

GHANA



NDC PRIVATE SECTOR ENGAGEMENT PROJECT

Engaging private sector in NDC implementation - Assessment of private sector investment potential in the energy sector

EXECUTIVE SUMMARY

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Contributing Authors:

Samuel Alterescu, Deloitte Tohmatsu Financial Advisory LLC
Raymond Caguioa, Deloitte Tohmatsu Financial Advisory LLC

Reviewers:

Stephen Sabunam Kansuk, UNDP Ghana
Daniel Tutu Benefoh, Environmental Protection Agency, Ghana
Wisdom Ahiataku-Togobo, Ministry of Energy, Ghana
Ryo Tsujimoto, Deloitte Tohmatsu Financial Advisory LLC

Technical oversight and guidance:

Alexandra Soezer, UNDP

Technical support and contributions:

Louis Nunes Da Costa, UNDP

Editor:

Leah Brumer

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Jason T Quirk

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EXECUTIVE SUMMARY

Transforming Nationally Determined Contributions (NDCs) into tangible actions that lead to long-term zero-carbon and climate-resilient development requires financing. Access to finance is fundamental to realize the objectives set by the NDCs. However, countries continue to face challenges in securing the financial resources needed to achieve their NDC targets. A significant share of the financing required is expected to be provided by the private sector.

To increase private investments in NDC targets, it is important that the private sector stakeholders engaged in markets and industries understand the business environment, the current market and the investment potential in specific sectors.

This report estimates the private sector investment potential for delivering NDC sectoral targets for the energy sector in Ghana through assessments of the NDC targets, the enabling environment, the current market and Ghana's investment potential. Its findings will allow for mapping private sector actors in the energy sector, one of the country's NDC priority sectors.

GREENHOUSE GAS EMISSIONS AND CLIMATE TARGETS

Ghana is a relatively low emitter of greenhouse gases (GHGs), with 2016 total national GHG emissions estimated at 42.92 million tonnes of carbon dioxide equivalent (MtCO₂e). This represents 0.08 percent of global GHG emissions. However, its GHG emission levels are increasing. Emissions reported in 2016 were 40.4 percent and 7 percent higher than those reported in 2000 and 2012, respectively. The agriculture, forestry and other land uses (AFOLU) sector is the most significant source of GHG emissions, with 53.4 percent of total national emissions, followed by the energy sector, with 36.8 percent. When emissions from the land category were excluded from the national inventory, the energy sector represented more than 79 percent of emissions. The energy sector's share of total emissions increased from 15 percent in 1990 to 36 percent in 2016. The energy sector is therefore essential to achieving Ghana's mitigation goals.

Ghana submitted its NDC in September 2015, which provides details of its mitigation actions for the energy sector. The country has developed 20 mitigation programmes of actions in seven sectors for a 10-year implementation period (2020–2030), including sustainable energy security and sustainable mass transportation in its NDC. Ghana aims to unconditionally lower its GHG emissions by 15 percent relative to a business-as-usual scenario emission of 73.95 MtCO₂e by 2030. If the country receives external support, it expects to achieve an additional 30 percent decrease in GHG emissions.

The table below presents the policy actions in the energy and transport sectors identified to achieve the country's mitigation goals.

Mitigation actions in the energy sector to achieve NDC mitigation goals

SECTORS	NDC POLICY ACTIONS	PROGRAMME OF ACTION
ENERGY	Scale up renewable energy penetration by 10 percent by 2030	Increase small-medium hydro installed capacity up to 150-300MW
		Attain utility-scale wind power capacity up to 50-150MW
		Attain utility-scale solar electricity installed capacity up to 150-250MW
		Establish solar 55 mini-grids with an average capacity of 100kW, which translates to 10MW
		Scale up the 200,000 solar home systems for lighting in urban and selected non-electrified rural households
	Promote clean rural households lighting	Increase solar lantern replacement in rural non-electrified households to 2 million
Expand the adoption of market-based cleaner cooking solutions	Scale up adoption of LPG use among peri-urban and rural households from 5.5 percent to 50 percent by 2030	
	Scale up access and adoption of 2 million efficient cook stoves by 2030	
Double energy efficiency improvement to 20 percent in power plants	Scale up 120 million standard cubic feet natural gas replacement of light crude oil for electricity generation in thermal plants.	
TRANSPORT	Scale up sustainable mass transportation	Expand of inter- and intra-city mass transportation modes (rail and bus transit system) in four cities

These targets are further detailed in other communications to the UNFCCC, such as the biennial sectoral policies and the Renewable Energy Master Plan of 2019 (REMP). Achieving these objectives will require significant private sector investment.

ENABLING ENVIRONMENT

The existence of an enabling policy environment, including related legislation, laws, programs and plans are crucial in achieving the sustainable development targets in any country. In Ghana, the overall development policy is governed by a long-term vision to 2020 and medium-term development plans, under which sectoral policies are developed.

CLIMATE-CHANGE RELATED POLICIES

Ghana's climate policies and climate action documents include its National Climate Change Policy (NCCP), the NDC (2015), Ghana's communications to the UNFCCC (its second Biennial Update Report (2018)) and its third national communication. Ghana has also developed its low-carbon development strategy (LCDS).

Both the NCCP and LCDS are aligned with the NDC and the BUR, and recognize the role of the private sector in addressing climate change. The LCDS proposes to leverage public finance to unlock private sector investments and achieve Ghana's low-carbon development objectives. In the energy sector, the following potential technologies for investment have been identified: solar PV; solar lanterns; wind power; efficient cookstoves and LPG stove; and bus rapid transit (BRT).

ENERGY-RELATED POLICIES

Ghana has developed a number of policies related to the energy sector in general that have been supplemented by policies related to renewable energy and energy efficiency. The Strategic National Energy Plan (SNEP-2006, updated in 2019), the National Energy Policy (NEP-2010) and the Energy Sector Strategy and Development Plan (EESDP-2010) provide guidance on development of the energy sector in Ghana.

The National Renewable Energy Act of 2011 provides the basis for renewable energy development and private sector participation in the renewable energy subsector. This Act defines provisions for licensing, the establishment of a feed-in tariff and renewable energy subsidies. Based on this, the Government and the Energy Commission have developed feed-in tariff rates for electricity generated from renewable energy sources, as well as a the Net Metering Sub-Code, which further support the development of the sector.

The Renewable Energy Master Plan (REMP) was developed to address long-term planning challenges and provide an investment-focused framework for the promotion and development of the country's renewable energy resources for sustainable economic growth. The REMP, which details renewable energy targets, emphasizes the importance of private sector participation. It showcases the importance of providing the enabling environment and supporting de-risking initiatives for increased private sector participation.

This enabling environment is supplemented by other policies related to renewable energy, such as the Mini-grid Electrification policy, which states that mini-grid customers should benefit from the same pricing policy as customers serviced by the main electricity grid, with major implications for mini-grid financing, and the Bioenergy Policy.

Ghana has also developed instruments to support energy efficiency measures, such as the Building Code and several Legislative Instruments that establish energy efficiency standards.

TRANSPORT-RELATED POLICIES

Ghana's transport-related policies consist primarily of the National Transport Policy (2008) and the Transport Sector medium Term Development Plan (2012-2014). Ghana also developed an Urban Transport Policy. These set specific strategies aimed at developing BRT. Ghana, also recently launched the Drive Electric Initiative, which aims at introducing and promoting the use of electric vehicles as alternative means of mobility in Ghana; stakeholder consultations are underway.

PRIVATE SECTOR ENGAGEMENT AND INVESTMENT-RELATED POLICIES

The Ghana Poverty Reduction Strategy I and II (GPRS I and II) describe the private sector as a key engine of growth for Ghana. Both strategies sought to support development of the private sector by facilitating access to long-term financing, reducing institutional and legal bottlenecks and promoting entrepreneurship. This is further emphasized in the Agenda for Jobs: Creating Prosperity and Equal Opportunity for All, 2018-2021. The government also developed a public-private partnerships (PPP) framework in Ghana. Since its adoption, 32 projects have been launched, with six in the transport sector.

OVERALL BUSINESS ENVIRONMENT

As for most countries since the COVID-19 epidemic began, Ghana's macroeconomic situation has worsened in 2020. Despite strong performance in 2019, with an estimated 7 percent increase in GDP and an overall commitment to fiscal discipline, real GDP is forecast to contract by 4.1 percent in 2020. The Government expects revenues to decrease significantly, while spending needs will rise to sustain the economy during the crisis. In response, the cap on withdrawals from the Ghana Stabilisation Fund, Ghana's sovereign wealth fund, has been lowered. Ghana currently receives support from the International Monetary Fund (IMF) and the World Bank. The economy is expected to slowly recover starting 2021, with a more pronounced rebound from 2022.

Ghana had faced significant challenges in the energy sector prior to the COVID-19 crisis, which has crisis weakened the economic and fiscal outlook. Fiscal risks were especially significant in the energy sector, with arrears at US\$2.7 billion in late 2018. Before the crisis, the Government of Ghana had taken steps to improve the situation by increasing electricity tariffs and developing a multiyear Energy Sector Recovery Program (ERSP).

The ease of doing business and the enabling environment for cross-border and foreign investments are also important factors in investment decisions. Challenges in accessing credit and tax payment procedures remain, while the country performs well in protecting minority investors. Overall, the regulatory environment for foreign investments in Ghana is supportive. There are no specific constraints identified for the payment of dividends to foreign investors, including in foreign currency, as per the regulations related to foreign exchange and the general framework for investment provided by the Ghana Investment Promotion Centre. Capital may also be borrowed and repaid from abroad.

Although the economic outlook is not favorable, in the last 10 years, Ghana has developed policies supporting the development of private investment in the energy sector. The availability of policies supporting feed-in tariffs and net metering, as well as the country's stance on PPP schemes, is encouraging for private sector engagement in the energy sector and its sub-sectors. The regulatory framework also supports investment in the energy sector, providing favourable conditions for foreign direct investment and cross-border investment in the sector.

CHALLENGES, RECOMMENDATIONS AND POTENTIAL FOR PRIVATE SECTOR INVESTMENTS IN THE ENERGY SECTOR

Barriers and challenges constrain investment in the energy sector in Ghana. The sector is divided among several ecosystems, composed of different value chains.

RENEWABLE ENERGY

The renewable energies ecosystem focuses on on-grid utility-scale power generation, commercial and industrial (C&I) customers and solar home PV (solar home systems (SHS) market).

IPPs and developers have already made significant investments in on-grid utility-scale power generation. However, investment is highly constrained by the energy supply excess, take-or-pay PPAs and the PPA moratorium. In November 2019, the government placed a moratorium on signing new energy sector contracts, prohibiting key institutions in the sector from entering into any new agreements until further notice. As a result, no new PPAs are likely to be signed in the short term. Among other conditions, insufficient Grid Code provisions, complexities of entering the market, requirements for local content and local participation also constitute significant challenges for private sector investment. The C&I and SHS markets are also served by a number of developers and service providers, including asset-based lending providers.

The following gaps and challenges represent the primary constraints to the development of the off-grid and mini-grid market:

LACK OF CLARITY CONCERNING THE DEVELOPMENT OF MINI-GRIDS

The Government's goal is to complete Ghana's electrification by 2030 by extending the main grid, thus limiting market potential for mini-grids. Mini-grids are therefore considered as solutions primarily for remote islands that are not serviced by the grid. However, there are conflicting opinions, including within the government, as to whether mini-grids and off-grids should be led by the public or private sector. This constitutes a significant risk factor.

RECOMMENDATION AND POINT OF ENTRY 1

Establishing a clear vision for the private sector's role in mini-grid development

To support further investments in renewable energy, the Government should develop a unified vision for the involvement of private sector in mini-grids. Ghana could choose to seek greater private sector involvement in financing mini-grids on remote islands. This could be done through a PPP agreement, which would also support the development of financial viability support mechanisms, such as grants, subsidies and minimum revenue guarantees, sometimes in the form of result-based financing.

CHALLENGES IN LICENSES AND CONTRACTUAL ARRANGEMENTS FOR C&I RENEWABLE ENERGY DEVELOPMENT

The C&I market offers significant potential to renewable energy production developers. Electricity for both commercial and industrial facilities in Ghana is more expensive than anywhere else in sub-Saharan Africa. Renewable energy is already competitive compared to grid electricity tariffs. Although several companies are now investing in C&I solar, significant challenges exist to setting up contractual arrangements between project developer and customer. Selling electricity to a bulk customer requires a PPA, which in turn requires a wholesale supplier license.

RECOMMENDATION AND POINT OF ENTRY 2

Reducing administrative costs and improving procedures to support the development of renewable energy use for C&I

Improving the approval process for wholesale supplier licenses and captive generation licenses appears to be the most important factor to kickstart the market. Additionally, extending the captive generation license to production capacities below 1MW would facilitate the market expansion in rural areas where the government intends to build 50-65 factories/year, according to its One District, One Factory strategy.

POTENTIAL FOR PRIVATE SECTOR INVESTMENT IN RENEWABLE ENERGY

The Government of Ghana has placed a moratorium on signing of new contracts in the energy sector. Thus, there is little short-term potential for the private sector in the on-grid renewable energy sub-sector. However, potential still exists for on-grid renewable energy, especially in mini-hydro power generation and tidal energy. These may be considered for a longer-term perspective as of 2025 and beyond. The investment potential for on-grid energy is estimated at \$306.1 million-\$1,208.8 million, depending on the increase in demand over time.

Some potential appears to exist for investment in off-grid/mini-grid energy. The private sector investment potential is estimated at \$191.7 million-\$400.7 million. Given the current PPA moratorium, mini-grid and off-grid investments are expected to be more attractive to the private sector in the shorter term than on-grid investments. However, opinions within the Government differ regarding the involvement of private sector investment in mini-grid. Additionally, the Government expects mini-grids to be developed primarily in remote islands.

Although not directly related to Ghana's policy objectives, the potential for C&I investments in solar projects is also significant, with a pipeline estimated at 32 MW in the coming years. The incentives for C&I to invest in solar projects are significant, with the tariff more expensive than captive production and use.

Private investment potential for the diffusion of renewable energy related technologies is estimated at \$352.5 million. Producers and households are expected to make the bulk of investments in these technologies. Specifically, investment related to LED lamps, solar irrigation and solar water heaters is estimated to have the greatest potential in Ghana.

ENERGY EFFICIENCY, INCLUDING CLEAN COOKING

CLEAN COOKING

Ghana has developed targets in the clean cooking subsector to further advance the diffusion of LPG stoves and other efficient technologies. The clean cooking ecosystem and value chain involve a significant number of stakeholders, who manufacture stoves, produce fuel and/or distribute stoves and fuel. More than 500 estimated stakeholders are estimated to be involved in the ecosystem. In Ghana, LPG is used primarily for cooking in the residential sector and commercial and public establishments.

The lack of distribution channels for efficient cookstoves and fuels, including LPG, is one of the most significant challenges to the sector's development. Most Ghana producers lack the capacity to reach rural markets and must rely on rural artisans (franchise system). This limits diffusion of the technology to rural areas, where it is needed most. Fuel producers face a similar issue. This is also a major bottleneck for businesses to scale up and obtain financing.

RECOMMENDATION AND POINT OF ENTRY 3

Developing business models focused on achieving scale

Achieving scale is crucial to build investor interest in projects and enterprises involved in the clean cooking ecosystem. The private sector should thus model that will increase revenues by increasing customers or decreasing in production costs. Some models to be explored include those that integrate stoves and associated fuels (tool and fuel models). These models have a stronger revenue stream from fuel sales and could take advantage of linkages between the stove and improved fuel to reduce the upfront cost of stoves.

ENERGY EFFICIENCY

The ecosystem for commercial and industrial use of energy efficiency, efficient lighting and appliances is still nascent in Ghana. There are no local manufacturers, so lights and appliances are imported. Demand appears to be limited in the current environment. At household level, the price of efficient appliances appears to be a significant factor limiting growth in the sector. Despite the introduction of energy efficiency standards and labels for appliances, and the success of programmes encouraging the purchase of efficient appliances such as refrigerators through the provision of subsidized rebates, commercial initiatives have been developed at scale yet.

RECOMMENDATION AND POINT OF ENTRY 4

Providing energy-efficient appliances at an affordable price

To encourage households to replace appliances with more energy-efficient equipment, those appliances must be affordable. This can be achieved by developing asset-based lending for appliances, such as refrigerators and air conditioning, thereby reducing the initial investment cost. This can be done by working with SHS providers that operate on a DESCO model. SHS providers become the distributors of energy efficient appliances.

In the longer term, efforts could focus on developing a manufacturing plant for energy-efficient appliances in Ghana. This would ease a major challenge facing distributors of efficient appliances, as they must find suppliers and manufacturers that can produce high-quality products.

POTENTIAL FOR PRIVATE SECTOR INVESTMENT IN ENERGY EFFICIENCY, INCLUDING CLEAN COOKING

Private investment in energy efficiency is estimated at \$1,679.97 million. Households are expected to make the bulk of investments in these technologies. The use of incentives should also be explored to support private sector involvement and household spending.

BRT AND TRANSPORT

Private sector involvement in the development of BRT lines is paramount for Ghana. Involving the private sector, either through PPPs or direct investments would help catalyse investments and leverage public funding.

POTENTIAL FOR PRIVATE SECTOR INVESTMENT IN TRANSPORT

Private sector involvement in BRT will depend on the type of PPP arrangement and risk sharing agreed between the Government of Ghana and the BRT operator(s). The total investment estimated for the 200 km of BRT lines is estimated at \$3.2 billion, of which \$1.1 billion will be leveraged from the private sector. At this stage, it was not possible to confirm the private sector's interest in electric vehicles, or how the private sector would be involved in developing the infrastructure required, such as charging stations.

Private sector investment potential is estimated at \$5.730 billion-\$6.842 billion, most of which will be leveraged from energy efficiency and transport. Private sector investment potential in the NDC target is summarized in the following table:

Investment potential in the energy sector

SUBSECTOR		INVESTMENT POTENTIAL (\$)	PERIOD
RENEWABLE ENERGY	On-grid	306.1 million-1,208.8 million	Long term
	SHS	45 million-254 million	Short term
	Mini-grid	146.7 million	Short to medium term
RENEWABLE ENERGY-RELATED TECHNOLOGIES		352.5 million	Short to medium term
ENERGY EFFICIENCY	Appliances	1.128 million	Short to medium term
	Clean cooking	551.97 million	Short to medium term
TRANSPORT		3.2 billion (1.1 billion from private sector)	Long term
TOTAL		5.730 billion-6.842 billion	N/A

ACCESS TO FINANCE

A limited number of institutions provide green financing and financing to the energy sector in Ghana. They do provide services to SMEs, as well as consumer finance. The commercial banking sector in Ghana is not an active player in lending to on-grid and off-grid energy companies. This is driven primarily by the high cost of capital and high risk perceptions. At more than 20 percent, interest rates are prohibitive for most private sector stakeholders. Foreign-based investors, such as venture capital firms and impact investors, sometimes invest in companies based in Ghana, including in the on-grid and off-grid markets.

Overall, development of the energy subsectors is limited by the financial sector, which perceives renewable energy and energy efficiency as high risk and usually offers high commercial interest rates and limited tenor loans for all such activities. The lack of long-term financing, such as long-term debt and equity, is another important limiting factor, specifically for infrastructure projects such as on-grid utility-scale projects.

RECOMMENDATION AND POINT OF ENTRY 5

Providing capital at affordable conditions for blending and de-risking in commercial finance

Blended finance is a potential option for commercial banks in Ghana. Such transactions should address the risks perceived by investors: it constitutes a significant de-risking option for emerging markets and developing countries through the use of instruments such as guarantees and grant funding. Blended finance is also an opportunity to increase returns on a specific investment. Blended finance mechanisms address specific risks perceived by investors, such as macroeconomic and technical risks.

Some of the instruments that could be leveraged to achieve this include direct investments, concessional financing for lines of credit and guarantees. For example, direct investments may target significant infrastructure investments in the energy sector and increase the confidence of other investors. Credit lines may support commercial banks to target specific segments of the energy sector, such as SMEs in the SHS and clean cooking space. Finally, guarantees can provide the coverage needed for a loan recipient to improve its credit rating and decrease risks.

Ghana also has limited access to equity, venture capital and impact finance. The venture capital space remains nascent in the country.

RECOMMENDATION AND POINT OF ENTRY 6

De-risking innovative social business models

To further support innovation in energy access and other energy business models, adequate financing conditions should be offered for innovative enterprises. Social ventures and enterprises require capital early on to develop their business model, proof of concept and prototypes and to grow at scale. This requires financial and technical support. Ghana already has an incubation center focused on climate innovation—the Ghana Climate Innovation Centre (GCIC).

Although incubation and acceleration services need to be strengthened to further support entrepreneurs, capital is also needed before investors get involved. Given the current status of the innovation ecosystem, pre-seed and seed funding are required to further support innovation. This can be achieved by providing grants or other concessional finance to acceleration services and/or investors (impact investors/VCs).

REPORTING FRAMEWORK TO ALIGN BUSINESS OPPORTUNITIES WITH NDC IMPACT TARGETS IN GHANA'S ENERGY SECTOR

Governments and international organizations engage the private sector to leverage stakeholder investments in the NDC. For the private sector, the NDC can offer additional business opportunities. However, the private sector is often unaware of those opportunities. It is therefore important to highlight and translate these in clear reporting frameworks, which the private sector can then leverage to enhance its understanding of the added value that climate investments bring.

A clear understanding of this alignment, or the extent to which it can align with NDC actions, offers the private sector potential advantages. First, it enables the sector to clearly identify actionable actions, which can be translated into business opportunities. The NDC and Sustainable Development Goals (SDGs) have been chosen as the main reporting framework for this report. Business opportunities in the energy sector identified in this report are linked to NDC objectives and SDG targets. A summary of the business opportunities, the corresponding climate and SDG frameworks is provided below (direct benefits in green, co-benefits in red).

BUSINESS OPPORTUNITY	NDC/BUR TARGET	SDG FRAMEWORK
RENEWABLE ENERGY		
Developing on-grid renewable energy power generation plants (IPPs)	Scale up renewable energy penetration by 10 percent by 2030	7 – Sustainable energy
Providing renewable energy solutions to C&I customers*		9 – Innovation and infrastructure
Providing SHS solutions to households and small industries/eMEs*		13 – Climate action
		3 – Good health
		4 – Quality education
Illustrative metrics	Reduced cost of energy (\$); reduced need for diesel generators (litres of diesel used); number and value of deals (\$); number and value of loans (\$) provided by local financing organizations; direct carbon reduction achieved by installing renewable energy capacity (tCO₂e).	

BUSINESS OPPORTUNITY	NDC/BUR TARGET	SDG FRAMEWORK
CLEAN COOKING		
Manufacturing improved cook-stoves	Expand the adoption of market-based cleaner cooking solutions	7 – Sustainable energy
Manufacturing LPG cookstoves		13 – Climate action
Manufacturing efficient fuels		15 – Life on land
Distributing clean cooking solutions		1 – No poverty
		3 – Good health
		5 – Gender equality
		4 – Quality education
Illustrative metrics	Number of efficient stoves deployed; number of LPG stoves deployed; number of households serviced in rural areas for efficient fuel; volume of wood fuel/inefficient charcoal used for cooking decreasing (tons); number and value of loans (\$) (asset financing) developed directly by clean cooking solution providers (households).	
ENERGY EFFICIENCY/APPLIANCES		
Distributing efficient appliances	Introduce efficient lighting with LEDs (7,000,000 units), LEDs replacing CFLs (13,000,000 units) and efficient refrigerators (2,000,000 units)	7 – Sustainable energy
Manufacturing efficient appliances locally		13 – Climate action
		1 – No poverty
		8 - Good jobs and economic growth
		3 – Good health
Illustrative metrics	Number of LEDs deployed; number of efficient refrigerators deployed; amount of energy savings realized due to the products/services provided (MWh); direct carbon reduction achieved through the use of efficient appliances (tCO₂e); number and value of loans (\$) developed directly by DESCOs (households and SMEs).	
BRT AND TRANSPORT		
Infrastructure development for BRT lines	Scale up sustainable mass transportation	11 – Sustainable cities and communities
Operation of BRT lines		7 – Sustainable energy
		13 – Climate action
		3 – Good health
Illustrative metrics	Number of lines; kms of BRT operational; number of users; decrease in personal vehicle traffic (number of vehicles/day); direct carbon reduction achieved through installation of BRT lines (tCO₂e).	

*Additional SDG targets are developed for these opportunities in the main report.

ASSESSMENT RESULTS AND CONCLUSION

The Government has developed the overall enabling environment and targets for investment in the energy sector in Ghana. Although the macroeconomic outlook is less favourable due to the impact of the COVID-19 pandemic, the mini-grid and C&I sectors appear to hold potential. Households are expected to make most of the investments in the energy efficiency sector. This could be supported further by encouraging the provision of affordable appliances to the market. The total investment potential for the private sector in the energy sector in Ghana is estimated at \$5.730 billion-\$6.842 billion, most of which will be leveraged from energy efficiency and transport.

The financial sector should support private sector investment. Local financing is characterized by high interest rates and relatively short tenors and venture capital and impact investing activities remain limited. Providing improved financing conditions by leveraging blended finance, with instruments such as guarantees, credit lines and concessional financing, could be an option for local banks and critical for scaling up private sector finance into investments in the energy sector.

Finally, the energy ecosystem could further benefit by fostering innovation in Ghana. Innovative business models in the climate and energy space can be developed by providing enhanced incubation and acceleration services through innovation accelerators and making the linkages to venture capital firms. The potential of climate-focused incubators and accelerators, such as the Ghana Climate Innovation Centre, could be leveraged further to achieve this.



UNDP NDC SUPPORT PROGRAMME

United Nations Development Programme (UNDP)

304 E 45th Street, New York, NY 10017

www.ndcs.undp.org

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