghana can vary depending on the nature of the financing or transfer and the specific assets involved. Some general guidelines are as follows.

For financing, the following regulations will apply:

- Interest paid on loans or other forms of financing may be deductible for CIT purposes.
- The interest rate must be at arm's length, meaning it must be consistent with the rates that would be charged in an equivalent transaction between unrelated parties.
- WHT at a rate of 8% is generally applicable to interest payments made to non-residents.
- The amount of interest that can be deducted for tax purposes may be limited by thin capitalisation rules, which restrict the amount of debt that can be used to finance a company's operation.
- The financing may also be subject to stamp duty, depending on the terms of the financing agreement.

The following regulations will apply to the transfer of funds and equipment:

- If funds are transferred out of Ghana, they may be subject to exchange control regulations and foreign exchange rules. There may be restrictions, reporting requirements or other controls imposed on the transfer of funds out of the country depending on the specific transaction and regulations applicable at the time.
- The transfer of equipment may be subject to customs duties, excise taxes or VAT depending on the nature of the equipment to be transferred.
- The value of equipment may be depreciated for tax purposes over its useful life, using the applicable depreciation rate and method.
- CGT may be applicable if the equipment is sold or transferred at a profit.

- Stamp duty may also be applicable to the transfer of equipment, depending on the terms of the transfer arrangement.

2.2.2 Transfer of funds out of the country

In Ghana, the transfer of funds out of the country is subject to various regulations and taxes. The regulations and taxes are put in place to monitor and control the flow of funds out of the country, as well as to generate revenue for the government.

To transfer funds out of Ghana, individuals or companies must first comply with the regulations of the BOG. These regulations require that any person or entity transferring funds out of the country must provide supporting documentation to indicate the source and purpose of the funds.

In addition to complying with the regulations of the BOG, individuals or companies transferring funds out of the country may also be subject to various taxes. For example, a withholding tax of 10% may be applied to dividends, interest or royalties paid to non-residents, which are then remitted abroad.

Moreover, if the transfer of funds out of Ghana involves the sale of an asset, CGT may apply, depending on the nature of the asset and the gain realised. The CGT rate is currently set at 15%.

It is also worth noting that the transfer of funds out of Ghana may be subject to exchange control regulations such as the requirement to declare to the BOG international money transfers exceeding a certain threshold. These regulations aim to ensure that foreign currency reserves are maintained, and that the country's balance of payments is not negatively affected. Thus, individuals or companies transferring funds out of the country must comply with the relevant exchange control regulations, including obtaining the necessary approvals from the Bank of Ghana.

Remittance of profits

In Ghana, companies are allowed to remit their profits out of the country subject to certain conditions and regulations.

Firstly, companies are required to pay all taxes due on the profits before remittance can be made. This means that the company must have fulfilled all of its tax obligations in Ghana before it can remit profits out of the country.

Secondly, the remittance of profits must be made through an authorised dealer, which is usually a commercial bank licenced by the BOG. The authorised dealer will ensure that all necessary documentation and approvals are obtained before processing the remittance.

Thirdly, the number of profits that can be remitted out of the country is subject to limits set by the BOG. The limit is usually based on the company's level of capitalisation and the amount of foreign exchange available in the country.

Remittance of dividends

The remittance of dividends is subject to some regulations. Companies must declare dividends in Ghanaian cedis and may only remit the equivalent in foreign currency to non-resident shareholders once the tax on the dividends has been paid. The tax rate on dividends is currently 8%, but may vary depending on the type of company and other factors.

Companies must file a declaration with the BOG before remitting dividends to non-resident shareholders. The declaration must contain details of the remittance, such as the amount and the name of the recipient. The bank will then review the declaration and issue a permit allowing the remittance to proceed if all requirements have been met.

If it is worth noting that some exemptions may apply to the taxation of dividends for certain investors, such as pension funds and mutual funds. Non-resident shareholders may also be able to take advantage of tax treaties between Ghana and their home country to reduce the tax payable on dividends.

Repatriation of sales proceeds

The repatriation of sales proceeds refers to the transfer of proceeds from the sale of goods or services out of the country in which the sales were made. In Ghana, this process is subject to certain regulations and taxes.

Companies are required to obtain approval from the BOG before repatriating sales proceeds. The bank may require documentation such as invoices, contracts and shipping documents to verify the legitimacy of the sales transaction.

Once approval is obtained, the company must convert the local currency into foreign currency through an authorised dealer before transferring the funds out of the country. This process is subject to exchange control regulations, and the exchange rate used must be the prevailing interbank rate.

There may also be taxes payable on the repatriation of sales proceeds. For example, if the sales were made by a non-resident company, WHT of 15% may be applicable to the amount repatriated. The WHT can be reduced if Ghana has a tax treaty with the country of residence of the non-resident company.

REMITTANCE OF SALARIES AND SAVINGS BY EXPATRIATES

Expatriates working in Ghana are permitted to transfer their salaries and savings out of the country subject to certain rules and regulations. The remittance of salaries and savings is subject to approval by the BOG, which is the regulatory body responsible for foreign exchange transactions in the country.

To remit their salaries and savings, expatriates are required to provide evidence of their employment, such as a work permit, employment contract or other relevant documents. They may also be required to provide documentation proving that the funds to be remitted were legally earned in Ghana.

The amount of money that an expatriate can remit out of the country is subject to certain limits and restrictions. For instance, there is a limit on the amount of foreign currency that an individual can purchase or sell in a single transaction, as well as a limit on the amount of foreign currency that can be taken out of the country at any one time.

Furthermore, the repatriation of funds may be subject to taxes and other fees, depending on the nature of the transaction and the applicable laws and regulations. Expatriates are advised to consult with a qualified tax professional or financial advisor to un-

derstand their tax obligations and ensure compliance with local laws and regulations.

REMITTANCE OF ROYALTY AND TECHNICAL KNOW-HOW FEES

In Ghana, the remittance of royalty and technical know-how fees is subject to WHT at a rate of 15%. This tax is withheld at source by the Ghanaian company making the payment to the non-resident recipient.

The definition of royalty and technical know-how fees is broad and includes payments made for the use of or the right to use any patent, trademark, design, secret formula or process, copyright or other similar property right, as well as payments made for technical advice, assistance or services in connection with the application or use of any such property right.

The WHT can be reduced or eliminated under the terms of a tax treaty between Ghana and the recipient's country of residence. In addition, the recipient may be able to claim a credit for the tax withheld in their home country.

It is important to note that any remittance of funds out of Ghana requires approval from the BOG and may be subject to additional regulations or restrictions.

REMITTANCE ON ACCOUNT OF TRAINING AND CONSULTANCY

Remittance on account of training and consultancy refers to payments made by non-resident companies or individuals for training or consultancy services provided by resident companies or individuals in Ghana. These payments are subject to WHT at a rate of 20% for non-resident companies and individuals, and 15% for resident companies and individuals.

The WHT is deducted at source by the paying company or individual and remitted to the GRA within 15 days after the end of the month in which the payment was made.

To remit these payments out of the country, the company or individual must obtain a tax clearance certificate (TCC) from the GRA to prove that all taxes have been paid. The certificate is required for all transactions involving the transfer of funds out of the country.

Interest and loan repayments and dividends

When it comes to financing and the transfer of funds and equipment, there are certain tax considerations to keep in mind regarding interest and loan repayments, as well as dividends.

With regard to interest and loan repayments, if a Ghanaian resident or permanent establishment (PE) pays interest to a non-resident, such interest is subject to WHT of 20%. However, if the non-resident is resident in a country with which Ghana has a DTA, the WHT may be reduced to a lower rate specified in the DTA. If the loan is for a period of more than three years, the WHT rate may be reduced to 8%.

With regard to dividends, if a Ghanaian resident or PE pays a dividend to a non-resident, such dividend is subject to WHT of 8%. However, if the non-resident is resident in a country with which Ghana has a DTA, the WHT may be reduced to a lower rate specified in the DTA.

Payment of insurance premiums or payments for other services

When it comes to financing and the transfer of funds and equipment, the payment of insurance premiums or payments for other services are also subject to tax regulations in Ghana.

Insurance premiums paid to non-resident insurers are subject to WHT at a rate of 5%. However, if the insurer is resident in a country with which Ghana has a DTA, the WHT rate may be reduced or exempted.

Payments for other services rendered by non-residents are also subject to WHT at a rate of 15% unless the

service is covered by a DTA. Some services are exempt from WHT, such as technical services relating to mining, petroleum and telecommunications.

2.2.3 Further restrictions regarding currency conversion and loans

In Ghana, there are no significant restrictions on currency conversion or loans. However, there are some regulations that businesses and individuals must follow when converting currency or taking out loans.

For example, the BOG, which is the country's central bank, regulates foreign exchange transactions to ensure that they are conducted in a transparent and efficient manner. Businesses and individuals are required to provide documentation to support their currency conversion transactions, such as invoices or contracts for the goods or services being purchased.

In terms of loans, the BOG has set a maximum lending rate that banks and other financial institutions are allowed to charge. This rate is periodically reviewed and adjusted to ensure that it is appropriate given the prevailing economic conditions.

It is also worth noting that there are some restrictions on the types of transactions that can be conducted using foreign currency. For example, Ghanaian businesses and individuals are not allowed to use foreign currency to purchase real estate in Ghana. Instead,

all transactions involving the purchase or sale of real estate must be conducted in Ghanaian cedis.

Foreign investors may open any foreign accounts with any authorised dealer bank in Ghana by completing the standard bank account opening forms and pursuant to any other form prescribed by the local bank.

A foreign exchange account (FCA) can be credited with:

- foreign exchange earned from the export of goods and services originating from Ghana;
- agency commission;
- discounts on imports into Ghana;
- transfers from FEAs to FCAs are prohibited;
- transfers outside Ghana from FEAs shall be supported by relevant documentation;
- with the exception of travel purposes, withdrawals from these accounts over the counter will be paid in Cedis at the existing exchange rate;
- balances on these accounts are not freely transferable.

A foreign currency account (FCA) can be credited with:

- foreign exchange not subject to surrender requirements;

- foreign exchange acquired from a forex bureau or any local source of foreign exchange cannot be used to open an FCA;
- unrequited transfers in foreign currency from abroad or other foreign accounts for investment or embassy transfers;
- transfers from one FCA to another FCA are permitted;
- balances on these accounts are freely transferable.

The following limiting factors apply when conducting payments and transactions in foreign currency:

- Over-the-counter foreign exchange cash withdrawals shall only be permitted for travel purposes outside Ghana and shall not exceed USD 10,000 or its equivalent in convertible currency per person, per trip supported by a valid visa and travel itinerary.
- Transfers from one foreign currency-denominated account to another are not permitted, except for transfers from one FCA to another FCA and FEA.
- External transfers of up to USD 10,000 per annum without documentation.

Section 32 of the Ghana Investment Promotion Centre Act, 2013 (Act 865) states that subject to the Foreign Exchange Act, 2006 (Act 723) and the regulations and notices issued under the Foreign Exchange Act, an enterprise shall, through an authorised dealer bank, be guaranteed unconditional transferability in freely convertible currency of:

- dividends or net profits attributable to the investment made in the enterprise;
- payments in respect of loan servicing where a foreign loan has been obtained;
- fees and charges in respect of a technology transfer agreement registered under this Act; and
- 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 in the enterprise.

Overall, while there are some regulations that businesses and individuals must follow when converting currency or taking out loans, there are no significant restrictions on these activities in Ghana.



2.3 Accounting regulations

2.3.1 Accounting principles

The accounting principles in Ghana are based on the Generally Accepted Accounting Principles (GAAP), which are used in many countries around the world. The GAAP provide a framework for financial reporting and establishes rules and guidelines on how businesses should prepare and present their financial statements.

In addition to GAAP, Ghanaian companies also follow the International Financial Reporting Standards (IFRS) which are set by the International Accounting Standards Board (IASB). IFRS is a set of accounting standards that are designed to promote consistency and transparency in financial reporting and are widely used in many countries around the world.

The Companies Act, 2019 (Act 992) of Ghana also provides guidelines on accounting principles and practices for companies in Ghana. The Act requires companies to prepare their financial statements in accordance with the GAAP and IFRS.

The key accounting principles in Ghana include:

- **Accrual-based accounting** – this principle requires that transactions be recorded when they occur, not when the cash is received or paid.

- **Materiality** – this principle requires that financial statements reflect all material items, including those that may have a significant impact on the financial position of the company.
- **Consistency** – this principle requires that accounting methods and practices be consistent from one period to the next, to ensure comparability of financial statements.
- **Prudence** – this principle requires that a cautious approach be taken to financial reporting, to ensure that all liabilities and expenses are fully recognised, even if they are uncertain,
- **Going concern** – this principle assumes that the company will continue to operate for the foreseeable future, and financial statements should reflect this assumption.
- **Realisation** – this principle requires companies to recognise revenue when it is earned, rather than when it is received.

Overall, these accounting principles help to ensure that financial statements are accurate, reliable and transparent, which is essential for making informed decisions about a company's financial position and performance.

Section 127(5)(b) of the Companies Act, 2019 (Act 992) requires a company to prepare financial statements. Section 32 of the Incorporated Private Partnerships Act, 1962 (Act 152) states that every firm shall cause to be kept proper accounts with respect to its financial position and changes therein, and with respect to the control of, and accounting for, all property acquired whether for resale or for use in the firm's business and with respect to:

- all sums of money received and expended by or on behalf of the firm and the matters in respect of which the receipt and expenditure takes place;
- all sales and purchases by the firm of property, goods and services;
- the assets and liabilities of the firm and the interests of the partners therein.

Every firm shall, at intervals of not more than fifteen months, cause to be prepared a profit and loss account and a balance sheet. The profit and loss account shall give a true and fair view of the profit of loss of the firm for the period to which it relates. The balance sheet shall give a true and fair view of the assets and liabilities and state of affairs of the firm and of the value of the interest of each of the partners therein as at the end of the period to which the profit and loss account relates.

Companies in Ghana are classified into different size classes based on their annual turnover and total assets. This classification is used to determine the level of regulatory compliance and reporting requirements that apply to the company, as well as the level of taxation and other obligations that the company must fulfil.

The size classes of companies in Ghana are as follows:

TABLE 4. Size classes of companies in Ghana

	ANNUAL TURNOVER	TOTAL ASSETS
Micro Enterprises	Less than GHS 100,000	Less than GHS 50,000
Small Enterprises	Between GHS 100,000 and GHS 4 million	Between GHS 50,000 and GHS 2 million
Medium Enterprises	Between GHS 4 million and GHS 10 million	Between GHS 2 million and GHS 5 million
Large Enterprises	More than GHS 10 million	More than GHS 5 million

Source: BBH, 2023

2.3.2 Depreciation types and rates

Companies may choose to adopt any depreciation method recognised by the IFRS and are free to adopt accounting policies suitable for their specific circumstances provided that such policy conforms with the IFRS.

However, for tax purposes a company must still comply with the GRA's prescribed rates and methods.

As previously mentioned, the GRA allows the following three methods for depreciation.

Straight-line depreciation

Straight-line depreciation is a commonly used method for calculating depreciation under the IFRS and GRA. It is a simple method that spreads the cost of the asset evenly over its estimated useful life.

Under the straight-line method, the cost of the asset (less its residual value) is divided by its estimated useful life, resulting in an annual depreciation expense that is the same for each year of the asset's life.

The straight-line method is commonly used for assets that have a predictable and consistent pattern of wear and tear, such as buildings, vehicles and office equipment. It is also a useful method for companies that wish to simplify their accounting process and minimise the risk of error or inconsistency in depreciation calculations.

However, the straight-line method may not always accurately reflect the actual pattern of an asset's usage or wear and tear. In such cases, other depreciation methods, such as units of production or diminishing balance, may be more appropriate.

Units-of-production depreciation

Units-of-production depreciation is a method of calculating depreciation that is based on the actual usage of an asset rather than its age or lifetime. Under this method, depreciation is charged based on the number of units produced, hours used or any other measure of actual usage of the asset.

The fundamental element of the units-of-production depreciation method revolves around the estimation of the anticipated total production or usage, which serves as the basis for calculating the depreciation expense per unit of production or usage. Units-of-production depreciation is commonly used for assets that are directly related to production, such as manufacturing equipment, and assets that are subject to heavy usage, such as vehicles or aeroplanes. It is also useful for companies that wish to allocate the depreciation expense more accurately based on the actual usage of the asset, rather than a predetermined rate or period. However, it can be difficult to accurately estimate the total production or usage of an asset, which can make this method less reliable for certain assets.

Sum-of-the-years'-digits depreciation

Sum-of-the-years'-digits depreciation is a method of calculating depreciation that considers the useful life of an asset. It is also known as the 'accelerated depreciation' method because it results in higher depreciation charges in the early years of an asset's life, compared to the straight-line method.

Under this method, the total number of years of the asset's useful life is added up, and each year's depreciation expense is calculated as a fraction of the total. The numerator of the fraction is the remaining years of useful life, and the denominator is the sum of the years of useful life.

The sum-of-the-years'-digits depreciation method is often used for assets that have a higher rate of depreciation in the early years of their life, such as vehicles or machinery. It allows companies to allocate more of the asset's cost to the early years when it is likely to be generating more revenue. However, this method can result in higher depreciation charges in the early years, which can impact a company's financial statements and tax liability.

Depreciation rates

Depreciation is calculated using the methods mentioned above. In accounting, the reducing-balance method is popular and is applied in accordance with the following rates. RE equipment is typically classified as Class 3 for depreciation purposes. This category encompasses a wide range of tangible assets used in business operations including machinery, equipment and fixtures. RE equipment such as solar panels, wind turbines, hydroelectric generators and related components would fall under this classification.

TABLE 5. Depreciable asset classes and rates

CLASS	DEPRECIABLE ASSETS	RATE
1	Computers and data handling equipment together with peripheral devices	40%
2	<ul style="list-style-type: none"> • Automobiles, buses and minibuses, goods vehicles; construction and earth-moving equipment, heavy general purpose or specialised trucks, trailers and trailer-mounted containers; plant and machinery used in manufacturing. • Assets resulting from expenses incurred by a person in the production of income of that person: <ul style="list-style-type: none"> – in respect of planting vegetation from which timber, rubber, oil palm or other crops are derived; – where the business is a timber concern or a large-scale rubber, oil palm or other long-term crop plantation. 	30%
3	Railcars, locomotives and equipment; vessels, barges, tugs and similar water transportation equipment; aircraft; specialised public utility plant, equipment and machinery; office furniture, fixtures and equipment; any depreciable asset not included in another class.	20%
4	Buildings, structures, and similar works of a permanent nature.	10%
5	Intangible assets	1/useful life

Source: BBH, 2023

2.3.3 Accounting treatments of RE service providers and the C&I consumer

RE service providers in Ghana are required to adhere to generally accepted accounting principles in the country. The accounting treatment of RE service providers depends on the type of entity and the nature of the services they provide. Generally, the financial statements of a RE service provider include an income statement, balance sheet, statement of cash flows and notes to the financial statements.

The accounting treatment for revenue recognition for RE service providers in Ghana typically follows the IFRS. The revenue is recognised when the control of the goods or services transfers to the customer. For example, in the case of a solar power provider, the revenue is recognised when the solar panels are installed and operational, and the customer is using the power generated.

The expenses incurred by the RE service provider are recognised as they are incurred, following the same principle. Depreciation on renewable energy assets such as solar panels, wind turbines and hydropower plants is recognised over the useful life of the asset, using an appropriate depreciation method as per the accounting standards. The accounting standards in Ghana also require RE service providers to make provisions for any impairment of assets.

RE service providers in Ghana may also be subject to specific accounting standards depending on their sector. For example, the accounting standards for electricity utilities may differ from those applicable to a solar panel provider.

In summary, RE service providers in Ghana are required to follow generally accepted accounting principles and adhere to the IFRS for revenue recognition, expense recognition and depreciation methods. However, there may be sector-specific accounting standards that they need to comply with depending on their business activities.

In Ghana, C&I consumers are required to maintain proper accounting records in accordance with the Ghanaian accounting standards (GAS) or IFRS. C&I consumers are expected to prepare financial statements including a statement of comprehensive income, a statement of financial position and a statement of cash flows.

The accounting treatment of C&I consumers depends on the type of RE system they are using. If the C&I consumer owns the RE system, they will record it as a fixed asset on their balance sheet and will be subject to depreciation over the useful life of

the asset. The depreciation method used should be in accordance with GAS or the IFRS, and should reflect the expected pattern of consumption of the asset's future economic benefits.

If the C&I consumer leases the RE system, they will record the lease agreement as a finance lease or an operating lease. If the lease agreement is a finance lease, the C&I consumer will record the leased asset as a fixed asset on their balance sheet and will be subject to depreciation over the useful life of the asset. The depreciation method used should be in accordance with GAS or the IFRS. If the lease agreement is an operating lease, the C&I consumer will record the lease payments as an expense on their statement of comprehensive income over the term of the lease.

In terms of revenue recognition, C&I consumers that generate electricity for sale will recognise revenue based on the sale of electricity to customers. The revenue recognition will be in accordance with GAS or the IFRS.

Lastly, it is important to note that C&I consumers are also required to comply with tax laws and regulations; they are expected to file tax returns and pay taxes in accordance with the GRA regulations.

2.3.4 Ability and methods to carry forward losses

In Ghana, companies are allowed to carry forward tax losses for up to five years. The losses can be used to offset future taxable income during the carry-forward period. The company must have filed tax returns during the loss-making year to be able to carry forward the losses.

In terms of accounting, companies can also carry forward losses on their financial statements. The accounting treatment of the carried-forward losses depends on the nature of the loss. For example, if the loss is due to depreciation, it can be carried forward and deducted from future taxable profits in accordance with tax regulations. If the loss is due to the impairment of assets, it may be recognised as a deferred tax asset on the balance sheet.

Companies in Ghana are required to comply with the IFRS when preparing their financial statements. The IFRS provide guidance on the treatment of losses on financial statements. Companies must disclose the details of any losses carried forward and the reasons for the losses on their financial statements. The losses should be presented as a separate line item on the balance sheet and income statement.

It is important for companies to properly account for their losses to accurately reflect their financial position and to avoid misrepresenting their financial performance.

2.3.5 Possible legal forms

There is one legal form applicable to C&I projects and RE service providers, which is the LLC.

Limited liability company (LLC)

An LLC describes a business structure that provides limited liability protection to its owners while allowing them to retain flexibility in management and ownership.

An LLC is a legal entity separate to its owners, which means that it can enter into contracts, own assets and conduct business operations in its own name. The owners of an LLC are referred to as members, and their ownership interests are represented by membership units, which can be assigned and transferred among members.

One of the main benefits of an LLC is limited liability protection for its members. Therefore, the personal assets of the members are generally protected from the debts and obligations of the LLC. However, members may still be personally liable for their own wrongful acts or negligence.

Another advantage of an LLC is that it offers pass-through taxation, which means that the company itself is not taxed on its income. Instead, the profits and losses of the LLC are passed through to its members and taxed at their individual rates.



3

Framework for C&I projects
in Ghana

3.1 Specific requirements for the upfront purchase model

3.1.1 Description of the upfront purchase model

The upfront purchase model

In general, the upfront purchase model is a business model commonly used in the sale of goods or services. In this model, a customer pays a lump sum upfront for the right to use or access a product or service over a specific period, rather than paying for it on a recurring basis.

This model can be beneficial for both the customer and the business. For the customer, it can provide a sense of ownership and flexibility when using the product or service, without the worry of recurring payments. For the business, it can provide a steady stream of revenue upfront, as well as potentially reducing administrative costs associated with recurring billing.

However, this model also carries some risks for the business, such as the possibility of overestimating the revenue that will be generated from the upfront payment and the potential for customers to feel locked into a product or service they no longer want or need.

In accounting, revenue from an upfront purchase is generally recognised as deferred revenue and recognised over the period during which the customer is entitled to use the product or service. This is effected through the process of amortisation, which gradually reduces the deferred revenue balance and increases revenue recognised on the income statement.

In this study, the consumer will purchase the RE system through the execution of a purchase contract with the constructor who is outside Ghana. The consumer can make an upfront purchase, that is, pay the constructor ahead of the delivery of the system; this could either be by the consumer taking out a loan from a credit institute or by self-financing the purchase of the system. Upon the purchase of the system, the consumer contracts the services of a manager in charge of system operations. The consumer generates electricity from the RE system for their own use while the excess is sold back to the public grid.

Relevant contractual relationships

In the upfront purchase model, the relevant contractual relationships for the off-taker and the RE service provider are the following:

- purchase contract between the constructor of the energy generation system and the consumer whereby the constructor is in charge of project planning and construction;
- loan agreement between the consumer and the credit institute, provided that the financing is not equity-based;
- service contract between the manager and the consumer, whereby the manager is responsible for the operational activity of the energy generation system;
- contract for feeding surplus energy back into the public grid.

3.1.2 Analysis of the accounting and tax implications of the consumer

Accounting implications

In the upfront purchase model, the C&I consumer who purchases the renewable energy system incurs a significant initial cost. This cost is recorded as a fixed asset on the balance sheet of the C&I consumer, reflecting the amount paid for the renewable energy system. The asset is then depreciated over its useful life, and the depreciation expense is recognised as an operating expense on the income statement.

The C&I consumer may also incur additional costs related to installation and maintenance of the renewable energy system, which are recognised as operating expenses on the income statement as incurred.

In terms of the accounting treatment of any financing arrangements, the C&I customer records any financing obtained for the purchase of the renewable energy system as a liability on the balance sheet, with interest expenses recognised on the income statement over the term of the financing arrangement.

Further accounting implications are described following.

PURCHASE OF THE RE SYSTEM

The consumer shall capitalise the RE system as property, plant and equipment (PPE) in line with IAS 16. Depreciation of assets would be effected in line with IAS 16.

IMPORTATION OF COMPONENTS

Import duties are to be capitalised along with the cost of the asset.

FINANCING AGREEMENT

The consumer may recognise loan liabilities in line with IFRS 9. Interest expenses paid or payable by the consumer are to be debited to the income statement. Interest accrued up to the date of commissioning of the RE system is to be capitalised.

SALE OF EXCESS POWER BACK TO THE PUBLIC GRID

The consumer may recognise income from the sale of excess power on the credit income statement. The Net Metering Code established by Ghana's Energy Commission permits the injection of surplus energy into the grid. Within the framework of the net-me-

tering billing mechanism, owners of renewable energy generation facilities receive credits for the electricity they supply to the Distribution Utility's network. These credits are then offset against the electricity purchased from the Distribution Utility⁶.

COST OF OPERATING THE RE SYSTEM (THROUGH A MANAGER OR BY THE CONSUMER THEMSELVES)

The consumer may recognise the costs of operating the RE system themselves or through a manager as debit on the income statement.

STAMP DUTY

Stamp duty paid by the consumer in respect of the financing arrangement is to be expensed on the income statement.

Taxation implications

In the upfront purchase model, the C&I consumer typically owns the renewable energy system and is responsible for its maintenance and operation. As such, the consumer may be eligible for certain tax incentives, such as investment tax credits and accelerated depreciation, which can help reduce the cost of the system.

⁶ Energy Commission (2023): Energy Commission Net Metering Code 2023 (Energy Commission Net Metering Code 2023) (Accessed on 30.03.2023)

FINANCING AGREEMENT

In the case of financing agreements to purchase the upfront purchase model, the following tax implications may arise:

- VAT at a rate of 15% payable plus existing levies on non-interest fees.
- 15% WHT to be deducted from fees and interest payable to the credit institute.
- There is no CGT to be considered.
- Stamp duty is payable at a rate of 1% of the loan amount.
- There are no import duties to be considered.
- With regard to CIT, interest is deductible subject to prescribed restrictions, applicable where the consumer is connected to a foreign credit institute. VAT paid on loan charges is also deductible.

UPFRONT PURCHASE AGREEMENT

In the case of a purchase agreement, the following tax implications may arise:

- VAT at a rate of 15% payable plus existing levies on the earlier of payment or delivery.
- WHT at a rate of 5% is deducted from the purchase price on every milestone payment.
- There is no CGT to be considered. If the consumer sells the RE system in the future, the sale may be subject to CGT at a rate of 15%. However, if the RE system has been owned for more than five years, the gain may be exempt from CGT.
- There is nominal stamp duty on the agreement.
- There are no import duties to be considered.
- With regard to CIT, capital allowance claimable on the system is set at 50% and 25% as initial and annual rates, respectively.

OPERATION OF THE RE SYSTEM

A manager may be hired to operate the RE system. This could trigger the following tax implications:

- The fees to the manager will include VAT at a rate of 15% payable plus existing levies. Reimbursement of expenses will not attract any additional VAT if the manager is already paid with VAT.
- There is WHT at a rate of 15% to be deducted from the fee payable to the manager. No WHT is to be deducted from the payment of reimbursables to the manager.
- There is no CGT to be considered.
- There is nominal stamp duty to be paid on contract of appointment of a manager.
- There are no import duties to be considered.

With regard to CIT, annual fees and VAT paid to the manager are deductible for tax purposes. However, the company may withhold 7.5% WHT on operational services which may form a part of its overall 25% CIT.

SALE OF SURPLUS ENERGY BACK TO THE PUBLIC GRID

In terms of the public feed-in contract, the PURC indicated that taxes are not imposed on energy fed into the grid.

3.1.3 Analysis of the accounting and tax implications of the RE service provider

Accounting implications

In the upfront purchase model, the RE service provider receives payment for the renewable energy system upfront and transfers ownership of the system to the consumer. As a result, the RE service provider will recognise the entire revenue at the time of sale.

However, the RE service provider may also incur significant costs associated with the installation of the renewable energy system, including equipment, labour and other related expenses. These costs will be recognised as expenses as incurred.

Additionally, the RE service provider may need to recognise a provision for warranty costs, which represent the estimated cost of rectifying any defects in the system during the warranty period.

From an accounting perspective, the upfront purchase model may result in significant revenue recog-

nition in the short term, but the associated expenses and warranty costs will be recognised over a longer period. It is important for the RE service provider to accurately estimate and recognise these costs to ensure that the financial statements reflect the true financial position and performance of the company.

Taxation implications

TRANSFER OF THE RE SYSTEM TO THE CONSUMER

In the case of the transfer of the RE system to the consumer, the following tax implications may arise:

- VAT at rate of 15% payable plus existing levies on non-interest fees.
- The payment to the constructor will attract WHT to be deducted by the consumer on every milestone payment. The rate of WHT depends on the type of income and the status of the provider.
- CGT may be applicable if there is any gain realised from the transfer of the RE system. CGT is calculated based on the difference between the transfer price and the adjusted cost base of the system, which considers any capital allowances claimed by the provider.
- There may be stamp duty to be considered.
- There are no import duties to be considered.

- With regard to CIT, the payment received from the consumer will be subject to income tax in Ghana, with the WHT deducted by the consumer recognised as an advance payment.

IMPORTATION OF COMPONENTS

In the case of the importation of components, the following tax implications may arise:

- Most components for RE equipment are exempt from VAT*.
- There is no WHT to be considered.
- There is no CGT to be considered.
- There is no stamp duty to be considered.
- Import duties are payable at specific rates.
- With regard to CIT, the cost is to be deducted from the purchase price to determine the taxable profit.

*The exemption of duty and taxation of imported goods under the VAT Order, 2017 exempts certain renewable energy equipment from VAT. This includes:

- wind-powered generators,
- solar-powered generators,

- solar cells, whether or not in modules or made up into panels,
- other photosensitive semiconductor devices, and
- solar DC generators with an output not exceeding 10 kW.

All solar panels imported into Ghana are exempt from VAT and industrial or energy plant, machinery or equipment is exempt from import duty. Off-grid solar system components are VAT exempt as well. However, solar batteries and solar inverters coupled with batteries are not VAT exempt.

At the construction phase of the project, all materials purchased and services employed to facilitate the construction of the system will be subject to VAT, except for the purchase of materials that have been exempted from VAT by virtue of the VAT Act and the VAT (Modification) Order. The party currently liable for VAT is the party enjoying the benefit of the construction, which is the consumer.

Notwithstanding the exemption conferred on the components above, there is no express exemption for the sale of the energy generation system. Therefore, the eventual transfer of the system from the constructor to the consumer will attract VAT at 15% plus existing levies to be paid by the consumer. VAT at

15% paid can be deducted by the consumer on their income statement, provided that the consumer fulfils the criteria set forth by the GRA.

Exemptions for import duties will be granted on a case-by-case basis depending on the bargaining power of the company. Additionally, according to Section 4(d) of the Renewable Energy Act, 2011 (Act 832), the Energy Commission shall recommend for exemption from customs, levies and other duties equipment and machinery necessary for the development, production and utilisation of renewable energy sources. The Harmonised System Code of Ghana also allows absolute import duty exemptions for solar cells, whether assembled in modules or made up into panels⁷. Companies seeking exemptions will typically apply for the exemption to the customs office of the GRA before the imported items are shipped from their overseas base. The customs office may then advise on the next steps.

Governmental policy perspective on exemptions may be influenced by the objective of attracting manufacturers, assemblers and operators in the renewable energy subsector. This is in line with the projections of the International Trade Administration, as the government aims to implement crucial measures to ensure the security of energy supply in Ghana by 2025⁸.

Solar panels incur no import duty, unless pre-assembled into a generating set (such as a solar home system), in which case a 5% duty applies. Wind turbines and batteries are charged a 5% and 20% import duty, respectively.

The constructor can apply to the Energy Commission for exemptions from import duties/taxes. If any exemptions are granted by the Energy Commission, the constructor can provide the exemptions granted to customs officials in order to lower its import duties/taxes.

Meanwhile, although the consumer is entitled to claim both capital and investment allowances on the RE system, note that the investment allowance will be withdrawn if the RE requirement is sold within five years of purchase. The amount that must be repaid is calculated based on a percentage of the original investment allowance claimed, and this decreases over time until it reaches zero after 5 years.

⁷ GRA (2023): Harmonized System Code (gra.gov.gh) (Accessed on 30.03.2023).

⁸ Country Commercial Guide (2023): Ghana - Energy and Renewables (trade.gov) (Accessed on 30.03.2023)

3.2 Specific requirements for the leasing model with ownership transfer

3.2.1 Description of the leasing model with ownership transfer

The leasing model with ownership transfer

In the leasing model with ownership transfer for C&I projects, the RE service provider retains ownership of the renewable energy system and leases it to the C&I consumer. The lease agreement typically includes an option for the C&I consumer to purchase the system at the end of the lease term at a pre-agreed price, which is often lower than the fair market value of the system.

The constructor may sell the RE system to either the consumer or the credit institute. Where the consumer is the purchaser, the consumer would sell the RE system to the credit institute and lease the system back from the credit institute for the generation of electricity for the use of the consumer. On the other hand, where the sale is to the credit institute, the consumer simply leases the RE system from the purchaser. In the case of either option, the consumer uses the system to generate electricity for oneself and sells any surplus back to the public grid, whilst the consumer appoints a manager to oversee system operations.

From an accounting perspective, the RE service provider records the renewable energy system as a fixed asset on their balance sheet and depreciates it over its useful life. The lease payments received from the C&I consumer are recognised as revenue over the term of the lease, and any profit or loss on the sale of the system to the C&I consumer at the end of the lease term is recorded accordingly.

For the C&I consumer, the lease payments are typically treated as operating expenses and deducted from their taxable income, while the option to purchase the system at the end of the lease term may be recorded as a contingent liability until exercised.

From a taxation perspective, the lease payments are subject to VAT and WHT, while the sale of the system to the C&I consumer at the end of the lease term may be subject to CGT. The tax treatment may vary depending on the specific details of the lease agreement and the applicable tax laws and regulations.

Further tax implications considered in this model are based on the following assumptions:

- Ownership of the asset will revert to the consumer at the end of the lease term.
- The consumer has control over the asset evidenced by the obligation to appoint a manager.
- The consumer is the sole user of the asset.
- The asset is located on the consumer's premises.

Relevant contractual relationships

In the leasing model with ownership transfer, the relevant contractual relationships for the off-taker and the RE service provider are the following:

- purchase contract between the constructor of the energy generation system and the consumer, whereby the constructor is in charge of project planning and construction;
- sale-and-leaseback agreement between the consumer and the credit institute;

- service contract between the manager and the consumer, whereby the manager is responsible for the operational activity of the energy generation system;
- contract for feeding surplus energy into the public grid.

3.2.2 Analysis of the accounting and tax implications of the consumer

Accounting implications

In the leasing model with ownership transfer for C&I projects, the accounting implications for the consumer depend on whether the lease arrangement is classified as a finance lease or an operating lease.

If the lease is classified as a finance lease, the consumer is deemed to have acquired the asset, and the asset should be recognised as an asset on the consumer's balance sheet. The consumer should also recognise a liability equal to the present value of lease payments. The asset should be depreciated over its useful life, and interest expense should be recognised on the lease liability.

If the lease is classified as an operating lease, the asset should not be recognised on the consumer's balance sheet. Instead, lease payments should be recognised as an expense on the consumer's income statement over the lease term on a straight-line basis or using another systematic method.

In either case, any upfront payments made by the consumer to the lessor should be treated as a repayment or asset and recognised as an expense over the lease term. Additionally, any potential residual value guarantees or obligations should be recognised on the consumer's balance sheet as a liability.

It is important for the consumer to carefully evaluate lease terms and classifications, as they can have significant implications on the financial statements and related key ratios, such as leverage ratios and return on assets.

Further accounting implications are described below.

PURCHASE OF THE RE SYSTEM

The consumer shall capitalise the RE system as property, plant and equipment (PPE) in line with IAS 16. Depreciation of assets would be effected in line with IAS 16. Ownership and control are deemed to remain with the consumer irrespective of the lease agreement.

LEASEBACK OF THE RE SYSTEM

Any leaseback of the RE system will be accounted for in line with IFRS 16 as follows:

- on the books of the consumer (on initial recognition) – debit right-of-use asset a/c, credit lease liability a/c with the present value of the minimum lease payment;
- on subsequent recognition – amortisation of right-of-use asset: debit depreciation expense a/c, credit right-of-use asset a/c;
- on the books of the credit institute – debit lease interest receivable a/c, credit lease interest income a/c.

SALE OF EXCESS POWER BACK TO THE PUBLIC GRID

The consumer may recognise income from the sale of excess power on the credit income statement. The Net Metering Code established by the Energy Commission permits the injection of surplus energy into the grid. Within the framework of the net-metering billing mechanism, owners of renewable energy generation facilities receive credits for the electricity they supply to the Distribution Utility's network. These credits are then offset against the electricity purchased from the Distribution Utility⁹.

⁹ Energy Commission (2023): Energy Commission Net Metering Code 2023 (Energy Commission Net Metering Code 2023) (Accessed on 30.03.2023)

COST OF OPERATING THE RE SYSTEM (THROUGH A MANAGER OR BY THE CONSUMER THEMSELVES)

The consumer may recognise the costs of operating the RE system themselves or through a manager as debit on the income statement.

STAMP DUTY

Stamp duty paid by the consumer in respect of the financing arrangement is to be expensed on the income statement.

Taxation implications

PURCHASE OF THE ENERGY GENERATION SYSTEM FROM THE CONSTRUCTOR

In the case of the purchase of the energy generation system from the constructor, the following tax implications may arise:

- VAT at a rate of 15% plus other levies payable on the earlier of payment or delivery.
- WHT at a rate of 10% of the purchase price is to be paid if the constructor is a non-resident of Ghana. However, the rate of WHT depends on the type of income and the status of the provider.
- There is no CGT to be considered.
- There is nominal stamp duty on the agreement.

- There are no import duties to be considered.
- There is no CIT to be considered.

SALE OF THE ENERGY GENERATION SYSTEM TO THE CREDIT INSTITUTE BY THE CONSUMER

This contractual relationship is typically viewed as a financing arrangement that does not equate to an outright sale of the equipment. There are no tax implications that may arise.

LEASEBACK/LEASING OF THE ENERGY GENERATION SYSTEM FROM A CREDIT INSTITUTE

In the case of a leaseback of the energy generation system from the credit institute, the following tax implications may arise:

- If the C&I consumer enters into a lease agreement with the credit institute, they may be subject to VAT on the lease payments at a rate of 15% plus other levies.
- The payment of lease interest may attract WHT. The rate of WHT varies depending on the nature of the payment and the status of the recipient.
- There is no CGT to be considered.
- There is nominal stamp duty on the agreement.
- There are no import duties to be considered.

OPERATION OF THE RE SYSTEM

A manager may be hired to operate the RE system. This could trigger the following tax implications:

- The fees to the manager will include VAT at a rate of 15% payable plus existing levies. Reimbursement of expenses will not attract any additional VAT if the manager is already paid with VAT.
- There is WHT at a rate of 15% to be deducted from the fee payable to the manager. No WHT is to be deducted from the payment of reimbursables to the manager.
- There is no CGT to be considered.
- There is nominal stamp duty to be paid on the contract of appointment of a manager.
- There are no import duties to be considered.
- With regard to CIT, annual fees and VAT paid to the manager are deductible for tax purposes.

SALE OF SURPLUS ENERGY BACK TO THE PUBLIC GRID

In terms of the public feed-in contract, the PURC indicated that taxes are not imposed on energy fed into the grid.

3.2.3 Analysis of the accounting and tax implications of the RE service provider

Accounting implications

In the leasing model with ownership transfer, the RE service provider would construct the C&I project for the needs of the consumer. The constructor may sell the RE system to either the consumer or the credit institute. As a result, the RE service provider will recognise the entire revenue at the time of sale.

However, the RE service provider may also incur significant costs associated with the installation of the renewable energy system, including equipment, labour and other related expenses. These costs will be recognised as expenses as incurred.

Additionally, the RE service provider may need to recognise a provision for warranty costs, which represent the estimated cost of rectifying any defects in the system during the warranty period.

From an accounting perspective, the leasing model with ownership transfer may result in significant revenue recognition in the short term, but the associated expenses and warranty costs will be recognised over a longer period. It is important for the RE service provider to accurately estimate and recognise these costs to ensure that the financial statements reflect the true financial position and performance of the company.

Further accounting implications are described below.

IMPORTATION OF COMPONENTS

Import duties are to be capitalised along with the cost of the asset.

Taxation implications

SALE OF THE RE SYSTEM TO THE CONSUMER OR A CREDIT INSTITUTE

In the case of the transfer of the RE system to the consumer or the credit institute, the following tax implications are triggered:

- If the constructor is VAT-registered, they will be required to charge VAT at a rate of 15% plus levies on the sale of the RE system to the consumer or the credit institute.
- If the constructor is a non-resident or a resident but not an individual, they may be subject to WHT on the sale of the RE system. The WHT rate is 3% in this contractual relationship.
- There is no CGT to be considered.
- There is no stamp duty to be considered.

- There is an import duty of 0.5% of the transaction value to be considered.
- With regard to CIT, the payment received from the consumer will be subject to income tax in Ghana, with the WHT deducted by the consumer recognised as an advance payment.

IMPORTATION OF COMPONENTS

In the case of the importation of components, the following tax implications may arise:

- Most components for RE equipment are exempt from VAT. Any VAT paid on importation is capitalised with the cost of the asset.
- If the constructor is a non-resident or a resident but not an individual, they may be subject to WHT on the sale of the RE system. The WHT rate varies depending on the nature of the payment and the status of the recipient.
- There is no CGT to be considered.
- There is no stamp duty to be considered.
- Import duties are payable at specific rates.
- With regard to CIT, all costs are capitalised and recovered via capital allowances.

The exemption of duty and taxation of imported goods under VAT Order, 2017 exempts certain renewable energy equipment from VAT. This includes:

- wind-powered generators,
- solar-powered generator,
- solar cells, whether or not in modules or made up into panels,
- other photosensitive semiconductor devices, and
- solar DC generators with an output not exceeding 10 kW.

All solar panels imported into Ghana are exempt from VAT and industrial or energy plant, machinery or equipment is exempt from import duty. Off-grid solar system components are VAT exempt as well. However, solar batteries and solar inverters coupled with batteries are not VAT exempt.

At the construction phase of the project, all materials purchased and services employed to facilitate the construction of the system will be subject to VAT, except for the purchase of materials that have been exempted from VAT by virtue of the VAT Act and the VAT (Modification) Order. The party currently liable for VAT is the party enjoying the benefit of the construction, which is the consumer.

Notwithstanding the exemption conferred on the components above, there is no express exemption for the sale of the energy generation system. Therefore, the eventual transfer of the system from the constructor to the consumer will attract VAT at 15% plus existing levies to be paid by the consumer. VAT of 15% paid can be deducted by the consumer on their income statement, provided that the consumer fulfils the criteria set forth by the GRA.

Exemptions for import duties will be granted on a case-by-case basis depending on the bargaining power of the company. Additionally, according to Section 4(d) of the Renewable Energy Act, 2011 (Act 832), the Energy Commission shall recommend for exemption from customs, levies and other duties equipment and machinery necessary for the development, production and utilisation of renewable energy sources. The Harmonised System Code of Ghana also allows absolute import duty exemptions for solar cells, whether assembled in modules or made up into panels¹⁰. Companies seeking exemptions will typically apply for the exemption to the customs office of the GRA before the imported items are shipped from their overseas base. The customs office may then advise on the next steps.

Governmental policy perspective on exemptions may be influenced by the objective of attracting manufacturers, assemblers and operators in the renewable energy subsector. This is in line with the projections of the International Trade Administration, as the government aims to implement crucial measures to ensure the security of energy supply in Ghana by 2025¹¹.

Solar panels incur no import duty, unless pre-assembled into a generating set (such as a solar home system), in which case a 5% duty applies. Wind turbines and batteries are charged a 5% and 20% import duty, respectively.

10 GRA (2023): Harmonized System Code (gra.gov.gh) (Accessed on 30.03.2023).

11 Country Commercial Guide (2023): Energy and Renewables, Ghana - Energy and Renewables (trade.gov) (Accessed on 30.03.2023)

3.3 Specific requirements for the renting model with ownership transfer

3.3.1 Description of the renting model with ownership transfer

The renting model with ownership transfer

In the renting model with ownership transfer for C&I projects, the RE service provider (lessor) retains ownership of the renewable energy system and leases it to the C&I consumer (lessee) for a fixed term. At the end of the lease term, ownership of the renewable energy system is transferred to the lessee. The lease payments cover the financing costs and the depreciation of the renewable energy system. The rental payments are often structured to be lower than the energy savings achieved, allowing the lessee to generate cost savings from day one of the lease term.

The accounting treatment of the renting model with ownership transfer for C&I projects involves recognising the lease payment as income for the RE service provider over the term of the lease. The lease payments are also recognised as an expense for the C&I consumer. The renewable energy system is recorded as an asset on the lessor's balance sheet and is depre-

ciated over its useful life, while the lessee records the rental payments as an operating expense and the renewable energy system as a leased asset on their balance sheet.

When ownership of the renewable energy system is transferred to the lessee at the end of the lease term, the lessor recognises the transfer as a sale and records a gain or loss on the sale. The lessee records the renewable energy system as a purchased asset on their balance sheet, and the cost of the system is recognised as a capital expenditure.

Overall, the renting model with ownership transfer allows the C&I consumer to access renewable energy technology without incurring upfront costs or taking on debt, while the RE service provider generates a steady stream of income from the lease payments and retains ownership of the renewable energy system until the end of the lease term.

Relevant contractual relationships

In the renting model with ownership transfer, the relevant contractual relationships for the off-taker and the RE service provider are the following:

- rental contract between the constructor of the energy generation system and the consumer, whereby the constructor is in charge of project planning and construction;
- loan agreement between the constructor and the credit institute, provided that the financing is not equity-based;
- service contract between the manager and the consumer, whereby the manager is responsible for the operational activity of the energy generation system;
- contract for feeding surplus energy into the public grid.

3.3.2 Analysis of the accounting and tax implications of the consumer

Accounting implications

In the renting model with ownership transfer for C&I projects, the consumer is essentially leasing the renewable energy system for a set period with the option to eventually own it.

From an accounting perspective, the consumer would record the periodic lease payments as an operating expense on their income statement. If the lease agreement includes a bargain purchase option, the consumer may also record an asset on their balance sheet for the estimated value of the renewable energy system at the end of the lease term.

If the consumer chooses to exercise the ownership transfer option, the asset would be transferred to their balance sheet and the lease payments would be discontinued. The transfer would be recorded at the fair market value of the system at the time of the transfer and any difference between the fair market value and the carrying value of the asset on the lessor's balance sheet would be recognised as a gain or loss on their income statement.

It is important to note that the specific accounting treatment may vary depending on the lease agreement and applicable accounting standards.

Further accounting implications are described below.

PURCHASE OF THE RE SYSTEM

The consumer shall capitalise the asset upon eventual transfer from the constructor at the transfer value in line with IAS 16. Depreciation of the asset would be effected by the party capitalising at each stage in line with IAS 16.

RENTAL OF THE RE SYSTEM

The lease rental expense is to be debited to the income statement of the consumer.

SALE OF EXCESS POWER BACK TO THE PUBLIC GRID

The consumer may recognise income from the sale of excess power on the credit income statement. The Net Metering Code established by the Energy Commission permits the injection of surplus energy into the grid. Within the framework of the net-metering billing mechanism, owners of renewable energy generation facilities receive credits for the electricity they supply to the Distribution Utility's network. These credits are then offset against the electricity purchased from the Distribution Utility¹².

COST OF OPERATING THE RE SYSTEM (THROUGH A MANAGER OR BY THE CONSUMER THEMSELVES)

The consumer may recognise the costs of operating the RE system themselves or through a manager as debit on the income statement.

STAMP DUTY

Stamp duty paid by the consumer in respect of the financing arrangement is to be expensed on the income statement.

Taxation implications

Renting the energy generation system from the constructor

In the case of renting the energy generation system from the constructor, the following tax implications may arise:

- VAT at a rate of 15% plus levies payable on the lease rental.
- If the consumer is a non-resident or a resident but not an individual, they may be subject to WHT

¹² Energy Commission (2023): Energy Commission Net Metering Code 2023 (Energy Commission Net Metering Code 2023) (Accessed on 30.03.2023)

on the rental payment of the RE system. The WHT rate varies depending on the nature of the payment and the status of the recipient.

- There is no CGT to be considered.
- There is nominal stamp duty on the agreement.
- There is no import duty to be considered.
- With regard to CIT, there is no capital allowance claimable. All rentals are deductible expenses for the purpose of CIT.

SALE OF SURPLUS ENERGY BACK TO THE PUBLIC GRID

In terms of the public feed-in contract, the PURC indicated that taxes are not imposed on energy fed into the grid.

EVENTUAL PURCHASE OF THE RE SYSTEM

In the case of the eventual purchase of the RE system, the following tax implications may arise:

- VAT at a rate of 15% plus other levies payable on the earlier of payment or delivery.
- WHT at a rate of 10% of the purchase price is to be paid if the constructor is a non-resident of Ghana. However, the rate of WHT depends on the type of income and the status of the provider.

- There is no CGT to be considered.
- There is nominal stamp duty on the agreement.
- There are no import duties to be considered.
- There is no CIT to be considered.

3.3.3 Analysis of the accounting and tax implications of the RE service provider

Accounting implications

In the renting model with ownership transfer, the RE service provider retains ownership of the renewable energy system and leases it to the C&I consumer. The rental payments made by the C&I consumer typically include a portion that goes towards the purchase of the system over the lease term, after which ownership is transferred to the C&I consumer.

From an accounting perspective, the RE service provider initially records the renewable energy system as a fixed asset on their balance sheet. As rental payments are received, a portion of these payments is recognised as revenue, and the portion allocated to the purchase of the system is recorded as a reduction in the asset value of the system on the RE service provider's balance sheet.

The C&I consumer records the rental payments as operating expenses on their income statement. As the payments are made, the C&I consumer also records a liability on their balance sheet representing the outstanding amount owed to the RE service provider for the purchase of the system.

Once the ownership transfer occurs, the RE service provider records a gain or loss on the sale of the system, based on the difference between the net book value of the system and the purchase price paid by the C&I consumer. The C&I consumer records the system as a fixed asset on their balance sheet at the purchase price paid.

Overall, the accounting treatment for the renting model with ownership transfer is similar to that of the leasing model with ownership transfer, the main difference being that the C&I consumer's payments are classified as operating expenses rather than lease payments.

Further accounting implications are described below.

PURCHASE OF THE RE SYSTEM

The constructor shall capitalise the RE system as property, plant and equipment (PPE) during the rental period in line with IAS 16. Depreciation of the asset would be effected by the party capitalising at each stage in line with IAS 16.

IMPORTATION OF COMPONENTS

Import duties are to be capitalised along with the cost of the asset.

RENTAL OF THE RE SYSTEM

The lease rental income is to be credited to the income statement of the constructor.

FINANCING ARRANGEMENT WITH A CREDIT INSTITUTE

The constructor shall recognise loan liability in line with IFRS 9. Interest expenses paid or payable by the constructor are to be debited on the income statement. Interest accrued up to the date of commissioning of the RE system is to be capitalised.

Taxation implications

FINANCING ARRANGEMENT

In the case of a financing arrangement, the following tax implications may arise:

- VAT at a rate of 15% plus levies is payable on non-interest fees.
- WHT may be applicable, depending on the nature of the payments made.
- There is no CGT to be considered.

- There is stamp duty payable at a rate of 0.5% of the loan amount.
- There are no import duties to be considered.
- With regard to CIT, the interest is deductible subject to prescribed restrictions, applicable where the consumer is connected to a foreign credit institute. VAT paid on loan charges is also deductible.

IMPORTATION OF COMPONENTS

In the case of the importation of components, the following tax implications may arise:

- Most components for RE equipment are exempt from VAT. Any VAT paid on importation is capitalised with the cost of the asset.
- If the constructor is a non-resident or a resident but not an individual, they may be subject to WHT on the sale of the RE system. The WHT rate varies depending on the nature of the payment and the status of the recipient.
- There is no CGT to be considered.
- There is no stamp duty to be considered.
- Import duties are payable at specific rates.
- With regard to CIT, all costs are capitalised and recovered via capital allowances.

The exemption of duty and taxation of imported goods under VAT Order, 2017 exempts certain renewable energy equipment from VAT. This includes:

- wind-powered generators,
- solar-powered generators,
- solar cells, whether or not in models or made up into panels,
- other photosensitive semiconductor devices, and
- solar DC generators with an output not exceeding 10 kW.

All solar panels imported into Ghana are exempt from VAT and industrial or energy plant, machinery or equipment is exempt from import duty. Off-grid solar system components are VAT exempt as well. However, solar batteries and solar inverters coupled with batteries are not VAT exempt.

At the construction phase of the project, all materials purchased and services employed to facilitate the construction of the system will be subject to VAT, except for the purchase of materials that have been exempted from VAT by virtue of the VAT Act and the VAT (Modification) Order. The party currently liable for VAT is the party enjoying the benefit of the construction, which is the consumer.

Notwithstanding the exemption conferred on the components above, there is no express exemption for the sale of the energy generation system. Therefore, the eventual transfer of the system from the constructor to the consumer will attract VAT at 15% plus existing levies to be paid by the consumer. VAT of 15% paid can be deducted by the consumer on their income statement, provided that the consumer fulfils the criteria set forth by the GRA.

Exemptions for import duties will be granted on a case-by-case basis depending on the bargaining power of the company. Additionally, according to Section 4(d) of the Renewable Energy Act, 2011 (Act 832), the Energy Commission shall recommend for exemption from customs, levies and other duties equipment and machinery necessary for the development, production and utilisation of renewable energy sources. The Harmonised System Code of Ghana also allows absolute import duty exemptions for solar cells, whether assembled in modules or made up into panels¹³. Companies seeking exemptions will typically apply for the exemption to the customs office of the GRA before the imported items are shipped from their overseas base. The customs office may then advise on the next steps.

¹³ GRA (2023): Harmonized System Code (gra.gov.gh) (Accessed on 30.03.2023).

¹⁴ Country Commercial Guide (2023): Energy and Renewables, Ghana - Energy and Renewables (trade.gov) (Accessed on 30.03.2023)

Governmental policy perspective on exemptions may be influenced by the objective of attracting manufacturers, assemblers and operators in the renewable energy subsector. This is in line with the projections of the International Trade Administration, as the government aims to implement crucial measures to ensure the security of energy supply in Ghana by 2025¹⁴.

Solar panels incur no import duty, unless pre-assembled into a generating set (such as a solar home system), in which case a 5% duty applies. Wind turbines and batteries are charged a 5% and 20% import duty, respectively.

RENTING THE ENERGY GENERATION SYSTEM TO THE CONSUMER

When renting the energy system to the C&I consumer, the following tax implications may arise:

- There is VAT at a rate of 15% plus levies to be applied. The constructor will act as an agent for the collection of VAT.
- The rental payments to the constructor may be subject to WHT, depending on the nature of the payment and the status of the recipient.
- There is no CGT to be considered.

- There is nominal stamp duty to be considered.
- Import duties may be applied by the constructor.
- With regard to CIT, rents received are subject to CIT at a rate of 25%.

OPERATION OF THE RE SYSTEM

A manager may be hired to operate the RE system. This could trigger the following tax implications:

- The fees to the manager will include VAT at a rate of 15% payable plus existing levies. Reimbursement of expenses will not attract any additional VAT if the manager is already paid with VAT.
- There is WHT at a rate of 15% to be deducted from the fee payable to the manager. No WHT is to be deducted from the payment of reimbursables to the manager.
- There is no CGT to be considered.
- There is nominal stamp duty to be paid on the contract of appointment of a manager.
- There are no import duties to be considered.
- With regard to CIT, annual fees and VAT paid to the manager are deductible for tax purposes.

EVENTUAL SALE OF THE RE SYSTEM TO THE CONSUMER

In the case of the transfer of the RE system to the consumer, the following tax implications may arise:

- There is VAT at a rate of 15% plus levies to be applied. The constructor will act as an agent for the collection of VAT.
- If the RE service provider is a foreign entity, the sale proceeds will be subject to WHT at a rate of 15%.
- Gains from the sale of the RE system to the consumer will attract CGT at a rate of 15%.
- There is stamp duty of 0.5% to be considered.
- There are no import duties to be considered.
- With regard to CIT, the income generated from the sale of the energy system to the consumer is subject to CIT at 25%.

Please note that an RE system with a generation capacity of more than 5 MW will require approval and a licence to own the RE system in Ghana. Therefore, if this model is to be adopted, the constructor will have to be a Ghanaian entity.



3.4 Specific requirements for the build-own-operate-transfer (BOOT) model and power purchase agreement (PPA)

3.4.1 Description of the BOOT model and PPA

The BOOT model and PPA

The BOOT model and PPA are two common models used for C&I renewable energy projects.

Under the BOOT model, the developer or service provider designs, finances, builds and operates the renewable energy project for a defined period. The developer owns and operates the project during this period and recovers the investment costs through the sale of energy generated by the project. At the end of the agreed period, ownership of the project is transferred to the C&I consumer.

On the other hand, a PPA is an agreement between the C&I consumer and the developer or service provider where the developer agrees to design, finance, build and operate the renewable energy project for the C&I consumer, who agrees to purchase the energy generated by the project for a fixed period at an agreed price.

From an accounting perspective, in the BOOT model, the developer or service provider records the investment costs, depreciation and operating expenses

during the project's operating period. The developer also records the energy sales revenue. On the other hand, the C&I consumer records the energy purchases as expenses on their income statement.

In the PPA model, the developer or service provider records the investment costs, depreciation and operating expenses of the renewable energy project. The revenue recorded will be the energy sales revenue received from the C&I consumer. The C&I consumer records the energy purchases as expenses on their income statement.

In both models, the transfer of ownership of the renewable energy project to the C&I consumer may result in additional accounting and tax implications, which need to be carefully considered and addressed.

The Energy Commission has officially announced the lifting of the 2017 moratorium on the issuance of new wholesale electricity supply licences in the renewable energy sector, effective from 5 April 2023. The primary aim of this decision is to facilitate the development of the renewable energy market and

support Ghana in achieving its climate objectives outlined in the Paris Agreement¹⁵.

In a significant development, on Thursday 6 April 2023, the Electricity Company of Ghana (ECG) entered into a PPA with AKSA Energy Company Limited for a 205 MW thermal power plant. This 240-month agreement was signed as part of the strategic efforts to enhance power reliability in the middle belt of Ghana and to promote power exports¹⁶.

In this study, we look at the following case: the constructor builds, owns and operates the RE system with a loan facility from the credit institute. Thereafter, the constructor executes a PPA through which it sells power to the consumer. The consumer will use the power purchased from the constructor and sells the excess power generated back to the public grid.

¹⁵ Lexology (2023): Moratorium On New Wholesale Electricity Supply Licenses Lifted - Lexology (lexology.com) (Accessed on 20.04.2023).

¹⁶ Electric Company of Ghana Limited (2023): Electricity Company of Ghana Ltd - Ghana signs new Power Purchase Agreement (ecg.com.gh) (ecg.com) (Accessed on 20.04.2023)

Relevant contractual relationships

In the BOOT model with PPA, the relevant contractual relationships for the off-taker and the RE service provider are the following:

- Loan agreement between the constructor and the credit institute, provided that the financing is not equity-based.

3.4.2 Analysis of the accounting and tax implications of the consumer

Accounting implications

In the BOOT model with PPA for C&I projects, the consumer does not have any ownership rights to the system. The RE service provider or developer retains ownership of the system throughout the BOOT period, which is typically 10–15 years.

As the consumer does not have any ownership rights to the system, it does not have any assets or liabilities to record on their balance sheet. Instead, the consumer enters into a long-term contract with the RE service provider to purchase the electricity generated by the system of the RE service provider at a fixed price per unit for the duration of the PPA.

Under the PPA, the consumer agrees to purchase all or a portion of the electricity generated by the system

from the RE service provider at a predetermined price. This price is typically lower than the prevailing electricity rates, providing the consumer with cost savings on their electricity bills.

From an accounting perspective, the consumer records the payments made to the RE service provider for electricity as an expense on their income statement. As the payments are fixed for the duration of the PPA, the consumer can accurately forecast their electricity costs for the term of the agreement.

It is important for the consumer to ensure that the terms of the PPA are in line with their long-term business objectives, as any changes to the agreement may result in significant financial implications. The consumer should also ensure that the PPA includes provisions for regular maintenance and repair of the system, to ensure optimal performance and to minimise downtime.

Overall, the BOOT model with PPA provides the consumer with a cost-effective and reliable source of electricity without the need for significant upfront capital investment.

Further accounting implications are described below.

PURCHASE OF THE RE SYSTEM

The consumer shall capitalise the asset after eventual transfer from the constructor in line with IAS 16.

The depreciation of the asset would be effected by the party capitalising at each stage in line with IAS 16.

SALE AND PPA

The cost of power purchased is to be debited to the income statement of the consumer.

SALE OF EXCESS POWER BACK TO THE PUBLIC GRID

The consumer may recognise income from the sale of excess power on the credit income statement. The Net Metering Code established by the Energy Commission permits the injection of surplus energy into the grid. Within the framework of the net-metering billing mechanism, owners of renewable energy generation facilities receive credits for the electricity they supply to the Distribution Utility's network. These credits are then offset against the electricity purchased from the Distribution Utility¹⁷.

COST OF OPERATING THE RE SYSTEM (THROUGH A MANAGER OR BY THE CONSUMER THEMSELVES)

The consumer may recognise the costs of operating the RE system themselves or through a manager as debit on the income statement.

¹⁷ Energy Commission (2023): Energy Commission Net Metering Code 2023 (Energy Commission Net Metering Code 2023) (Accessed on 30.03.2023)

STAMP DUTY

Stamp duty paid by the consumer in respect of the financing arrangement is to be expensed on the income statement.

Taxation implications**PURCHASE OF POWER FROM THE CONSTRUCTOR**

When purchasing power from the constructor, the following tax implications may arise:

- VAT at a rate of 15% plus levies is applicable to the purchase of power by the consumer. VAT paid is recoverable from output VAT generated from sales.
- WHT is to be deducted at a rate of 15% of the power purchase price if the RE service provider is a foreign entity.
- There is no CGT to be considered.
- There is no stamp duty payable on the power purchase agreement.
- There are no import duties to be considered.
- With regard to CIT, the power purchase cost is deductible from the taxable profit.

SALE OF SURPLUS ENERGY BACK TO THE PUBLIC GRID

In terms of the public feed-in contract, the PURC indicated that taxes are not imposed for energy fed into the grid.

EVENTUAL PURCHASE OF THE RE SYSTEM

In the case of the eventual purchase of the RE system, the following tax implications may arise:

- VAT at a rate of 15% plus other levies payable on the earlier of payment or delivery.
- WHT at a rate of 10% of the purchase price is to be paid if the constructor is a non-resident of Ghana. However, the rate of WHT depends on the type of income and the status of the provider.
- There is no CGT to be considered.
- There is nominal stamp duty on the agreement.
- There are no import duties to be considered.
- There is no CIT to be considered.

3.4.3 Analysis of the accounting and tax implications of the RE service provider**Accounting implications**

In the BOOT model with PPA for C&I projects, the constructor is responsible for designing, building and owning the renewable energy project until the end of the PPA term. During this time, the constructor is also responsible for operating and maintaining the project.

From an accounting perspective, the constructor will need to recognise the construction costs as an asset on their balance sheet, which will be depreciated over the useful life of the project. They will also need to recognise the revenue from the PPA as income over the term of agreement.

Additionally, the constructor may need to account for any financing arrangements that they enter into to fund the construction of the project. If they take on debt or other financing, they will need to recognise this as liability on their balance sheet and make interest payments over the life of the financing.

Overall, the accounting implications for the constructor in the BOOT model with PPA for C&I projects will involve recognising the costs of construction, accounting for any financing arrangements and recognising revenue over the term of the PPA.

Further accounting implications are described below.

PURCHASE OF THE RE SYSTEM

The constructor shall capitalise the RE system as an asset at build-own-and-operate stage in line with IAS 16. Depreciation of the asset would be effected by the party capitalising at each stage in line with IAS 16.

IMPORTATION OF COMPONENTS

Import duties are to be capitalised along with the cost of the asset.

FINANCING ARRANGEMENT WITH A CREDIT INSTITUTE

The constructor shall recognise loan liability in line with IFRS 9. Interest expenses paid or payable by the constructor are to be debited on the income statement. Interest accrued up to the date of commissioning of the RE system is to be capitalised.

SALE AND PPA

Income from the sale of power is to be credited to the income statement of the constructor.

Taxation implications

FINANCING ARRANGEMENT

In the case of a financing arrangement, the following tax implications may arise:

- VAT at a rate of 15% plus levies payable.
- There is 15% WHT to be deducted from fees and interest payable to the credit institute.
- There is no CGT to be considered.
- There is stamp duty payable at a rate of 0.5% of the loan amount.
- There are no import duties to be considered.
- With regard to CIT, the interest is deductible subject to prescribed restrictions, applicable where the consumer is connected to a foreign credit institute. VAT paid on loan charges is also deductible.

IMPORTATION OF COMPONENTS

In the case of the importation of components, the following tax implications may arise:

- Most components for RE equipment are exempt from VAT. Any VAT paid on importation is capitalised with the cost of the asset.
- If the constructor is a non-resident or a resident

but not an individual, they may be subject to WHT on the sale of the RE system. The WHT rate varies depending on the nature of the payment and the status of the recipient.

- There is no CGT to be considered.
- There is no stamp duty to be considered.
- Import duties are payable at specific rates.

The exemption of duty and taxation of imported goods under VAT Order, 2017 exempts certain renewable energy equipment from VAT. This includes:

- wind-powered generators,
- solar-powered generator,
- solar cells, whether or not in modules or made up into panels,
- other photosensitive semiconductor devices, and
- solar DC generators with an output not exceeding 10 kW.

All solar panels imported into Ghana are exempt from VAT and industrial or energy plant, machinery or equipment is exempt from import duty. Off-grid solar system components are VAT exempt as well. However, solar batteries and solar inverters coupled with batteries are not VAT exempt.

At the construction phase of the project, all materials purchased and services employed to facilitate the construction of the system will be subject to VAT, except for the purchase of materials that have been exempted from VAT by virtue of the VAT Act and the VAT (Modification) Order. The party currently liable for VAT is the party enjoying the benefit of the construction, which is the consumer.

Notwithstanding the exemption conferred on the components above, there is no express exemption for the sale of the energy generation system. Therefore, the eventual transfer of the system from the constructor to the consumer will attract VAT at 15% plus existing levies to be paid by the consumer. VAT of 15% paid can be deducted by the consumer on their income statement, provided that the consumer fulfils the criteria set forth by the GRA.

Exemptions for import duties will be granted on a case-by-case basis depending on the bargaining power of the company. Additionally, according to Section 4(d) of the Renewable Energy Act, 2011 (Act 832), the Energy Commission shall recommend for exemption from customs, levies and other duties equipment and machinery necessary for the development, production and utilisation of renewable energy sources. The Harmonised System Code of Ghana also allows absolute import duty exemptions for solar cells, whether assembled in modules or made up into

panels¹⁸. Companies seeking exemptions will typically apply for the exemption to the customs office of the GRA before the imported items are shipped from their overseas base. The customs office may then advise on the next steps.

Governmental policy perspective on exemptions may be influenced by the objective of attracting manufacturers, assemblers and operators in the renewable energy subsector. This is in line with the projections of the International Trade Administration, as the government aims to implement crucial measures to ensure the security of energy supply in Ghana by 2025¹⁹.

Solar panels incur no import duty, unless pre-assembled into a generating set (such as a solar home system), in which case a 5% duty applies. Wind turbines and batteries are charged a 5% and 20% import duty, respectively.

¹⁸ GRA (2023): Harmonized System Code (gra.gov.gh) (Accessed on 30.03.2023).

¹⁹ Country Commercial Guide (2023): Ghana - Energy and Renewables (trade.gov) (Accessed on 30.03.2023)

SALE OF POWER TO THE CONSUMER

When selling power to the consumer, the following tax implications may arise:

- There is VAT of 15% plus levies to be applied.
- The payment to the constructor will attract 15% WHT to be deducted by the consumer on every milestone payment.
- There is no CGT to be considered.
- There is no stamp duty to be considered.
- There are no import duties to be considered.
- With regard to CIT, the income generated from the PPA is subject to CIT at 25%.

OPERATION OF THE RE SYSTEM

A manager may be hired to operate the RE system.

This could trigger the following tax implications:

- The fees to the manager will include VAT at a rate of 15% payable plus existing levies. Reimbursement of expenses will not attract any additional VAT if the manager is already paid with VAT.
- There is WHT at a rate of 15% to be deducted from the fee payable to the manager. No WHT is to be deducted from the payment of reimbursables to the manager.
- There is no CGT to be considered.
- There is nominal stamp duty to be paid on the contract of appointment of a manager.
- There are no import duties to be considered.
- With regard to CIT, annual fees and VAT paid to the manager are deductible for tax purposes.

EVENTUAL SALE OF THE RE SYSTEM TO THE CONSUMER

In the case of the transfer of the RE system to the consumer, the following tax implications may arise:

- There is VAT at a rate of 15% plus levies to be applied. The constructor will act as an agent for the collection of VAT.
- If the RE service provider is a foreign entity, the sale proceeds will be subject to WHT at a rate of 15%.
- Gains from the sale of the RE system to the consumer will attract CGT at a rate of 15%.
- There is stamp duty of 0.5% to be considered.
- There are no import duties to be considered.
- With regard to CIT, the income generated from the sale of the energy system to the consumer is subject to CIT at 25%.

Please note that an RE system with a generation capacity of more than 5 MW will require approval and a licence to own the RE system in Ghana. Therefore, if this model is to be adopted, the constructor will have to be a Ghanaian entity.

3.5 Specific requirements for the third-party ownership (TPO) model

3.5.1 Description of the TPO model

The TPO model with ownership transfer

The TPO model is a financing arrangement in which a third party, such as a developer or investor, owns and operates a renewable energy system on a customer's property. In this model, the customer enters into a PPA with the third-party owner to purchase the energy generated by the system at an agreed rate for a set period.

In this study, the constructor transfers the RE system to the special purpose vehicle (SPV), which in turn either leases the system to the consumer or sells power to the consumer upon the execution of a PPA, whilst remaining the manager of RE system operations. The consumer either leases the system or purchases power for its use while the excess electricity generated is sold back to the public grid. Furthermore, upon expiration of the PPA, the SPV can either sell the RE system to the consumer or renew the PPA arrangement.

The accounting implications for the customer in the TPO model with PPA depend on the specific terms of the agreement, but, generally, the customer is treated as a purchaser of energy under the PPA. The

customer may also be required to make an upfront payment or agree to a minimum purchase amount over the term of the agreement.

From an accounting perspective, the customer would record the energy purchased under the PPA as an expense on their income statement, and any upfront payment or deposits as an asset on their balance sheet. The customer would not record the renewable energy system as an asset or liability, as they do not own or operate the system.

The accounting implications for the third-party owner in the TPO model with PPA for C&I projects involve recording the renewable energy system as an asset and any financing or lease payments made by the customer as revenue on their income statement. The third-party owner may also be eligible for tax credits or other incentives related to the installation and operation of the renewable energy system.

It is important to note that the accounting treatment of the TPO model may vary depending on the specific accounting standards and regulations applicable to the jurisdiction in which the project is located.

Relevant contractual relationships

In the TPO model, the relevant contractual relationships for the off-taker and the RE service provider are the following:

- agreement on the transfer of equipment between the constructor and the SPV;
- loan agreement between the SPV and the leasing company located in Germany;
- lease agreement or PPA between the SPV and the consumer;
- service contract between the manager and the consumer, whereby the manager is responsible for the operational activity of the energy generation system;
- contract for feeding surplus energy into the public grid.

3.5.2 Analysis of the accounting and tax implications of the consumer

Accounting implications

In the TPO model, the SPV owns and operates the renewable energy system and sells the electricity generated to the C&I consumer under a PPA.

From an accounting perspective, the C&I consumer typically treats the payments made to the SPV as operating expenses, and the payments made under the PPA as a reduction in electricity expenses. The C&I consumer does not recognise any assets or liabilities related to the renewable energy system.

The C&I consumer also needs to consider the potential impact of changes to the PPA terms on their financial statements. For example, changes to the pricing or quantity of electricity sold under the PPA could result in increases or decreases in operating expenses. Similarly, changes in the renewable energy system's capacity or expected useful life could impact depreciation expenses.

Overall, the TPO model offers the C&I consumer the benefits of accessing renewable energy without incurring the upfront costs of purchasing and installing the system. However, the C&I consumer should carefully consider the terms of the PPA and the financial implications of the agreement before entering into the arrangement.

Further accounting implications are described below.

RENTAL OF THE RE SYSTEM

The lease rental income is to be credited to the income statement of the consumer.

SALE AND PPA

The consumer may recognise the costs of power purchase as debit to the income statement.

SALE OF EXCESS POWER BACK TO THE PUBLIC GRID

The consumer may recognise income from the sale of excess power on the credit income statement. The Net Metering Code established by the Energy Commission permits the injection of surplus energy into the grid.

Within the framework of the net-metering billing mechanism, owners of renewable energy generation facilities receive credits for the electricity they supply to the Distribution Utility's network. These credits are then offset against the electricity purchased from the Distribution Utility²⁰.

²⁰ Energy Commission (2023): Energy Commission Net Metering Code 2023 (Energy Commission Net Metering Code 2023) (Accessed on 30.03.2023)

COST OF OPERATING THE RE SYSTEM (THROUGH A MANAGER OR BY THE CONSUMER THEMSELVES)

The consumer may recognise the costs of operating the RE system themselves or through a manager as debit on the income statement.

STAMP DUTY

Stamp duty paid by the consumer in respect of the financing arrangement is to be expensed on the income statement.

Taxation implications

PROJECT PLANNING AND CONSTRUCTION

There are no tax implications for project planning and construction in this model.

LEASING THE ENERGY GENERATION SYSTEM FROM THE SPV

In the case of leasing the energy generation system from the SPV, the following tax implications may arise:

- VAT is payable at a rate of 15% plus levies on the lease rental.

- The payment of rental attracts a WHT deduction of 15% if the SPV is a foreign entity.
- There is no CGT to be considered.
- There is nominal stamp duty on the agreement.
- There are no import duties to be considered.
- With regard to CIT, profit generated from supply is subject to CIT at a rate of 25%.

PURCHASE OF POWER UNDER A PPA

When purchasing power from the SPV under a PPA, the following tax implications may arise:

- VAT at a rate of 15% plus levies is payable on the power purchased by the consumer. VAT paid is recoverable from output VAT generated from sales.
- WHT is to be deducted at a rate of 15% of the power purchase price if the SPV is a foreign entity.
- There is no CGT to be considered.
- There is no stamp duty payable on the power purchase agreement.
- There are no import duties to be considered.
- With regard to CIT, the power purchase cost is deductible from the taxable profit. There is no capital allowance claimable.

SALE OF SURPLUS ENERGY TO PUBLIC GRID

In the case of the sale of surplus energy back to the public grid, the following tax implications may arise:

- There is VAT at a rate of 15% payable plus existing levies to be included in the invoice issued to grid operators. Failure to charge VAT will result in the consumer bearing the VAT cost.
- The payment from grid operators is to attract WHT at rate of 5–20%. This is to be used to offset future income tax liabilities.
- There is no CGT to be considered.
- There is nominal stamp duty to be paid on the contract of supply to the grid.
- There are no import duties to be considered.

With regard to CIT, the profit generated from supply is subject to CIT at 25%. However, the C&I consumer may be eligible for tax deductions such as depreciation on the RE system and other allowable expenses.

3.5.3 Analysis of the accounting and tax implications of the RE service provider

Accounting implications

In the TPO model including PPA, the RE service provider typically owns and operates the renewable energy system on the consumer's property and sells the generated electricity to the consumer under a PPA. However, in this case, the RE service provider sells the energy system to the SPV. The accounting implications for the RE service provider in this model are similar to those in the upfront purchase model.

The RE service provider recognises revenue from the sale of electricity under the PPA over the contract term, usually on a straight-line basis. The service provider also records the capital cost of the renewable energy system as a fixed asset on their balance sheet and depreciates it over its useful life.

Additionally, the RE service provider may also incur ongoing operating and maintenance expenses for the renewable energy system, which are expensed as incurred. These expenses include costs such as insurance, repairs and maintenance, monitoring and reporting and administrative costs related to managing the PPA.

It is important for the RE service provider to properly account for revenue recognition and expenses related to the renewable energy system to ensure accurate financial reporting and compliance with accounting standards.

Further accounting implications are described below.

IMPORTATION OF COMPONENTS

Import duties are to be capitalised along with the cost of the asset.

If a TPO contract is entered into directly between a German entity and a local off-taker, the local contract regulations in the renewable energy sector are provided in the Second Schedule of the Energy Commission Regulations as follows.

If the local subsidiary wished to take out a loan from the local bank, terms and conditions for granting credit are subject to the local bank's own internal procedures and processes and must follow the risk management guidelines of the Bank of Ghana. The local subsidiary shall be an existing customer of the bank with a bank account, and shall need to meet the bank's requirements for the loan, as these requirements vary depending on the bank.

TABLE 6. Local content and local regulation requirements

	INITIAL LEVEL OF LOCAL PARTICIPATION/ LOCAL CONTENT	TARGET LEVEL
Ownership	15%	51% in 10 years
Engineering and procurement	Minimum of 70% of the value of the project shall go to Ghanaian companies	To be increased to 100% within 10 years
Construction works – installation	Minimum of 60% of the cost of the project's construction works shall go to Ghanaian companies	80% in 3 years and 90% in 6 years
Post-construction work supplies	Minimum of 60% of the cost of the project's construction works shall go to Ghanaian companies	100% in 10 years
Services	Minimum levels for: catering = 100%, janitorial services = 100%, vehicle maintenance = 100%, equipment servicing = 70%	100% in 10 years
Management	Minimum of 60% if management staff will be Ghanaians at the beginning of business operations	90% in 5 years
Operations and maintenance staff	Minimum of 70% of operations and maintenance staff shall be Ghanaians at any time during the lifetime of the business	80% in 5 years
All other staff	100% Ghanaians at all times	-
Operations and maintenance contract	Minimum of 50% of the value of all operations and maintenance contracts shall be awarded to indigenous Ghanaian companies	80% in 5 years

Taxation implications

TRANSFER OF THE RE SYSTEM TO THE SPV

For the transfer of the equipment to the SPV, the following tax implications may arise:

- There is VAT to be applied at a rate of 15% plus levies.
- The payment to the constructor will attract 15% WHT to be deducted by the consumer on every milestone payment.
- There is only CGT at a rate of 15% to be considered if the RE system results in a gain.
- There is stamp duty of 0.5% of the value of the transfer to be considered.
- There are no import duties to be considered.
- Payments received from the SPV will be subject to income tax in Ghana, with the WHT deducted by the SPV recognised as an advance payment.

IMPORTATION OF COMPONENTS

Import duties are to be capitalised along with the cost of the asset. However, the following taxation implications may arise:

- VAT at a rate of 15% plus levies are to be considered. However, if the components are for use in the construction of the RE system, the VAT may be exempt or zero-rated.
- If the RE service provider is a foreign entity, the importation of components may be subject to WHT at a rate of 15%.
- There is no CGT to be considered.
- Import VAT is levied on imported goods and is calculated on the customs value of the goods plus any applicable customs duty. The rate of import VAT is the same as the standard VAT rate of 15% plus levies.
- If the importation of goods is documented, stamp duty at a rate of 0.5% may apply.
- If the RE service provider imports components and subsequently sells them at a profit, they may be subject to CIT at the standard rate of 15%.

All solar panels imported into Ghana are exempt from VAT and industrial or energy plant, machinery or equipment is exempt from import duty. Off-grid solar system components are VAT exempt as well. However, solar batteries and solar inverters coupled with batteries are not VAT exempt.

At the construction phase of the project, all materials purchased and services employed to facilitate the construction of the system will be subject to VAT, except for the purchase of materials that have been exempted from VAT by virtue of the VAT Act and the VAT (Modification) Order. The party currently liable for VAT is the party enjoying the benefit of the construction, which is the consumer.

Notwithstanding the exemption conferred on the components above, there is no express exemption for the sale of the energy generation system. Therefore, the eventual transfer of the system from the constructor to the consumer will attract VAT at 15% plus existing levies to be paid by the consumer. VAT of 15% paid can be deducted by the consumer on their income statement, provided that the consumer fulfils the criteria set forth by the GRA.

Exemptions for import duties will be granted on a case-by-case basis depending on the bargaining power of the company. Additionally, according to Section 4(d) of the Renewable Energy Act, 2011 (Act 832), the Energy Commission shall recommend for exemption from customs, levies and other duties equipment and machinery necessary for the development, production and utilisation of renewable energy sources. The Harmonised System Code of Ghana also allows absolute import duty exemptions for solar cells, whether assembled in modules or made up into panels²¹. Companies seeking exemptions will typically apply for the exemption to the customs office of the GRA before the imported items are shipped from their overseas base. The customs office may then advise on the next steps.

Governmental policy perspective on exemptions may be influenced by the objective of attracting manufacturers, assemblers and operators in the renewable energy subsector. This is in line with the projections of the International Trade Administration, as the government aims to implement crucial measures to ensure the security of energy supply in Ghana by 2025²².

Solar panels incur no import duty, unless pre-assembled into a generating set (such as a solar home system), in which case a 5% duty applies. Wind turbines and batteries are charged a 5% and 20% import duty, respectively.



²¹ GRA (2023): Harmonized System Code (gra.gov.gh) (Accessed on 30.03.2023).

²² Country Commercial Guide (2023): Energy and Renewables, Ghana - Energy and Renewables (trade.gov) (Accessed on 30.03.2023)

3.6 Reality check and recommendation

In Ghana, the C&I segment is increasingly investing in solar PV systems to reduce the cost of electricity supply to its businesses. Solar PV has become a cost-effective energy source.

Ghana's government has set a target to generate 10% of its electricity from renewable energy sources by 2030, and this has created an enabling environment for investments in renewable energy, especially solar PV systems.

The C&I segment presents a great opportunity for solar PV systems in Ghana, as there is growing demand from businesses for reliable and affordable energy. However, it is important to note that there are also challenges that come with investing in this market, such as regulatory and policy uncertainties, limited access to finance and inadequate infrastructure.

In the case of C&I projects, all models mentioned above are permitted in Ghana. However, for the renting model with ownership transfer, rental to a single consumer over the life of the energy generation system is permitted, but the Energy Commission does not allow for rental to one consumer for a specific period followed by a rental to another consumer.

The BOOT model has several advantages that make it a good fit for the Ghanaian market. Firstly, it allows for private-sector investment in the power sector, which can help to increase Ghana's electricity generation capacity and improve access to electricity. Secondly, it provides certainty for investors, as they know that they will be able to sell their electricity to the off-taker (the government or a private company) for a fixed price over a set period of time. Thirdly, it can help to reduce Ghana's reliance on imported power, as the off-taker can purchase electricity from the BOOT developer at a lower cost than that of imported power. Lastly, it can help to create jobs and stimulate economic growth in Ghana.

The BOOT model is also preferred by the Energy Commission of Ghana because it enables the parties to be properly licensed and monitored. The Commission requires all BOOT developers to obtain a licence before they can begin construction of their power plant. The Energy Commission also requires BOOT developers to submit regular reports on their operations, so that it can ensure that they are complying with all applicable laws and regulations.

In the case where the C&I consumer is also the off-taker, the BOOT model can be even more beneficial. This is because the C&I consumer can have a say in the design and construction of the power plant, ensuring that it meets their specific needs. The C&I consumer can also lock in a fixed price for electricity for a set period of time, helping to budget for energy costs and avoid price volatility.

In addition to the advantages mentioned above, the BOOT model also has some disadvantages. For example, the BOOT developer is responsible for all costs associated with building and operating the power plant, which can be a significant financial risk. Additionally, the BOOT developer may have difficulty obtaining financing for the project, as banks may be reluctant to lend money to a project that is not backed by a government guarantee.

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Project Development Programme (PDP)
Köthener Str. 2-3
10963 Berlin, Germany
T +49 30 - 40 81 90 - 219/285
F +49 30 - 40 81 90 - 109

E pep@giz.de
I www.giz.de/en

Programme/project description
Project Development Programme (PDP)


Authors
Becker Büttner Held PartGmbH (BBH)

Responsible/Editor
Anja Wucke and Syeda Farheen Javed
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
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Sitz der Gesellschaft / Registered offices
Bonn und Eschborn / Bonn and Eschborn

Friedrich-Ebert-Allee 36 + 40
53113 Bonn, Deutschland / Germany
T +49 228 44 60-0
F +49 228 44 60-17 66

Dag-Hammarskjöld-Weg 1 - 5
65760 Eschborn, Deutschland / Germany
T +49 61 96 79-0
F +49 61 96 79-11 15

E info@giz.de
I www.giz.de/en