

The Enabling Environment for Green Finance in Ghana

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Recommendations

This report reviews the literature, and together with evidence gathered from key stakeholder interviews, highlights on-going reform efforts that aim to strengthen the enabling environment for a green economy in Ghana. This analysis has been undertaken as part of the UN Partnership for Action on Green Economy (PAGE) initiative and its workstream focusing on strengthening green fiscal policy and creating an enabling environment for green finance in the country. It builds on previous analysis and recommendations of the Green Finance Study (2019).

As a country responsible for a very small share of global emissions, Ghana's key climate change-related priorities in the lead-up to COP27 are primarily focused on adaptation and securing domestic and international financing to support these aims. However, the agenda around building a green fiscal recovery and putting in place policy and incentives that will set the country on track for a sustainable and green economy is just as crucial in the medium- to long-term.

Based on the analysis and interviews conducted for this report, we outline several recommendations that would further advance the green economy. Specifically:

- **Establishing a sound regulatory framework:** Building the necessary regulatory framework for a green economy will require significant dedicated capacity across government. A large amount of highly specialised work is required to develop the national standards that would support increased private sector take up of green economy measures.

Recommendation: government prioritises regulatory development in support of the green economy in the key sectors of energy and transport.

- **Supporting private investment to green the economy:** Government has very limited fiscal space to support green economy initiatives through direct subsidy and new public investments. Under such circumstances, feebate systems that are revenue neutral may offer potential for relevant reform. Careful attention to their design to ensure revenue neutrality and their subsequent implementation (including effective and accurate independent certification) will be important for success.

Recommendation: government commissions the exploration of a feasible and practical design of a feebate system for imported vehicles based on their carbon emissions.

- **Limiting spending in areas that deplete natural capital:** Ghana has over 15 years of experience with fossil fuel subsidy reform, and in that time has become a significant oil and gas producer. This strategically important resource remains key to the country's development pathway. Government policy has therefore to balance competing interests, yet fossil fuel subsidy reform to-date has demonstrated that growth and development goals can be advanced through such reform.

Recommendation: any future fossil fuel subsidy reforms should support green growth and national sustainable development priorities (e.g., in green transport infrastructure, health, and education) so that public benefits are clearly demonstrable.

- **Employing taxes and market-based instruments to promote a green economy:** While there is a case for tax reform, which is likely to be progressive, further tax increases do not appear politically viable in the short term. Over the medium-term, if the retail price of fuel stabilises, there may be opportunities to consider reform, including consolidating existing levies under a broader carbon tax.

Recommendation: government invests in public communications, private sector consultation, and develop credible compensating mechanisms to mitigate any impoverishing effects, to secure public support for increasing the tax rate on diesel and considering the case for introducing a broader carbon tax.

- **Capacity building and training:** The capacity among relevant stakeholders to understand the needs of the green economy, to assess its challenges and opportunities, and to implement relevant policies and actions is crucial to making progress on the agenda. A number of initiatives have sprung up in recent years in Ghana that focus on training and capacity building.

Recommendation: Continue and strengthen efforts on capacity building and training across different stakeholders and institutions, and in particular among SMEs which are a key part of driving the transition to a key economy.

- **Optimising international support:** funding from global climate funds (e.g., the Green Climate Fund, the Adaptation Fund, and the Climate Investment Funds) can provide additional capacity as well as finance to help strengthen the enabling environment for the green economy.

Recommendation: government proposals to global climate funds should emphasise projects that can explore and test new approaches for national scaling-up, and function as a risk mitigation strategy under circumstances where public sources of funding are constrained.

1. Introduction

1.1 Background to the present study

In the 2011 report *Towards a Green Economy*, UNEP proposed a framework to identify the key enabling conditions for a green economy (UNEP, 2011). By making progress across the dimensions of this framework, government actions can enhance the economic opportunities offered by the transition to a green economy. In the context of Ghana’s recovery from the social and economic impacts of the COVID-19 pandemic, opportunities for job creation, securing employment, and wealth generation through public and private sector activity can be enhanced by strengthening this enabling environment (See Table 1 below).

Table 1. The seven key enabling conditions of UNEP’s enabling environment framework

Enabling Condition	Description
Establishing a sound regulatory framework	A well-designed regulatory framework can define rights and create incentives that drive green economic activity, as well as remove barriers to green investments. Available instruments include government regulations that prescribe mandatory technical standards and public procurement policies.
Prioritizing private investment in areas that stimulate the greening of economic sectors	Subsidies that have public-good characteristics or positive externalities can be a powerful enabler for a transition to a green economy. There is a strong case of supporting ‘infant’ industries, such as the renewable energy sector, as part of a strategy to build comparative advantage and drive long-term employment and green growth. Price support, most often in the form of subsidies, can guarantee the price of a particular good or service, and this enabling condition has often been employed to promote the uptake of sources of clean energy.
Limiting spending in areas that deplete natural capital	Subsidies directed at depleting natural capital often represent a significant economic and environmental cost to countries. The case of fossil fuel subsidies is the best known. However, government subsidies of other extractive industries, such as mining – a major economic sector in Ghana – are also relevant.
Employing taxes and market-based instruments to shift consumer preference and promote green investment and innovation	Environmental taxes can be broadly broken down into two categories: “polluter pays” charges that are focused on charging producers or consumers at the point that they are responsible for the creation of a pollutant; and “user pays” charges, which focus on charging for the extraction or use of natural resources. There is now considerable experience in some countries with Payment for Ecosystem Services (PES) that have promoted the green economy in the rural sector. This reform in the forest sector has led to international interest in Reducing Emissions from Deforestation and Degradation (REDD), which has attracted much policy interest in Ghana.
Investing in capacity building and training	A shift towards a green economy requires the strengthening of government capacity to analyse the challenges, identify opportunities, prioritize interventions, mobilize resources, implement policies, and evaluate progress. All this government action is needed to sustain the momentum towards a green economy. The re-skilling of the workforce in some sectors will also be necessary.
Strengthening international governance	International environmental agreements can facilitate and stimulate a transition to a green economy. Ghana is a Party to the UNFCCC, and by engaging in these global climate negotiations can protect its national interests to further green recovery efforts. Linkages between the climate agenda and global trade agreements remain nascent, yet

	can be expected to ramp up with the emphasis on world trade as a driver of the recovery from the COVID pandemic.
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1.2 Report structure

Taking the framework of the 2011 UNEP study as its starting point, this report analyses elements of the enabling environment in Ghana that support sustainable development, and the scaling-up of private sector investment in the green economy. It examines the evidence that these enabling conditions are either in place or are under active consideration as part of government’s response to the COVID-19 pandemic. Following a short review of the recent literature, the report’s structure then follows the seven enabling condition categories in the following chapters.

1.3 Recent relevant analysis

Green finance study in Ghana: baseline report

The PAGE programme prepared a report in 2019 on the prospects for green finance in Ghana (PAGE, 2019). The study, completed immediately before the COVID-19 pandemic, highlighted that significant green finance opportunities existed for the Ghanaian business community across several sectors, including in energy, agriculture, transport, waste, and construction. Despite these opportunities, the study also identified several key barriers in the enabling environment that restricted private sector access to green finance. These included:

- Overall, the credit market in Ghana was constrained by the recent history of non-performing loans in the private sector. This acted as a general break on commercial lending due to the perceived high risk of default.
- Lack of long-term credit: the financing of long-term green projects relies heavily on bank lending. However, commercial banks were not able to offer sufficient long-term loans to businesses. One contributing factor was the fact that domestic financial institutions lacked the in-house capacity to quantify credit and market risks associated with green finance investments.
- Lack of investment risk assessment: expert capacity within the private sector to assess the risks associated with long-term investments was also absent among the limited number of institutional investors operating in Ghana.
- Small and Medium Sized Businesses (SMEs): Ghana’s economy is dominated by SMEs, making this business size an important market segment for promoting the green economy. However, SMEs often lack credit history restricting their capability to access lending for green investments.
- Lack of clarity over government policy on green finance was also identified as a barrier to increased green finance, with uncertainty over the boundaries of what constituted a green investment.

Ghana resilient infrastructure for a sustainable future. Phase 1: needs assessment report

Just as the COVID-19 pandemic was accelerating in 2020, the Global Center for Adaptation (GCA) and the Ministry of Environment, Science, Technology and Innovation (MESTI) launched a project to

document the infrastructure needs in the energy, transport, and water sectors in Ghana to ensure future resilience to climate change. A needs assessment report, published in April 2021, identified areas of the enabling environment that could be strengthened to support the delivery of climate resilient infrastructure in these sectors (GCA/UNOPS/Oxford University/UNEP, 2021).

Access to finance for implementing adaptation actions in the energy sector was identified as a continuing constraint, with the primary funding sources continuing to come from bilateral and multilateral donors. Despite the private sector's key role in resilient energy investment, the processes and incentives for mobilising private sector finance were considered not yet in place. This was especially true in areas such as the implementation of mini grids that can ensure the alleviation of energy poverty for rural communities. Climate risk assessments, as part of energy project development and planning, were found to be constrained by both lack of data and technical capacity to undertake the assessments.

In the transport sector, significant realignment of roles and responsibilities of government ministries, departments and agencies has resulted in overlapping institutional roles and unclear coordination mechanisms for mainstreaming climate change adaptation measures. There are currently four ministries responsible for policy development, coordination and oversight, and a significant number of government and non-government agencies operating within the sector. At the same time, in the absence of national standards for road design that consider expected climate change impacts, road engineers must rely on international standards that are not optimal for Ghanaian conditions.

The water sector is highly decentralised in Ghana with many government agencies involved, leading to policy fragmentation and coordination challenges. It was reported that staff across the sector agencies lacked capacity in utilising climate-related methodologies in the design of water control infrastructure. Long-term investments were found to receive lower priority than short-term service delivery, limiting the scope for climate-related investments.

Across all three sectors, the needs assessment found challenges in the enforcement of land use plans and regulations, reflecting a long-standing deficit in national enforcement actions. Lack of technical capacity – and the associated technical data – within sector planning regimes was also considered a widespread constraint of the enabling environment.

2. Establishing a supportive regulatory framework for a green economy

2.1 Introduction

This chapter reviews recent reforms and opportunities in the finance, energy, transport, agriculture, and petroleum sectors. Government’s regulatory framework that supports the green economy affects the incentives facing private investors in several ways. Relevant themes include: in the finance sector the challenge of accessing green finance; the licensing and regulation of renewable energy (RE) supply and maintenance; the use of electric vehicles and associated infrastructure; sustainable agricultural practices; as well as regulating the negative effects from fossil fuel and petroleum sector activities.

2.2 Framework for the promotion of green finance

The Green Finance Study (PAGE, 2019) identified several opportunities and policy reforms to help address the barriers in the enabling environment. In the regulatory framework, for example, there was an identified need for legislation and guidelines to support the introduction of green bonds, as a source of credit intended to fill the gap in financing available for long-term projects. Banks’ ability to extend green credit and potential investors’ demand for green finance was also found to be affected by a lack of clarity in the definition of green finance. The report therefore proposed strengthening and embedding sustainable banking principles which could help clarify the concepts of green finance.

Since 2019, the Securities and Exchange Commission (which regulates the Ghanaian securities markets), with support from the IFC, has begun to develop guidelines for issuers and investors for green bonds in Ghana.¹ The framework for green bonds is expected to help unlock investment for private sector projects, providing opportunities for investors to finance renewable energy, low carbon transport, buildings, and other ‘green’ projects.

In addition, the Bank of Ghana has introduced the Ghana Sustainable Banking Principles (SBPs), which outline the following seven principles: Environmental and Social Risk Management (ESRM); Internal Environment, Social, and Governance (ESG) standards in banks operations; Corporate Governance and Ethical Standards; Gender Equality; Financial Inclusion; Resource efficiency, Sustainable Production and Consumption; and reporting on five environmentally sensitive sectors (Agriculture and Forestry, Construction and Real Estate; Manufacturing; Oil, Gas and Mining; and Power and Energy). By 2020, 24 commercial banks in Ghana had agreed to the Sustainable Banking Principles. The reporting requirements for these principles were launched in 2021, requiring all banks in Ghana to integrate environmental and social considerations into their risk frameworks and report to the BoG periodically (IFC, 2021). However, challenges remain around how they relate to financing of green projects. While the regulatory framework is important to lay a foundation for defining green finance and raising awareness across the banking system, more direct measures may

¹ <https://pressroom.ifc.org/all/pages/PressDetail.aspx?ID=26337>

be needed to incentivise banks to invest in green finance projects, particularly for SMEs, which typically have weaker credit history and collateral.

All these measures aim to strengthen the country's regulatory framework in support of green investments. A considerable number of reform efforts are currently underway, despite the challenges brought about by the outbreak of COVID-19 in Ghana. Their recent development, however, precludes an assessment of their implementation and their effectiveness in promoting green investments.

2.3 Promotion of renewable energy

Under the Renewable Energy Act 2011 (Act 832), the supply of renewable energy is regulated by the Energy Commission and the Public Utilities Regulatory Commission (PURC). The PURC is responsible for approving the charges for the purchase of RE electricity and grid connection charges. The Energy Commission's responsibilities include licensing of RE providers, advising government on the incentives for the supply and use of RE, promotion of RE through liaison between public agencies, the private sector and civil society, as well as promoting awareness around the efficient use of RE.

A major constraining factor in the licensing regime for on-grid renewable energy is the moratorium on new renewable energy and conventional thermal power plant capacity, introduced in 2017. The ban came into effect partly due to the very low rate of successful development of utility scale grid connected RE projects that had been granted provisional wholesale electricity supply licenses. However, the main reason for the moratorium was in response to the excess generation capacity achieved under the numerous Power Purchase Agreements (PPAs) for which the government was obliged to pay Independent Power Producers (IPPs), even for unused electricity.²

The ban on new licenses does little to incentivise existing license holders to develop projects for successful implementation. It would be important to understand the reasons for the poor performance of these license holders and introduce a more effective, competitive process to build capacity in the sector, suggesting the need to lift the ban on new licenses as well as reviewing existing ones. Furthermore, the main cost of excess capacity under current PPAs is from thermal power: a study by Ackah et al. (2021) showed that of thirty-two identifiable contracts in place, two are solar, three are Emergency Power Producers, nine are gas or gas/hybrid IPPs and the remaining 18 PPAs were signed but not under construction at the time of the study.

There is an opportunity to lift the ban on renewable energy, which over the long-term would provide energy more cheaply³ and sustainably than conventional thermal power (Kpogo, 2021). The ban on thermal power licenses could remain in place. Government negotiations with IPPs and Gas Suppliers under the ESRP Consultation Process is working to secure more favourable and sustainable agreements for both parties.

² An estimated US\$500 million a year in excess capacity payments, according to the [Ministry of Finance and Economic Planning](#).

³ Estimates suggest wind and solar power costs less than 7 cents per kilowatt-hour compared to 11 cents from thermal power (Kpogo, 2021)

A further issue in the planning for larger projects are weaknesses in implementation of Environmental and Social Impact Assessments (ESIAs) framed by the requirements of the 1999 Environmental Assessment Regulations (GCA et al., 2021). A lack of advanced scenario-based approaches to inform future needs has meant that climate risks associated with some projects have not considered the implications of changing climate conditions and hazards. This analytical gap may affect future energy supply, agricultural productivity, and public safety, and could lock in climate risks that increase the vulnerability of urban and rural communities.

Furthermore, the GCA et al. 2021 report found that designers and engineers tend to apply international standards for designing new energy infrastructure, which may not be appropriate or enforceable in Ghana. The report found that although the Ghana Standards Authority has led the development and adoption of national standards for the energy sector (e.g., for streetlights, solar modules, batteries, inverters, solar lanterns, and liquid biofuel) there remains a need to strengthen local capacity to develop and embed locally relevant national standards.

For off-grid RE, Ghana's 2020 Adaptation Strategy and Action Plan for the Infrastructure Sector promotes off-grid RE systems, particularly for disconnected and rural communities. A study by Ackah et al. (2020) argued that the regulatory environment is critical to attracting private investment in solar mini-grid projects as it typically creates a natural monopoly, requiring controls to protect consumers and investors, as well as monitoring of service quality and incident reporting. Regulations must therefore fulfil several criteria, including providing clarity on the service areas, protection of investors from the threat of central grid extension, ensuring quality and reliability of services, promoting health and safety, ensuring transparency and flow of relevant information, and ensuring financial sustainability through tariffs and support systems. The 2021 needs assessment study found that while standards for mini-grid development in Ghana had been developed they were mostly not yet adopted. For solar PV overall, as a developing sector in both supply and potential assembly in Ghana, there may be need to review and rationalise the overall regulatory framework to clarify investment opportunities and reduce unnecessary burdens while ensuring consumers are able to benefit from improving service quality and falling costs as the market develops.

2.4 Regulation to support low carbon transport

To promote the technology shift from fossil fuel-based vehicles to electric vehicles, the 2019 Budget Statement indicated that this planned transition would require public-private partnerships to install the necessary infrastructure for electrical charging. Part of this transition will require a national plan to drive the switch, which is being developed by a high-level committee under the 'Ghana Energy Transition Plan', with a long-term horizon to 2050 to achieve a greener transport sector. The Energy Commission, in partnership with the Ghana Standards Authority, is also developing standards and a regulatory framework for the infrastructure of EV charging points, with a multi-sectoral committee working on a baseline framework and regulations, expected to be completed by the end of 2022.

In addition to the infrastructure for charging and associated regulations, tax and rebate or 'Feebate' systems have been proposed in other countries and for Ghana (e.g., World Bank, 2021) to provide a further incentive to stimulate demand for EVs and discourage the importation of fuel-inefficient (high emissions) vehicles. This proposal is discussed further in Chapter 3. An important underpinning

factor to the success of a feebate scheme, however, will be the emissions standard applied and its implementation through inspection and certification, either pre-shipment or on arrival. The vehicle feebate scheme introduced in 2011 in Mauritius, for example, faced operational challenges related to the measurement of emissions levels of imported vehicles, particularly for used vehicles imported from countries where the UNECE certification standard was not implemented. As a response to this challenge, the Mauritian government adjusted the rates of rebate to introduce a second tier (lower) rate for non-conforming emissions certificates. In 2019, to incentivise the take up of efficient vehicles further, a mandatory requirement for a fuel consumption and carbon dioxide emission label in all vehicles was introduced supported by a country-wide information awareness campaign.

2.5 Regulatory framework for sustainable farming practices

A recent study by the World Bank has proposed a feebate scheme for sustainable (low carbon) cocoa farming practices (World Bank, 2021). Crop production and deforestation contribute a significant share of Ghana’s greenhouse gas emissions. A cocoa feebate would mean placing a tax per tonne of cocoa unless (or until) a producer could produce certification to prove that it was deforestation-free. This would disincentivise deforestation and promote practices that protect vulnerable ecosystems and have wider benefits for the nutrient content of the soil. Underpinning this feebate scheme would need to be an effective, independent certification process, either through existing third-party standards agencies or a new government certification scheme.

If the tax were to be applied while the certification scheme was still being rolled out, however, Ghana’s cocoa exports could become less competitive, in addition to the likely added cost to producers of transitioning to more sustainable, but likely more expensive production practices. As well as requiring capacity in the sector to undertake third party assessments, the certification scheme would need to be enforced effectively and efficiently, including securing sufficient levels of take-up. Experience from other countries suggest that this comes with considerable risks. For example, Indonesia’s Sustainable Palm Oil Certification Scheme has experienced implementation challenges since its introduction in 2011, limiting uptake to 38% of the country’s oil palm plantations by 2021. However, Ghana has experience of delivering third party standards certification of cocoa through the Rainforest Alliance UTZ and Fairtrade standards. It may therefore be possible to review these processes to incorporate sustainability certification for the purpose of a feebate scheme (World Bank, 2021).

2.6 Downstream petroleum sector deregulation

From 2001 until 2015, the Government, through the National Petroleum Authority (NPA), had a system of regulating the petroleum price.⁴ This system was introduced to ensure government revenue generation, price uniformity, and full cost recovery (based on the import parity pricing (IPP) benchmark) including contributions to the Unified Petroleum Price Fund (UPPF) (Acheampong and Ackah, 2015). However, the administrative-based fuel pricing formula ran into challenges due to its

⁴ Bulk distribution companies (BDCs) paid the price based on the IPP benchmark that included the free-on-board (FOB) price, exchange rate, freight charges, taxes and duties, and insurance and losses. The cost price was then determined based on the average of two-week FOB prices and the exchange rate of the Cedi to the US dollar. Ancillary charges such as customs and import duties were added to arrive at the ex-refinery price.

asymmetry with world prices. While the petroleum prices generated using the formula usually increased in line with rising world fuel prices, they rarely decreased when world fuel prices fell (Park, 2015).

In 2015, the government removed regulations on petroleum prices, with support from the World Bank and the International Monetary Fund (IMF). This reform included the removal of restrictions on the importation of crude oil and petroleum products, unrestricted operations of petroleum facilities, and price liberalisation. Importers and marketers of petroleum products were permitted to set their own prices (Broni-Bediako et al., 2020). In parallel, the government also removed subsidies offered on petroleum products (Acheampong and Ackah, 2015; Park, 2015), which had become very costly. In 2013 alone the Ghanaian government spent 3.2% of GDP, approximately GHc 2.4 billion, on petroleum subsidies (Ministry of Finance, 2021).

The deregulation of administrative pricing aimed to de-politicise the petroleum sector, with the NPA limited to overseeing and regulating the quality of petroleum products (Acheampong and Ackah, 2015, Park, 2015). The deregulation was also expected to attract private investment into the sector (Broni-Bediako et al., 2020) and to increase efficiency and promote competition, as companies would be expected to offer lower prices to consumers. Nonetheless, since 2020 high fuel prices set by the oil marketing companies, despite low global prices of crude products, have prevailed causing significant public opposition. Fuel prices in Ghana increased by 161% from 2015 to 2021 (Ghanaian Times, 2022; Modern Ghana, 2015). It is claimed that this increase in price was due to the falling exchange rate of the Cedi in comparison to the US dollar and the high taxes and levies imposed (Business, 2021).

2.7 Conclusion

This national experience, and from elsewhere, highlights the significant amount of highly specialised work required to develop the national standards that would support increased private sector take up of green economy measures. Regionally, there remains little precedent upon which Ghana can quickly draw on to develop its own national standards. Building the necessary regulatory framework will require significant dedicated capacity across government MDAs.⁵

⁵ MDAs: Ministries, Departments, Agencies

3. Supporting private investment to green the economy

3.1 Introduction

The fiscal challenges posed by the COVID-19 pandemic have exacerbated the already fragile debt sustainability position of Ghana that had existed in pre-COVID years. Government's fiscal response to the pandemic means that in the short to medium-term, at least, there will be limited fiscal space for public investments to support additional green recovery measures. As public expenditure is severely constrained as a direct driver to advance the green recovery, the strategic deployment of green subsidies and financial support to green businesses and industry becomes a critical pathway to ensuring sustainability.

3.2 Government's overall policy direction in support of COVID recovery

The Ghana COVID-19 Alleviation and Revitalisation of Enterprises Support Initiative (CARES or Obaatan pa) programme was launched in November 2020 as the government flagship policy for the national COVID recovery (Ministry of Finance, 2020). It aims to stabilize and then transform the economy in the agricultural, manufacturing, and construction sectors, all of which have climate impacts in terms of emitting greenhouse gases and offering opportunities to strengthen climate resilience. The CARES programme aims at stabilizing the economy through the provision of a range of government subsidies: a loan facility to MSMEs, a credit guarantee scheme, an unemployment insurance scheme, and the provision of reduced cost or free utilities during the first phase of the programme (the stabilization phase), targeting social and economic upliftment. It also aims to establish Ghana as a key financial hub by strengthening the Ghana Investment Promotion Centre and the Ghana Free Zones Authority. Enhancements and investments in various State-run initiatives through the CARES programme present opportunities for the government to use these interventions for green recovery, if they are given policy priority. However, the CARES programme document is silent on the level of attention to be given to promoting a green recovery, raising uncertainty over government's policy intentions to prioritize such action.

3.3 Government support for renewable energy

Despite the significant cost reduction in renewable energy technology, the contribution that renewables make to national installed generation capacity is presently less than 1%. There was some growth in renewables (on-grid utility solar) in 2015 and 2018, but from a tiny base. An impact of the pandemic has been a slowdown in the uptake of RE technologies in the country. As the pandemic took hold in early 2020, the Energy Commission was not able to push the agenda to increase penetration of RE technology as business incomes and revenues were affected by the economic downturn. Private enterprise interest waned in investing in RE technology, reflected in a reduced level of license applications. However, since mid-2021 there have been some tentative signs of renewed interest, with additional capacity coming on stream, mainly through off-grid investments.

The possible application of tax incentives to renewable energy is mostly focused on the expansion of Solar, including the use of, and investment in, solar energy generation (on and off-grid) and to boost local production of renewable energy (e.g., assembly of solar PV units). For example, the Energy Commission has recently advised the Finance Ministry on an import waiver to support local assembly to compete with imports. The 2019 Renewable Energy Master Plan outlines proposals for accelerating local production to supply the local market and for export, including an incentive structure to support plans for locally assembled panels to be competitive in the local and international markets (Ministry of Energy, 2019).

Currently, there are concerns of a price differential between imported solar PV and locally assembled products, partly due to taxes and duties imposed on materials, so there may be a case for providing some relief on materials used in local assembly. This results in an outcome where it is cheaper to import renewable energy products instead of making them domestically (which is a challenge the government is currently looking at addressing). By contrast, there is limited scope for further tax incentives to reduce the cost of finished Solar PV panels, since they are already zero-rated for import duty and VAT on imports, according to the GRA.⁶ Any further reduction in cost would likely require direct subsidy or tax credit.⁷

For the case of local assembly of PV panels, machinery and parts used in manufacturing are already exempt from VAT, but final products sold would likely be subject to VAT, since there is no explicit exemption or special rate for such items. For businesses purchasing locally assembled panels, this creates a price distortion compared to imported panels, which are VAT-free. This is particularly problematic for mini-grid operators, as the supply of electricity to dwellings is also exempted in the VAT Act and they would be unable to reclaim the VAT paid on purchase of solar cells.

An alternative (or additional) instrument available to provide further local assembly and mini-grid investment incentives might be through income tax incentives. Income tax holidays are generally not recommended due to their inefficiency (since this is a tax on profit, any new enterprise that is initially loss-making would not be liable for income tax). However, additional allowances or accelerated depreciation for capital equipment can sometimes be a useful and more efficient incentive for investment (James, 2014). Alternatively, if businesses can locate in designated Special Economic Zones, the Government already provides a general tax relief, including income tax holidays for 10 years (and a reduced rate thereafter) as well as 100% exemption from payment of direct and indirect duties and levies on all imports for production and exports from free zones.

3.4 Government support for clean transport

The potential role of tax incentives in the transport sector, apart from supporting the expansion of public transport through, for example, VAT and import duty exemptions for passenger transport and vehicles, is to incentivise the increased uptake of Electric Vehicles (EVs). The 2019 budget called for an import duty waiver to support the Drive Electric Initiative to increase uptake of electric vehicles

⁶ https://gra.gov.gh/customs/hs_code/

⁷ For example, a scheme in the city of Salvador, Brazil, offers a discount against local land tax for households generating 90% of energy from solar: <https://www.c40.org/case-studies/tax-incentives-for-solar-panel-usage-introduced-in-salvador/>

through increased affordability. The Government also plans to promote local assembly of EVs that may require fiscal incentives, as the import of parts for assembly are subject to import duty at 5% plus VAT. For consumer purchase of EVs, the current tariff code imposes import duty of between 5% and 20% on imported electric and hybrid vehicles, plus VAT at 13%.

Overall, there may be a case for targeted tax incentives for EVs, combined with complementary policies such as the regulatory reforms needed to promote investment in the infrastructure for EV charging. However, given their likely cost and Ghana’s limited fiscal space, any new tax incentives should follow a review of existing ones, with a view to replacing ineffective incentives with more productive ones. There may be scope, for example, for reform of VAT and import duty on locally manufactured EVs, and/or import duty relief on (finished) EVs. For these incentives to be effective it will be important to mitigate the risks of abuse, including ensuring adequate targeting in the design of legislation, effective and transparent monitoring and evaluation, and use of relevant conditions to ensure the desired outcomes are achieved.

3.5 The special case of ‘feebates’

Whilst introducing new taxes may be politically unpopular, especially during the COVID-19 recovery phase, there may be a role for options that can be designed to be revenue neutral and incentivise consumer or producer choices to switch to more sustainable products or production methods. ‘Feebates’ are one such option. The principal features of a feebate are fees or taxes imposed on the supply of goods or services, ideally at a rate commensurate with the carbon intensity of production or consumption, with a rebate or subsidy provided for the low-carbon activity or goods, usually based on evidence of an approved (or certified) standard. Examples from international experience include the French feebate system for vehicle manufacturers who receive a subsidy for producing vehicles with low emissions that is financed by cars with emissions above the threshold⁸; and the introduction in Switzerland of a default rate of tariffs on imported palm oil with a reduced rate granted when the palm oil is certified deforestation-free.

Recent studies have proposed feebate options for Ghana. For example, a 2015 UNEP study proposed a feebate scheme for imported vehicles that would not require any adjustment to tariff rates (UNEP, 2015). Rather, the reform would superimpose a system of fees and rebates offered according to CO₂ emissions. The scheme could be designed such that the ‘pivot point’ (the standard on a continuous scale at which the fee turns into a rebate) would be set to ensure that the scheme is revenue neutral and could be adjusted as technology changes over time. Revenue neutrality would still mean there would be winners and losers, but it would involve a redistribution from owners of low fuel-efficient vehicles to high fuel-efficient ones.

Currently, imported vehicles are subject to Import Duty at a rate of 5%, 10% or 20% depending on engine size and passenger capacity, with special 0% or 5% rates for vehicles used for specialised purposes e.g., agricultural tractors. Most vehicles are also subject to VAT and several levies.⁹

⁸ See for example, Yang (2018) for a review of the French Feebate system

⁹ GETFund, AU Levy, ECOWAS Levy, EXIM levy, and Special Import Levy

However, none of these taxes reflect the level of carbon emissions or wider environmental externalities of vehicle use.

Lessons can be drawn from other country experiences. Uganda, for example, imposes an ‘Environmental Levy’ of 20% on imported vehicles that are eight or more years old. This is a simple scheme to implement and was successful in reducing imports of the target group. But as a blunt instrument, in terms of its overall incentive effect on consumer choices between low and high-emitting vehicles, it was also found to have unintended substitution effects towards much older vehicles (16+ years) due to price and local preferences (Forster and Nakyambadde, 2021). This suggests a need for a more continuous (progressive) set of rates based on emissions, or an outright ban for much older vehicles. Other country experience suggests that an emissions-based feebate system is feasible, although there are likely to be challenges in ensuring that it is revenue neutral and in the accurate and consistent measurement of the emissions standards applied (Granger et al., 2021).

Another sector example, proposed by the World Bank (World Bank, 2021), would be a feebate scheme for sustainable (low carbon) cocoa farming practices (as described in the previous chapter).¹⁰ Crop production and deforestation contribute a significant share of Ghana’s greenhouse gas emissions. A cocoa feebate would mean placing a tax per tonne of cocoa unless (or until) a producer could produce certification to prove that it was deforestation-free.

3.6 Conclusion

Government has very limited fiscal space to support green economy initiatives through direct subsidy and new public investments. Under such circumstances, assistance schemes that are designed so that they are revenue neutral may be a more feasible approach, with the amount of green subsidy balanced by taxation of non-green activity. Hence the interest in feebate systems. It should be possible to introduce feebates in Ghana, and these could have a potentially significant impact on greenhouse gas emissions. Further consultation would be needed with both the cocoa and transport sectors to assess the feasibility and potential of these measures. Careful attention to the design (e.g., revenue neutrality) and implementation (effective and accurate independent certification) will also be important for success.

¹⁰ For example, more long-term productive and sustainable agro-forestry, rather than the short-term, cheaper but more destructive ‘slash and burn’ practices.

4. Limiting spending in areas that deplete natural capital

4.1 Introduction

Fossil fuel related subsidies in Ghana are channelled through several public corporations, including the Electricity Company of Ghana, the Ghana Grid Company, the National Gas Company, the Ghana National Petroleum Corporation, and the Tema Oil Refinery. Understanding the indirect (and often contingent) fiscal impacts of subsidy reform is a critical issue, as the largest six public energy corporations have liabilities of around 11–12% of GDP (IMF, 2019).

4.2 Fossil fuel subsidy reform in Ghana

Over the past 20 years, Ghana has taken several important steps in reforming its fossil fuel subsidies, partly to pursue redistribution and broader development goals. In 2004, subsidies made up 2.2% of the government's budget and exceeded the Ministry of Health's budget (Kojima, 2013). In 2005, following several unsuccessful reform attempts, the government established the National Petroleum Authority (NPA) to depoliticise the price-setting process through a formula for establishing fuel prices and a regular review of oil prices (Whitley and van der Burg, 2015). There were also a series of complementary measures introduced to ensure public support for reform, including the elimination of fees for state primary and secondary schools; a cap on public transport fares; additional funding for healthcare in poor areas; and a rise in the minimum wage (Ibid., 2015). The school fees scheme was later expanded and included over 110,000 households by 2018 (UNDP, 2021). The 2005 reforms were also supported by a Poverty and Social Impact Assessment (PSIA) - which found that subsidies were poorly targeted and mainly benefiting the wealthy - and a communications campaign to share its results with the public to secure support for reform and avoid a public backlash (GSI, 2010).

Following the 2005 reforms, subsidies to petrol, diesel, kerosene, and LPG continued (World Bank 2014). Significant public resources were allocated to cross-subsidize domestically consumed fuels, such as kerosene and fuel for fishing boats, and to repay debt, particularly to the national oil refinery. The cross-subsidies often led to policy distortions, such as mixing of fuels to be eligible for preferential pricing, and resulted in a loss in public revenue. Moreover, the automatic price adjustments by NPA were suspended due to commodity price hikes. By 2013, the cost of fuel subsidies had risen to US\$1.2 billion, or about 3.2% of GDP (Cook et al., 2014). The government thus raised the price of kerosene by 15% and LPG by 50%, and reduced the large subsidies for electricity through increases in tariffs. These reforms were complemented by a 17% rise in the minimum wage and an expansion of the cash-transfer programme (LEAP) from 100,000 to 150,000 households (Mensah, 2014). As a well-targeted programme, LEAP has also had positive impacts in terms of reducing inequality. The programme costs far less than fossil fuel subsidies (Cook et al. 2014). The subsidy reforms created additional fiscal space, which has been allocated to growth and development goals, including health, education, and transport infrastructure. Price pressures from subsidy reform were partially offset by the introduction of competition in oil marketing (previously a government-sponsored monopoly), which compressed margins in downstream segments of the value chain (World Bank, 2017).

However, technical and institutional constraints have hindered the management of the complex impacts of energy subsidies on cashflow and balance sheets and their further impacts. The financial difficulties faced by the oil refinery and state power company have often led to reactive pricing reforms to cover urgent cashflow needs (UNDP, 2021). Reforms are now in place to ensure public corporations submit annual audited financial statements, although better data systems are required to strengthen the quality of data (IMF, 2019). For example, the Tema Oil Refinery’s failure to prepare and submit sufficiently frequent bank reconciliation sheets has contributed to substantial revenue leakage.

4.3 Government support to the oil and gas sector

Despite successful reform, Ghana continues to provide high levels of subsidies to fossil fuels, including towards the production of oil and gas.

Following the discovery of large oil and gas reserves in the country in 2007, extracting income from these resources has been a primary goal for the government. Oil and gas extraction has therefore enjoyed preferential taxation, such as corporate income tax being calculated net of all expenses incurred in the petroleum operations and approved by the Petroleum Commission and the Ghana Revenue Authority as petroleum costs. These expenses have included rental fees, royalties, interest on fees and loans, expense on maintenance, repair or alteration of machinery, debts directly incurred in the conduct of petroleum operations, contributions to pension or provident funds approved by the Petroleum Commission, capital allowance (determined by the law) and losses from the previous year of assessment (Adadzi and Godson-Amamoo, 2021). Other taxes exempted under petroleum agreements are value added tax (VAT), customs and import duties and taxes associated with importation of equipment for petroleum operations (Ibid., 2021).

With regard to direct government support, although there has been strong interest from foreign investors for years, such interest has diminished owing to the global energy transition and the oil price collapse due to the Covid-19 pandemic. As a result, Charles Adu Boahen, Minister of State at the Ministry of Finance, has claimed it is time for Ghanaians to “become masters of our own destiny when it comes to our oil and gas resources” (Mozart-Dwazu et al., 2021). In August 2021, government was seeking parliamentary approval for the state oil firm to borrow \$1.7 billion against its reserves to accelerate oil and gas exploration by acquiring and developing assets (Ibid., 2021).

4.4 Conclusion

Ghana has over 15 years of experience with fossil fuel subsidy reform, and in that time has become a significant oil and gas producer. This strategically important resource remains key to the country’s development pathway. Government policy has therefore to balance competing interests, yet fossil fuel subsidy reform to-date has demonstrated that growth and development goals can be advanced through such reform. Moreover, revenues from the oil and gas sector can also be channelled towards supporting clean energy development, and creating an enabling environment for private green finance.

5. Employing taxes and market-based instruments to promote a green economy

5.1 Introduction

The role of taxation in promoting a green economy includes revenue mobilisation to finance relevant public investment. The principles of efficient and equitable tax systems generally, including progressive direct taxes, single-rate, comprehensive consumption taxes and simple, transparent, and fair administration, for example, will also be important for the green economy by providing a more conducive environment for doing business.

In addition, tax policies also create the incentive structure for business investment decisions and consumer choices through its effect on relative prices. By providing a powerful price signal to private markets, taxes on carbon or other environmentally harmful activities incentivise scaling up private financing of green technologies and transitioning away from harmful activities and energy sources. An efficient tax system ideally captures in market prices the hidden costs to society (externalities) of harmful activities, such as environmental pollution, as well as wider benefits of positive activities such as technological innovation.

To support revenue mobilisation and doing business, the government has introduced several reforms to income tax, indirect taxes, and customs in recent years (Iddrisu et al., 2021), including measures in the 2022 National Budget expected to yield additional revenues. Tax changes to attract investment from the private sector have included the removal of Value Added Tax on financial services and securities gains; import levies on machinery and raw material; and levies on public lighting and electrification schemes. Other VAT reforms have included the introduction of a simplified flat rate scheme for smaller businesses. In 2018, the Government fully implemented the ECOWAS Common External Tariff and reduced import benchmark values applied to tariffs by 50% in 2019.

This section provides a review of the current policy framework and options for reform to taxation of environmentally harmful activities in the transport and energy sector, namely: taxes on the use and ownership of vehicles and the use of fossil fuels in the energy supply, as well as consideration of how these could be combined within the framework of a broader carbon tax.

5.2 Environmental taxes

In the recovery phase from the COVID-19 pandemic, especially in the context of Ghana's fiscal deficit, there is a need for fiscal consolidation, including domestic revenue mobilisation measures. Any revenue raising measures will need to be targeted carefully in the short to medium-term to ensure that they do not dampen demand in the economy during the recovery. Targeted measures, such as environmental taxes have been discussed internationally in this context as offering potential

to achieve the double objective of both raising potentially significant revenue as well as addressing environmental externalities needed to support a green recovery.¹¹

Emissions taxes, or taxes on fuels are typically imposed per unit of emissions, at a level estimated to reflect the ‘external’ costs, such as the social cost of carbon emissions, or estimates of health and environmental impacts of local pollution, traffic accidents or congestion. Carbon pricing is a broader form of emissions tax, which captures the full external and internal price of carbon emissions at all levels of the supply chain from production to consumption and can be achieved through a carbon tax or Emissions Trading System.

Ghana does not currently have an explicit carbon tax, nor a CO2 emissions trading system. Duties are imposed, however, on emissions-producing petroleum products, including gasoline, diesel, kerosene, LPG, and fuel oil. In recent years, several levies on petroleum products have been introduced to support debt recovery in the downstream petroleum sector, financing of energy and transport sector investments, as well as improving air quality and waste management. Implications and opportunities for tax reforms to incentivise the transition to low carbon transport and energy generation are discussed below.

5.3 Transport fuel tax reform

Ghana has not made any formal commitment to introduce a carbon tax but has made progress towards this aim by removing the administrative pricing of fuels (as described in Chapter 2) and increasing duties on transport and energy generating fuels. Since 2015, the rate of tax levies on gasoline has increased from GHc 0.23 per litre of gasoline and GHc 0.15 per litre of diesel to GHc 1.90 and 1.88 respectively. This represents an increase in the tax burden per litre of fuel from 11% of the retail price in 2015 to 40% in 2020. Table 2 summarises the taxes on transport fuels. Since 2020, fuel prices have increased by around 45%, effectively reducing the tax burden on a litre of fuel to around 27% of the retail price. In addition, public reaction to rising prices has placed the Government under pressure to cut taxes to ease the burden on consumers. In response, the government suspended the Price Stabilisation and Recovery Levy (PSRL) on petroleum products for two months in November 2021.¹²

Table 2: Taxes imposed on transport fuels, 2022

Levy	Legislation (Source)	Gasoline (GHc/Litre)	Diesel (GHc/Litre)	Purpose & Earmarking
Energy Debt Recovery Levy	Energy Sector Levies (Amendment) Act, 2019 (Act 997)	0.49	0.49	To facilitate debt recovery of TEMA oil refinery, downstream petroleum sector foreign exchange under recoveries, and power generation and infrastructure support.
Road Fund Levy	Energy Sector Levies (Amendment) Act, 2019 (Act 997)	0.48	0.48	To finance the Road Fund for road maintenance.

¹¹ For example, de Mooij et al., 2020, cite estimates of a carbon tax of \$75 per ton—necessary to meet the Paris Agreement climate objectives—expected to generate between 1 and 2 percent of GDP in some countries over the medium term.

¹² <https://www.ghanabusinessnews.com/2021/11/22/fuel-prices-to-hit-gh%2%A27-per-litre-by-end-of-year-ies/>

Levy	Legislation (Source)	Gasoline (GHc/Litre)	Diesel (GHc/Litre)	Purpose & Earmarking
Energy Fund Levy	Energy Sector Levies Act, 2015 (Act 899)	0.01	0.01	Paid to the Energy Commission to support Energy Commission activities.
Price Stabilization and Recovery Levy	Energy Sector Levies (Amendment) Act, 2019 (Act 997)	0.16	0.14	Buffer for under-recovery or subsidies to stabilise petroleum prices for the consumer (paid to Price Stabilisation and Recoveries Account).
Energy Sector Recovery Levy	Energy Sector Levies (Amendment) Act, 2021, (Act 1064)	0.20	0.20	Financing the Energy Sector Recovery Account to support the payment of capacity charges in the energy sector; and energy sector bills (i.e., fuel utilised by a power plant to generate or produce energy).
Sanitation and Pollution Levy	Energy Sector Levies (Amendment) Act, 2021, (Act 1064)	0.10	0.10	Sanitation and Pollution Account to be used to: improve air quality in urban areas; support for solid and liquid waste treatment and disposal facilities; sanitation facilities; support disinfection, disinfection and fumigation of public spaces, schools, lorry parks, health centres and markets; and support for the maintenance and management of major landfill sites and other waste treatment plants.
Special Petroleum Tax	Special Petroleum Tax (Amendment) Act, 2018 (Act 965)	0.46	0.46	Tax on petroleum products charged on supplies by oil marketing companies.
Total Taxes (GHc)		1.90	1.88	

UNEP's 2015 *Green Economy Fiscal Policy Analysis* recommended adjusting fuel duties towards an efficient tax rate that would capture both global and local emissions and environmental damages (UNEP, 2015). Since then, the estimated damages and efficient tax rates for transport fuels have been updated for Ghana, as summarised in Table 3 below (Parry et al., 2021).

Table 3: Comparison of Estimates of Damages and Efficient Tax with Current Tax (US\$ per litre)

	Estimate of Damages (Sep 2021)			Actual vs Efficient Tax	
	Global (carbon)	Local air pollution	Vehicle externalities	Efficient Tax	Actual Tax
Gasoline	0.16	0.03	0.18	0.37	0.33
Diesel	0.18	0.17	0.11	0.46	0.33

Source: Author's elaboration on data from Parry et al. 2021

Comparing the estimated efficient tax with the current rates of taxes on transport fuels indicates that the current tax burden on gasoline is already close to the efficient rate. There is a wider gap in diesel taxes, although the present tax level still represents a significant increase in tax burden compared to 2015. By updating the methodology used in the 2015 UNEP report, using the above tax rate adjustment for diesel, we estimate (see Table 4) that adjusting the tax rate on diesel could

generate additional revenues of GHc 1,394 million (US\$243.3 million), which represents an almost 40 percent increase compared to existing revenue collection. With a low (assumed) price elasticity of demand, consumption of diesel will likely diminish by a small amount (approximately 1.4 percent) over the short-term and approximately 6.5 percent over the longer-term.¹³

While this may sound a positive reform to consider in principle, there would be winners and losers from such a policy. Figure 1 represents the share of household expenditure on transport fuels across different income quintiles and shows that transport fuel consumption is higher among the upper quintiles, suggesting that such a reform would be progressive. Nonetheless, there would be negative impacts on lower income households as well, which would need support through some form of compensating transfer.

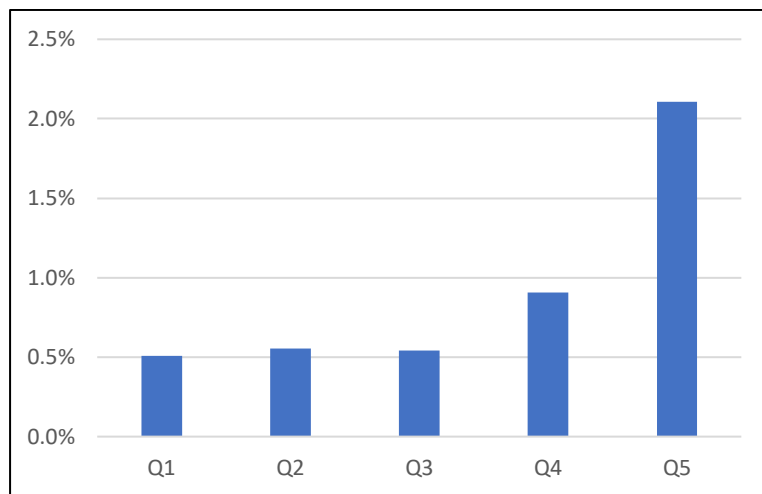
Table 4: Simulation of Change in Fuel Levies on Diesel to Adjust for Global and Local Environmental Externalities

	Diesel
Current taxes and levies (GHc/litre), 2021	1.88
Price (GHc/litre), Feb 7, 2022	6.94
Adjustment for global and local damages (GHc/litre)	2.63
New price (GHc/litre)	7.69
% Change in price	10.8%
Short-term elasticity*	0.13
Consumption (2020, Litres)	1,953,531,956
Consumption adjusted for tax change	1,926,048,478
Short-term % change in consumption and damages	-1.4%
Long-term elasticity**	0.6
Long-term % change in consumption and damages	-6.5%
Estimated tax collections before tax reform (Ghc)	3,672,640,077
Estimated tax collections after tax reform (Ghc)	5,067,316,205
Additional collections (GHc)	1,394,676,127
GDP, 2021 (GHc million)	439,381
Additional collections (% GDP)	0.32%
% Change in tax collections	38%

Source: *Dahl (2012); **Based on Labandeira et al. (2016); Based on analysis in UNEP (2015) and updated with Parry et al. (2021); Globalpetrolprices.com; Energy Sector Levies Act 2015; Energy Sector Levies (Amendment) Act, 2021, (Act 1064); Energy Commission (2021b); Budget Statement 2022.

¹³ Depending on the elasticity assumptions used.

Figure 1: Shares of transport expenditure in total household consumption expenditure by income quintile, 2017



Note: Households are ranked by equivalised consumption, used as a proxy welfare measure in Ghana, since income is not captured well in GLSS7

Source: Ghana Living Standard Survey (GLSS7), 2017

5.4 Taxation of vehicle ownership

The government of Ghana also imposes taxes on the import, ownership, and use of vehicles. These taxes include the Vehicle Importation Duty and VAT on vehicles (including the Ghana Education Trust Fund Levy and National Health Insurance Levy). Domestic passenger transport by road, rail, or water is exempt from VAT. Customs duty on vehicle imports is levied at rates standardised under the ECOWAS Common External Tariff, using the Harmonised System of Classification. The Government also imposes a Vehicle Income Tax (VIT), which is collected from commercial transport operators on a quarterly basis. The VIT sticker system is a mechanism for collecting tax from owners of commercial vehicles. Where the person is an individual, the payment is off-set against annual personal income tax liability on filing the end-of-year tax return. The tax is paid in quarterly instalments that depend on the class of vehicle (Iddrisu et al., 2021). Vehicle ownership is also subject to an initial registration fee, as well as driver licensing fees and each owner or driver pays an annual (or 6-monthly in the case of commercial vehicles) road worthiness charge to the Driver Vehicle Licensing Authority (DVLA).

While these measures, collectively, contribute important revenues to the public purse, their incentive effects on the promotion of the green economy are mixed. Taxation of vehicle ownership and use in general may capture some of the negative externalities to the environment, but the rates of tax (e.g., on the import of vehicles or the licensing of use in Ghana) are not currently aligned to any measure of vehicle fuel efficiency and emissions. One instrument that has been used to address this in other countries (e.g., Mauritius) is the feebate system, discussed previously, which adjusts the tax (or rebate) according to emissions levels of each vehicle, incentivising the take up of greener vehicles.

5.5 Electricity generation tax reform

In addition to adjustments to the transport fuel taxes, the 2015 UNEP report suggested introducing a tax on fuels used for electricity generation (natural gas and fuel oil). Since 2015, the government has introduced taxes on fuel oil (part of the Energy Debt Recovery Levy and Energy Fund Levy) and natural petroleum gas under the Special Petroleum Tax (see Table 5).

Table 5: Taxes levied on petroleum products for electricity generation

Levy	Legislation (Source)	Fuel Oil (GHc/Litre)	Natural Petroleum Gas (GHc/Litre)	Purpose & Earmarking
Energy Debt Recovery Levy	Energy Sector Levies (Amendment) Act, 2019 (Act 997)	0.04	-	To facilitate debt recovery of TEMA oil refinery, downstream petroleum sector foreign exchange under recoveries and power generation and infrastructure support.
Energy Fund Levy	Energy Sector Levies (Amendment) Act, 2015 (Act 899)	0.01	-	Paid to Energy Commission to support Energy Commission activities.
Special Petroleum Tax	Special Petroleum Tax (Amendment) Act, 2018 (Act 965)	-	0.35	Tax on petroleum products charged on supplies by Oil Marketing Companies.

Applying the same approach as for the analysis for transport fuels, we estimate that the current rate of tax on natural gas (GHc 0.35/Kwh) is above the estimated tax rate adjusted for global and local emissions (approximately GHc 0.08/Kwh). For fuel oil, the current rate (GHc 0.05/Kwh) is below the adjusted rate (GHc 0.66/Kwh) and therefore could, in principle, be raised further. Adjusting the tax rate on fuel oil could raise in the region of GHc 290 million (US\$50 million) per year, reducing consumption by about 12 percent in the short term. According to statistics from the GLSS 2017, such a measure would also be progressive, since higher income households consume relatively more electricity: 4% of household expenditure in the top expenditure decile compared to 2.5% in the bottom decile (Advani et al. 2021). However, the distribution is less unequal than that of transport fuel consumption presented above.

5.6 Opportunities for the introduction of a Carbon Tax

The potential impact of carbon taxes in Ghana has been modelled. Advani et al. (2021) estimated the tax base of a carbon tax (measured by the carbon dioxide equivalent (CO₂e) embedded in fossil fuels in 2018) to be almost 14.7 million tonnes, equivalent to revenue potential of close to 0.7% of GDP. The World Bank (2021) estimated the effect of a ‘moderate carbon charge’ (US\$25 per tCO₂ in 2021, rising to US\$50 by 2030) would reduce Ghana’s emissions by approximately 4% by 2030 and raise about US\$0.6 billion in additional revenues. Nonetheless, the impact of such energy price increases appears particularly severe: gas prices would rise by 60%, oil by 24%, diesel by 9%, petrol by 7%, and LPG and Kerosene by 6%.

To date, among sub-Saharan African countries, a carbon tax has only been implemented in South Africa. Such a tax carries important risks: the capacity to deliver an effective compensating transfer to protect those on lower incomes who may be affected; higher costs of energy, at least during the transition to low-carbon technology, which may limit economic growth potential more broadly; and increasing fuel costs may prompt some households to shift consumption towards locally sourced (and largely untaxed) fuel sources, such as firewood and charcoal, which would undermine the potential environmental benefits of a carbon tax (Advani et al. 2021). For these reasons, among others, taxes on fuels are often extremely unpopular and raise significant political risks. As described in Chapter 2, the deregulation of fuel prices was followed by a surge in fuel prices, leading to calls for cuts in taxes to protect consumers from further cost increases.

Overall, in principle there is a good case to be made for carbon taxes in Ghana, particularly for diesel, both in terms of revenue generation and curbing emissions. However, with recent reforms to fuel taxes and the political tension that has been created due to rising fuel prices, the scope and appetite for further reform of fuel taxes (or a wider carbon tax) does not appear to exist. There may be a role for consolidating existing levies under a broader carbon tax framework in future, to support the transition to low-carbon electricity generation and the use of renewables as the sector develops. The effective implementation of such a reform will likely depend, however, on building public support and setting out a clear positive strategy for revenues including mitigating equity and economic impacts.

5.7 Conclusion

Further tax increases do not appear politically viable in the short term. Over the medium-term, if the retail price of fuel stabilises there may be opportunities to consider reform. However, this is likely to require considerable investment in public communications, private sector consultation, and credible compensating mechanisms to secure public support.

6. Capacity building and training

6.1 Introduction

Moving towards a green economy necessitates strengthening the capacity of individuals and institutions across different sectors, to be able to analyse the challenges, identify opportunities, prioritize interventions, mobilize resources, and implement the policies needed.

As discussed in Section 1.3, the banking sector survey undertaken in 2018 on green finance (PAGE, 2019) identified several barriers to the enabling environment that relate to capacity across sectors. For example, a lack of capacity to assess risks associated with green finance investments and constraints on SMEs to access credit. This section discusses available recent evidence on capacity building developments in Ghana to address these barriers.

6.2 The need to increase awareness of and demand for green investments

In order to better understand the latest challenges and opportunities since 2018 in creating an enabling environment for green finance in Ghana, a series of interviews were conducted for this report with stakeholders in the banking sector¹⁴, based on the questionnaire to the survey undertaken in 2018.

Most respondents stated that they have a moderate (perceived) understanding of what constitutes green investments, while three of them thought they had a high-level of understanding. The respondents' views on who they thought were the key private sector actors regarding green finance in Ghana differed. Almost half of the respondents indicated that there was a key role for SMEs, large corporations and/or institutional investors. Just under half of the respondents also thought that other actors were important, namely multinational companies and cooperatives. All the respondents identified the **energy sector** as the most crucial in terms of private investment in the green economy, followed by the **waste** sector (7 respondents) and then the **transport** sector (6 respondents). Only half of the respondents thought **construction** and **industry** were key sectors that were crucial for private green investments.

With regards to **demand for green investments in the private sector**, most respondents thought the demand from SMEs was low, the demand from institutional investors was moderate/low and the demand from large corporations was moderate.

As highlighted in the 2019 PAGE report, SMEs are a key market for green finance, yet they often lack the credit history to access lending for this purpose. While some respondents identified moderate demand from SMEs for green finance, most still noted the lack of access to credit as a constraining factor, due to their inability to meet most credit requirements, as well as a lack of awareness or understanding of green finance and its benefits among SMEs. Larger corporations had some structures in place to access credit for green investment and a greater appreciation of the benefits of

¹⁴ Out of the many financial institutions that were reached, nine responses were received including, five from Prudential Bank, with one respondent each from Access Bank, Ghana Commercial Bank, Ecobank Ghana and from the Institute of Bankers.

green investment, but nonetheless still faced barriers due to unfavourable terms, such as long repayment periods.

With regards to the **availability of loan financing for green investments**, most respondents thought it was low/moderate from **commercial banks** (with the exception of one respondent who thought it was high); and most respondents thought it was **low (or not at all) from rural banks and micro-finance institutions** (with the exception of two people that thought it was moderate from rural banks and one person who thought it was moderate from micro-finance institutions). Reasons for low or limited availability suggested by respondents included a lack of awareness (especially among the smaller institutions), the long-term nature of green investments and limited risk appetite (despite having some capacity to assess risk). Nonetheless, availability appeared to be greater where banks and other institutions had green initiatives and structures in place.

There was a wider range of answers regarding the level of **capacity that exists to identify, assess, and quantify credit or market risks** arising for climate and other environmental exposure. Most respondents thought **independent risk rating firms** had moderate capacity (while one person thought they had high capacity, and another thought they had low capacity). In terms of **financial institutions** (commercial banks), four of the respondents thought moderate capacity, three thought they had low capacity, and two thought they had high capacity. When asked about **institutional investors** (pension funds and insurance companies), three respondents each thought they had high and medium capacity, and two thought they had low capacity.

The lack of capacity to quantify credit and market risks associated with green finance investments was cited in the 2019 report as a key contributing factor to the lack of long-term credit. The response to our recent survey indicates that capacity (or at least perceived capacity) appears to be improving. Nonetheless, some respondents still noted the limited availability of long-term credit. The perceived level of capacity appears to have been influenced by the availability of institutional initiatives and/or training available, boosting the expected capacity. Some respondents believed that these initiatives and experience was likely to be higher in larger corporations, some banks and institutional investors, particularly where there was managerial commitment and specific packages or initiatives had been introduced.

When asked about **how this capacity could be strengthened**, respondents suggested a need for training (and finance for institutions to train), hiring of experts in climate risk to improve capacity to assess and address climate risks (e.g. focusing on benefits); a need to engage stakeholders and dedicated training institutions at reduced rates; more active commitment by management of institutions; educating the public on climate change impacts and providing financing and incentives for investment; by increasing awareness to other sectors; and for the ministry of Finance through the central bank to introduce a concessionary range of interest rates for green financing, to stimulate demand. In return, it was suggested that commercial banks could be incentivised with some tax rebates and risk-sharing schemes from the government.

Source: answers from interviews and surveys conducted for this project

In addition to support for embedding sustainable banking principles (discussed earlier), there are initiatives by some banks which aim to strengthened investment capacity through certification and training of consultants and experts¹⁵, intended to provide training to the sector, albeit delayed due to COVID-19. Steps are also being taken in terms of providing training on the green economy to the wider public at schools and universities. PAGE has collaborated with partners and other key stakeholders such as the Ghana Education Service and certain universities to strengthen foundational learning on inclusive green economy and green growth (IGE) in Ghana. Under this theme, PAGE aims to integrate green economy and climate change issues into national curricula for basic school education. In addition, PAGE has developed a free-of-charge introductory e-course, that is available to key personnel in the public service and university students.

In 2019, partnering with the University of Ghana Business School (UGBS), PAGE partner agencies supported the development of the curricula and training materials, and began a training programme in 2020 (PAGE Sustainability Report). Moreover, in collaboration with the One UN Climate Change Learning Partnership, PAGE has also been working to introduce green economy in the curricula of primary and secondary schools in Ghana. For this initiative, PAGE has provided funding and technical support to government partners, including within the Environmental Protection Agency, the Ghana Education Service and MESTI (PAGE Sustainability Report). The project’s recommendations have included continuous dialogue between the course coordinators, government and private sector stakeholders to evaluate and improve the course content (including to connect to the real economy and a younger audience), using the course to fund local green finance research capacities and developing local expertise on green finance, and a regular evaluation by local and international green finance experts.

6.2 Conclusion

Capacity building is a key part of necessitating the transition to a green economy. A survey conducted among relevant stakeholders for this study, building on a similar survey conducted in 2018, shows that while there has been progress, the lack of awareness and the lack of access to credit continues to be constraining factor for green finance, especially among SMEs. Further efforts are needed, building on initiatives already taking place, to strengthen capacity in key areas including through training (and finance for training), hiring of climate risk experts, more active commitment by management, public education on climate change impacts. There is also a need to stimulate demand for green financing, which can be facilitated through central bank introduce a concessionary range of interest rates for green finance.

¹⁵ For example, initiatives supported by IFC

7. Strengthening international governance in support of a green economy

7.1 Introduction

The enabling environment for climate compatible development is influenced significantly by decisions agreed upon at the international level. The most dominant relevant international process is the United Nations Framework Convention on Climate Change (UNFCCC), and its related mechanisms and initiatives. This international driver, as it relates to strengthening the enabling environment for the green economy in Ghana, is now described.

7.2 The UNFCCC as a driver of the transition to a green economy

Ghana is a non-Annex I Party to the UNFCCC.¹⁶ As such, it receives financial support from Annex II countries in adapting and building resilience to the impacts of climate change as well as mitigating carbon emissions. Ghana participates in the annual Conference of Parties (COP) meetings, with the 2021 meeting being COP26, held in Glasgow, Scotland, where the Ghana provisional list of registered participants numbered over three hundred.¹⁷ This signals the importance given to attending the COP meeting by a wide range of stakeholders from government, the private sector, NGOs, and academia.

The Ministry of Environment, Science, Technology and Innovation (MESTI) published Ghana's Updated Nationally Determined Contribution (NDC) under the Paris Agreement in September 2021, well over a year following the outbreak of the COVID-19 pandemic in the country. Despite the economic and social upheaval created by the pandemic, the NDC outlines an ambitious strategy of climate-related actions. A total of forty-seven adaptation and mitigation programmes are identified, an increase of sixteen actions over Ghana's first NDC, published in 2015, reflecting the continuing national political commitment to address climate change.

As a non-Annex I party to the UNFCCC, Ghana's NDC adopts the approach of many other such countries by distinguishing between those actions that the country will fund domestically and those where external support is required for implementation. Although it is unclear whether the figures are directly comparable, the 2015 NDC stated that US\$ 6.3 billion would be mobilized domestically, whilst the 2021 NDC records a much lower figure of US\$ 3.9 billion (both for the period 2020-2030). This reduction in estimated domestic resources may in part be an impact of the pandemic, although the updated NDC benefited from more precise cost estimates. Overall, the NDC investment requirement for 2020 - 2030 decreased from an estimated US\$ 22.6 billion in 2015 to US\$ 9.4 - 15.5 billion in 2021. This range in cost estimates demonstrates the need to prepare a detailed investment strategy for the NDC (as acknowledged in a footnote in the 2021 NDC).

The 2015 NDC provided an insight into the expected different sources of finance (something that is missing in the 2021 NDC). In 2015, the national budget was expected to contribute 6.2% of total investment needs, with the domestic private sector (between Corporate Social Responsibility and

¹⁶ Non-Annex I countries are synonymous with developing countries.

¹⁷ https://unfccc.int/sites/default/files/resource/PLOP_COP26.pdf

commercial facilities) contributing an additional 21.7%. The remaining balance of 72.1% was envisaged to come from international sources. This breakdown reflects the longstanding lack of fiscal space within the national budget to direct resources to new areas of public expenditure such as climate change. It also reflects a broadly held expectation of the significant role to be played by the international community in general, and the Green Climate Fund (GCF)¹⁸ in particular, in supporting climate action in non-Annex I countries. 22.1% of total investment for the 2015 NDC was expected to come from the GCF.

Ghana has had high expectations of the GCF. However, as of February 2022, the GCF reports only five projects in Ghana, with total GCF project financing of US\$82.4 million.¹⁹ Three of these projects cover multiple countries, where the element of project activity in Ghana is unclear. The two national projects are both very recent investments and are limited in scale, with a combined project value of US\$ 80 million. Acknowledging the cumbersome business model of the GCF, where the issue of accessing funds has been a long-held frustration of many countries, there is little evidence that the GCF will be a source of significant additional funding to Ghana in the near future. However, the 2020 accreditation of Ecobank as Ghana's first National Implementing Entity to the GCF, with the authority to submit project funding requests to the GCF Board (with support from the National Designated Authority – The Ministry of Finance) may help to change this position.

7.3 Conclusion

Funding from global climate funds (not only the GCF, but also the Adaptation Fund and the Climate Investment Funds) can provide additional capacity as well as finance to help strengthen the enabling environment for the green economy. The fund's investments often support projects that can explore and test new approaches prior to any national scaling-up, and therefore can be considered a risk mitigation strategy under circumstances where public sources of funding are constrained.

¹⁸ <https://www.greenclimate.fund/>

¹⁹ <https://www.greenclimate.fund/countries/ghana>, accessed 19th February 2022.

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