

Assessing the structural capacity requirements that would allow developing countries to participate in evolving carbon markets

CASE STUDY: GHANA



Marmanie Consulting Ltd.

Written and compiled by

Kelly Clark, Natalie Pinon and Aurelie Gauthier



This report was conducted with financial support from the UK Department for International Development. However, any views expressed are those of the authors and do not necessarily reflect UK government views.

CASE STUDIES: EXECUTIVE SUMMARY

In most cases, **low income developing countries are still developing the capacity to participate in the existing CDM at even a minimal level.** This is particularly true in Africa where the uptake of CDM projects has been very low (only 2.5% of total CDM projects are coming from Africa) and extremely fragmented.

The report has selected two low income countries in Sub Saharan Africa (SSA), **Ghana and Uganda**, for the in-depth capacity analysis explored in the case studies. The analysis recognises that **even countries at similar levels of development may have different obstacles and capacity needs.**

These case studies address the current capacity and capacity needed for carbon market participation within each country and recommendations for how these gaps can be filled by looking at the following four areas:

- 1) **Institutional capacity:** Are the right entities in place and empowered to act? Are the appropriate institutional frameworks in place?
- 2) **Policy level capacity:** How can cross-governmental policy measures be utilised to support carbon market participation?
- 3) **Capacity for data management (MRV and technical):** How will the country accumulate and manage the data necessary for greater carbon market participation?
- 4) **Financial Capacity:** Is there adequate opportunity and capacity in the market to attract public/private sector capital to support the development of the carbon market?

In many ways the existing capacity and capacity needed in these two countries is similar. Both countries have had low levels of carbon market participation despite having strong representation in international negotiations. **Both countries have had support from development partners who have funded various capacity building efforts.** Both countries have a shortage of the financial and technical resources necessary to fully embrace the carbon market opportunities within the country.

However, **there are also important differences** between these countries with regard to the specific obstacles that they have faced, the nuances of institutional capacity at a national level and the recommendations for actions that can be taken to facilitate greater carbon market participation in the next 3-5 years. These differences, explored in detail in each of the case studies, are **primarily around internal fragmentation on climate change initiatives at a governmental level, the roles of the DNA and private sector engagement.**

Throughout the case studies evidence gained from interviews¹ and the authors' in-country experience is referenced. To ensure that this portrayal is accurate and reflective of the layers of local complexity and

¹ See Appendix 7 for full list of interviewees

detail, the report has been 'ground tested' with the interviewees and a third party peer review panel. However, **the reader should note that these case studies provide a snapshot that is relevant in early 2010** and as the market evolves and the political arena at both a local and international level shifts, so too will the capacity analysis and the recommendations.

Additional financial, technical and human capacity is needed at all levels in both countries to ensure that they are well positioned to develop their carbon market potential. Whilst a unified national vision that systematically addresses all relevant climate issues would be helpful to safeguard sustainable development and to prepare these countries to participate in large scale mechanisms, it is not essential to have this level of cross governmental coordination for them to begin participating in project-based (including Programme of Activities) CDM.

Therefore, **initial capacity building efforts in both countries should focus on actions that can be taken to increase participation in the current CDM, particularly through the Programme of Activities (PoA),** because a high level of government intervention is not necessary for participation in these mechanisms.

A parallel capacity building stream focused on **building the institutional and private sector capacity necessary for the data management requirements of the more advanced mechanisms is also explored in these case studies.**

Although the specifics of existing capacity and capacity gaps varies between the two countries, both countries need to scale up the involvement of the private sector, increase the technical capacity for project development and data management and increase access to carbon finance if they are to increase their carbon market participation. Recommendations for how this can be done are summarised below:

- A private sector/civil society engagement strategy that incentivises local project developers and financial institutions to develop the technical/human capacity necessary to implement projects is an important precondition to carbon market participation.
- Development partners and multilateral institutions may choose to support technical skills training programmes that demonstrate how to prepare Project Design Documents (PDDs) and how to conduct the sector or sub-sector baseline studies necessary for standardised approaches.
- NGOs and Civil Society organisations can be trained and funded to act as managing entities for PoAs.
- Community outreach programmes can be formed to educate communities about PoA opportunities.
- Host country governments and development partners may wish to work with local financial institutions to encourage them to take on carbon finance projects. Local financial institutions have expressed an interest in participating in government/development partner backed credit export guarantee programs as a mechanism for mitigating risk and encouraging participation.

- If these countries are to fully participate in an evolving carbon market then they must migrate away from individual knowledge/power bases and move towards the formation of robust systems and systemic processes around national decision making, data aggregation/MRV and private sector/civil society engagement strategies. Host country governments can assist this process by committing to transparency and coordination of efforts whenever possible.

5.1 GHANA

This case study will address the current capacity in Ghana and the capacity necessary to participate in an evolving carbon market by focusing on four fundamental areas:

- 1) **Institutional capacity:** Are the right entities in place and empowered to act? Are the appropriate institutional frameworks in place? Political leadership is included in this section
- 2) **Policy level capacity:** How can cross governmental policy measures be utilised to support carbon market participation?
- 3) **Capacity for data management (MRV and technical capacity):** How will Ghana accumulate and manage the data necessary for greater carbon market participation?
- 4) **Financial Capacity:** Is there adequate opportunity and capacity in the market to attract public/private sector capital to support the development of the carbon market?

Bearing in mind that Ghana has yet to register a single CDM project, this paper will focus on both the capacity necessary for participation in the current CDM, as well as the evolving new market mechanisms, recognising that:

- **Additional financial, technical and human capacity is needed at all levels** to ensure that Ghana is well positioned to develop all of its carbon market opportunities
- **A high level of government intervention is not necessary for participation in the current CDM** due to the fact that it is an emitter level mechanism that relies on project developers and the private sector for data collection and project implementation
- The Ghanaian government has recently **committed to building the institutional capacity necessary for the enhanced data management required for the more advanced national level mechanisms in order to position itself to receive the scaled up finance that has been earmarked for developing countries with progressive adaptation and mitigation plans.**

The case study concludes by making recommendations for actions that can be taken to increase Ghana's participation in the CDM (as it looks now and as it may evolve) and, over time, new market mechanisms.

5.1.1 General Country Overview

'It is generally recognised that developing country Parties lack these requisite capacities and even where some capacities exist, there has been very little coordination at the national level to ensure effective use of these capacities' – William Bonsu, DNA Ghana (Agyemang-Bonsu, 2005, p. 2).

Whilst climate change is seen to be a priority on the development agenda, Ghana has yet to translate this into carbon market participation with the exception of several voluntary carbon market projects. While some of these projects are quite robust, they do not represent broad based trends toward large scale carbon market participation. The reasons for this were laid out by William Bonsu in a report that he produced in 2005 (Agyemang-Bonsu, 2005). Unfortunately, the primary issues remain the same in early 2010 as they were in 2005 and can be summarised as:

- A general low level of awareness with regards to carbon and carbon finance among senior decision makers
- A general lack of coordination and capacity building to action projects from concept all the way through to implementation
- The lack of capacity to develop projects and bring them through the rigorous CDM project approval cycle
- The tremendous workload and limited capacity of the current DNA to respond to all carbon related opportunities and needs in the country
- An inability on behalf of government to use regulation to put policies that are supportive of the carbon markets into place

Ghana was one of the first countries in Sub-Saharan Africa (SSA) to get its DNA up and running and has actively and consistently had a positive presence in international climate negotiations. However, despite a national commitment to participate in many of the major climate related agreements², a long established DNA, and being the recipient of a great deal of capacity building efforts by development partners³, **there has been considerable fragmentation of climate change initiatives at the governmental level, and this, amongst other factors, has meant that Ghana has yet to register a single CDM project** despite significant scope for emissions reductions relative to business as usual.

Recognising the cost of inaction, (both financial and environmental) and the opportunities that will be missed, particularly around disbursements of the newly enhanced budgets for 'climate/carbon finance', Ghana was one of the first countries to signal its support for the Copenhagen Accord and has since submitted its Nationally Appropriate Mitigation Actions (NAMA)⁴. Ghana has publicly committed to

² Ghana has signed the Kyoto protocol, the Rio conventions, Basel convention on control of transboundary movement of hazardous waste, Montreal protocol on protection of ozone layer, voluntary partnership agreement with the EU to track all timber-ensuring it is of legal origin.

³ Many of the Sub Saharan African capacity building initiatives have taken place in Ghana or have included Ghanaian delegates. Ghana has also been the subject of many studies on capacity building or carbon market participation, notably the Ecofys report (Ecofys, 2009), and an in-depth report written by the World Bank on Carbon Finance in Ghana (The World Bank, 2009b).

⁴ See Appendix 8 for NAMA.

taking immediate steps to address capacity gaps related to its carbon market participation as part of its COP statement.

Our research indicates that there is a widely held (if unstated) belief across government that indicates that Ghana's lack of carbon market participation to date has been due to inconsistent leadership and coordination across government. However, this paper argues that **whilst a unified national vision that systematically addresses all relevant climate issues is helpful to safeguard sustainable development and to prepare Ghana to participate in large scale mechanisms, it is not essential to have this level of cross governmental coordination for Ghana to begin participating in the CDM.**

5.1.2 Roadmap to increased carbon market participation

As stated above, Ghana is at an interesting place in its development because two parallel streams can be simultaneously pursued towards increased carbon market participation.

- 1) **Development of the capacity necessary to register projects under the current CDM**, including Programmes of Activities (PoAs)⁵, is an obvious place to focus capacity building efforts, development of the private sector and multilateral support (see the main body of this paper for an outline of the capacity necessary to register projects under the CDM).

Whilst Ghana has a functioning DNA, defined sustainable development criteria and a local DOE, **to date there have been no engagement strategies to include the private sector (project developers and financial institutions) in the facilitation of successful project development under the existing CDM**, aside from a few small seminars to raise awareness in particular sectors e.g. waste. Efforts to do so with special emphasis around the development of PoA capacity (i.e. the technical capacity to complete PDDs, set sector and sub-sector baseline, incentivise managing entities and access finance) could result in successful project registration and pave the way towards the enhanced data collection and management necessary for reformed CDM and scaled up new market mechanisms.

- 2) **The Ghanaian government is currently focused on developing a Low Carbon Growth Plan (LCGP) as part of a government wide effort to consolidate its climate change efforts, reduce its emissions and access the large scale finance discussed in Copenhagen.** The development of this plan could help the country to fast track ahead to take advantage of the greater use of standardised approaches in the CDM and participate in new large scale mechanisms that are being discussed at an international level.

One of the goals of this plan is to unify and coordinate government responses to carbon market opportunities. This could include data collection/management capacity and policy frameworks for

⁵ PoAs allow the aggregation of several smaller emission reduction activities and their submission as a single CDM activity, employing one set of methodologies for baseline determination and the monitoring of project performance

incentivising emitters to beat sector performance standards and reduce emissions at an industry and/or sector level.

5.1.3 Overview of CDM and project pipeline⁶

The carbon market potential in Ghana is significant and yet this has not translated into a single project registered by the Executive Board.

There is **one reforestation project at the validation stage** and **four afforestation and reforestation methodologies proposed**⁷. There are also five CDM projects at the design stage, several of which have been identified and scoped by the World Bank (The World Bank, 2009a).

However, there is much more potential than this pipeline suggests. The World Bank conducted a study in August 2009 in which Ghana's main carbon finance opportunities and the associated revenue streams were identified. This study estimated that **Ghana has the potential to develop \$45m-\$100m⁸ worth of carbon revenues per annum.**⁹

Ghana's carbon market opportunities and the capacity necessary for them to be developed (not exhaustive):

- **Conversion from single cycle to combined cycle** (\$10m) of three gas-fired power plants which would add one third to existing capacity without additional fuel requirements.
- **Fuel switch to natural gas in existing thermal power plants** (\$6m). This potential is greater if applied to new plants.
- **Fuel switch to natural gas in industry:** Tema and Takoradi industrial areas (\$24m per year by 2020)
- **Gas flaring avoidance** (\$15m-\$60m)
- **Renewable Energy Programme** including six new large hydro projects and 300 megawatts of wind farm electricity (\$10m per year) (The World Bank, 2009a).
- A comprehensive **demand-side energy efficiency programme** could leverage up to \$9m per annum in carbon financing using PoAs. (for details see Capacity for Data Management Section)
- **Transport projects**, including infrastructure development, efficiency in transport systems, rail, Urban Transport Project (BRT), and fuel substitution

⁶ <http://cdmpipeline.org> (2010)

⁷ See Appendix 9 for the CDM projects under development

⁸ The breakdown of this revenue is indicated in brackets next to each mitigation opportunity

⁹ Estimates based on \$5 per tonne

Box 3 – Gas Flaring Avoidance

The discovery of oil and high amounts of associated gas at the Jubilee field, as well as the completion of the West African Gas Pipeline, provide opportunities to implement a gas flaring avoidance strategy whereby the associated gas from the Jubilee field or other fields is re-injected into the oil field through an on-shore pipeline or an enhanced oil recovery process. Ghana has undertaken to avoid gas flaring but has yet to run any numbers on this. Further scoping work is underway with the World Bank, Norway and the US on different aspects of oil and gas.

Project Implementation: There is an opportunity for Tullow or one of the other major oil companies interested in developing the field, to work with the WB, development partners and a project developer to scope out the potential mitigation from gas flaring avoidance. If necessary, one of the multilaterals, (such as UNEP) could provide technical training for data collection/aggregation and preparation of the PDD. However, the potential carbon finance from such a project should be enough to incentivise private sector investment, particularly if there was a commitment on behalf of the government to ensure gas flaring avoidance through policy measures. However, conversely, existing commitments to avoid gas flaring may impact on the additionality of these project types. This issue would need further investigation before any such projects could be registered.

Recommendation: **The Ghanaian government and/or development partners could open a tender process in order to receive proposals to develop this project and bring together project developers and financial institutions that are willing and able to take the project through to implementation.** Standardised baselines should be explored for projects of this type with data drawn from similar projects in the region.

5.1.4 Capacity Analysis

i. Institutional capacity

This section gives a brief overview of the most relevant players affecting the carbon market and how these entities affect current capacity as well as how they could contribute to the institutional capacity needed for Ghana's carbon market participation in the future.

Institutional capacity is a complex issue in Ghana and one that includes institutions, politics, individual power bases and political will¹⁰. **Government level fragmentation has been significant in Ghana with the boundaries of power and the responsibilities for climate change policies and systemic capacity building often unclear between the ministries.** There has also been a lack of transparency between the government and development partners.

However, this is changing. Some of the factors affecting this change are as follows:

- **Climate change is widely recognised as a national priority issue.** The National Democratic Congress (NDC) came back into power in late 2009 causing a reshuffling of the cabinet and ministries. The climate change agenda has become a higher priority since.

¹⁰ An institutional chart and contextual information on each of the ministries can be found in the Appendix 10

- **One entity has emerged with the ability, leadership, power, cross-governmental support and insight to align national interests on climate change and carbon market participation.** The Minister of Environment, Science and Technology, Ms. Hani Sherry Ayithey has taken on a leadership role in unifying Ghana's policy framework.
- **Coordination and transparency across development partners.** The Minister of Environment has requested a report detailing all major climate change initiatives supported by development partners. **This report is part of an effort to stimulate a strategic framework from the government that development partners can collectively support to produce maximum results from their financial and technical support.** It will also help address the overloading of government capacity that is partially due to the abundance of overlapping and redundant initiatives that have proliferated as a result of the government's failure to 'join up'.

In late 2009, Ghana announced its plans to develop a national low carbon growth plan¹¹. The Minister of Environment, Science and Technology has commissioned McKinsey to lead this process partially because of a lack of capacity and expertise within the relevant ministries across government and also as a way of creating an inclusive process that all the governmental stakeholders and entities can feed into. There is strong political will across government to engage in this process, partially due to the fact that funding was promised at COP 15 for those developing countries that present a well thought out NAMA and an ability to demonstrate MRV.

Minister Ayithey's leadership on this issue is assisting in raising the priority of climate change and carbon market participation across government. She appears to have the powerbase and the support at the Presidential level to call the other Ministries in line as they work towards a coordinated national vision. Her **leadership** provides a crucial element that has been lacking until recently, **i.e. one entity with the ability, leadership, power, cross-governmental insight and budget to align national interests on climate change and carbon market participation.**

The LCGP proposal¹² is very ambitious with the development of the fact base, the draft LCGP and the preparations for implementation scheduled to be completed over nine months and cost approximately \$1.5m (McKinsey's proposed budget). It is likely that these costs will be reduced if some of the scoping and preparatory work is done by consultants and development partners. It will be important for the government to manage this process to ensure the adoption of a manageable plan that meets the implementation capacity of the country. Institutional arrangements for the formulation, preparation, presentation, reporting, implementation, monitoring and evaluation of the low carbon growth plan will need to be in place in order for it to be actioned¹³.

¹¹ Ghana has submitted a very ambitious NAMA as part of its submission to the Copenhagen Accord. The extensive list of mitigation actions to which Ghana has committed is currently beyond the implementation capabilities of the government. At present there is a big gap between what Ghana has committed to and its institutional and technical capacity to deliver. Interviews suggest that the NAMA was submitted without a supporting implementation plan and is, therefore, likely to be quickly replaced by any adaptation and mitigation strategies that come about as a result of the LCGP process.

¹² This proposal is currently being reviewed by MEST (March 2010)

¹³ see Appendix 11 for McKinsey's LCGP proposal

Capacity of the DNA: The DNA was formed in 2005 and sits within the Environmental Protection Agency (EPA). All day to day responsibilities for climate change and carbon market oversight belong to the DNA. All daily activities of the DNA are undertaken by Mr. William Kojo Agyemang-Bonsu, National Climate Change Coordinator. He has been instrumental in both promoting the CDM in Ghana and promoting Ghana in the international negotiations. Largely due to his efforts, there has been extensive international donor support for Ghana's climate/carbon capacity building efforts to date.

However, the DNA lacks depth and has minimal staffing, which are two of the main capacity requirements for a fully operational and effective DNA. Mr. Bonsu is frequently out of the country fulfilling his lead negotiator duties. His absence creates a vacuum of knowledge and capacity within the DNA. He is supported by two professional staff members (one of which sits in Kumasi) and one secretary. In reality, the knowledge base of the DNA lies with Mr. Bonsu himself and the day-to-day operational and technical responsibilities of the organisation are far in excess of his personal capacity to meet them.

Historically, the DNA has been the contact agency for most of the carbon finance and capacity building support that flow into Ghana. There has been little transparency around these capital flows and programmes and no evaluation or assessment of impact. Information gathered from interviews indicates that the DNA has received funding for overlapping initiatives without developing partners being made aware.

The Ghanaian DNA is a good example of a government wide need to move away from individual centres of power/knowledge and towards a more systems based framework in which data and systematic processes are institutionalised to allow for scaled up actions.

Capacity of the National Climate Change Committee (NCCC): The NCCC is being positioned as the central body responsible for all climate change/carbon initiatives. **The NCCC has plans to develop a civil society and private sector strategy and appoint a representative from each to sit within the committee.** If such a strategy included CDM workshops in which participants learn to design a project, articulate a business case and write a PDD it could play a key role in developing and encouraging capacity for the CDM.

The National Climate Change Committee is positioned to transition to a Climate Change Commission (CCC) in 2010. The NCCC has been operational since 2009 and has representation from the Ministry of Finance, Environment, key ministries and agencies to ensure government wide buy-in. The NCCC is tasked with co-coordinating all climate change activities in the country and although it meets semi-regularly it has yet to establish clear goals, targets, lines of reporting or coordination guidelines. At present the NCCC is operating *in addition* to all other climate change initiatives but efforts are being made to encourage the committee to work towards greater coordination and transparency across government and development partners.

Civil society, private companies and development partners all contribute to the institutional landscape in Ghana and thus play a role in both the existing capacity and opportunities to fill capacity gaps.

Civil society: Whilst there are various NGOs that are looking at carbon market opportunities, to date there has not been a great deal of coordination between government and civil society around carbon markets. However one NGO, KITE, does stand out as a group with expertise and experience in capacity building that could be effective at running future capacity building programmes¹⁴. Similarly the Nature Conservation Research Centre (NCRC) also has relevant and valuable experience in community outreach and data collection that could be leveraged¹⁵.

Private sector: Ghana has a vibrant private sector made up of multinational companies as well as national and regional players. There is significant opportunity for these companies to capitalise on the carbon finance available for industrial and agricultural adaptation and mitigation projects but, without the incentives that arise from the successful use of policy tools, capacity to develop businesses cases at a private sector level and confidence in the future demand for CERs, these opportunities have largely gone untapped. The notable exception is Cadbury's 'Cocoa Carbon' project (see Box 4).

It is likely that these companies would invest in obtaining the necessary information, data, and technical capacity to scope the projects relevant for their companies if there was a good business case for doing so. In cases where these projects could also provide benefits to their core business such as providing consistency in the supply chain, protecting a valuable resource (i.e. agricultural practices that lend themselves to long term sustainability) and/or taking part in a project that would have clear social/environmental benefits that could be communicated to shareholders to boost the corporate image (i.e. Charismatic Carbon), there are even greater incentives for developing capacity for the CDM at a company/industry level. However, it should be noted that in situations where emissions reductions support cost efficiency and/or best practice, proving additionality may be difficult.

Ideally this capacity would be facilitated through a government or multilateral supported private sector engagement strategy in which seminars/information on how to identify projects and take them through the full project cycle would be delivered for all major industries. Such a nationally consistent strategy would assist in paving the way for the scaled up mechanisms that operate at the emitter level.

¹⁴ KITE worked as the implementation partner for CD4CDM in Ghana to develop a CDM Investors' Guide, Sustainable Development Criteria for CDM project evaluation in Ghana and five CDM project PINs developed.

¹⁵ NCRC's capacity is primarily in agriculture and forestry

Box 4 – Cadbury’s Cocoa Carbon Programme¹⁶

Cadbury’s Cocoa Carbon Programme is a good example of a multi-stakeholder partnership working to develop community wide voluntary carbon projects and improve the sustainability of cocoa farming practices. The Cadbury Cocoa Partnership is currently reviewing activities and sites to identify pilot investment opportunities using carbon finance to strengthen improved productivity, sustainability and local livelihoods.

The Cadbury Cocoa Partnership consists of Cadbury plc, Katoomba Ecosystem Services Incubator, Forest Trends, The Nature Conservation Research Centre and the University of Reading and Oxford Centre for Tropical Forestry. The programme is being scoped to see if there is sufficient opportunity through REDD and forest carbon activities to justify an investment in a scaled up and replicable voluntary carbon programme that could significantly impact the cocoa sector.

This example is relevant because this level of coordination between the private sector, civil society and local communities is rare in Ghana and should be recognised and considered as a model for other agricultural projects under the current CDM, PoAs and reformed CDM. The PDD will include baselines assessments and will be consistent with any emerging national baselines.

The Cadbury “Cocoa” Carbon facility demonstrates significant capacity and a partnership model that could be leveraged for other projects. At present this is positioned as a voluntary carbon project but once established, this model could be used within the CDM including for PoAs. The data management capacity demonstrated in this project is also relevant for large-scale mechanisms that could be developed across Ghana’s agricultural sector.

Given that agriculture represents Ghana’s most important sector, the **significance** of this capacity cannot be underestimated. This example also highlights the leadership of the NCRC, one of the only NGOs operating successfully at the carbon market interface in Ghana. In addition it demonstrates significant capacity and a voluntary commitment on behalf of the private sector (Cadbury) to explore and champion mitigation initiatives in order to create long term sustainability of its own supply chain.

Development Partners: The World Bank, the Dutch Government, DFID and UNDP are all active development partners with a local presence and active programmes running in Ghana. All of these agencies support climate change/carbon programmes but have little coordination or transparency across their agencies at either a local or international level. The lack of coordination amongst development partners has contributed to the fragmentation of climate change initiatives in Ghana and this has affected Ghana’s participation in the carbon markets.

ii. Policy level capacity

As stated in the main body of the paper, policy tools can play an instrumental role in increasing a country’s capacity to participate in the carbon markets because these tools can incentivise the change of behaviour (at an individual, project, sectoral or national level). Policy tools come in many forms and can be particularly useful in encouraging the private sector to invest in a sector or industry.

¹⁶ See Appendix 12

The Ghanaian government has a good awareness of the ways in which policy tools can be utilised within the context of energy efficient programmes, adaptation and mitigation, with particular capacity in the Energy Commission and the Energy Foundation. However, they have only used these tools to a fraction of their potential and have not yet fully explored the options around consumer awareness campaigns to support energy efficient purchases, feed-in tariffs to support investment in alternative energy or standards and labelling programmes tied to consumer goods.

Robust PoAs that rely heavily on policy tools have been scoped by the Energy Foundation and Energy Commission for:

- Energy efficient refrigeration appliance project
- Energy efficient air conditioner project
- Scaled up incandescent light bulb project¹⁷.

All of these projects identify the use of policy tools as essential for implementation¹⁸.

¹⁷ CFL is no longer likely to be an attractive option for a PoA in Ghana as over 90% of the country has already switched and only 3% of irridenscent lamps remain due to domestic legislation – see Box 5.

¹⁸ This data has been gathered from interviews, particularly an interview with Dr. Ahenkorah from the Energy Commission.

Box 5 – Replacement of incandescent light bulbs with energy efficient light bulbs

The most significant example demonstrating the current capacity of the Ghanaian government to use policy tools effectively was the government's response to the 2007 energy crisis. The government recognised that it would be less costly and time consuming to reduce energy consumption than it would be to add capacity. The government made initial approaches to the Volta River Authority (VRA) (the country's biggest distribution utility) asking them to support the cost of a country wide energy efficiency programme to replace energy intensive light bulbs. Neither the VRA nor the Electricity Company of Ghana supported the scheme the government put forward. As time passed the energy crisis reached a critical level. The government felt it didn't have the time or capacity to go through the CDM registration process, particularly with respect to proving 'additionality'. Black outs were gaining in frequency and the grid wasn't able to cope with the demand, so the government made a unilateral decision to ban all incandescent light bulbs. Six million CFL (energy efficient) light bulbs were introduced into the system in exchange for six million (more energy intensive) incandescent bulbs. The bulbs were distributed for free and the entire programme was completed quickly and effectively from an energy efficiency standpoint. 120 megawatts of energy was saved. This was enough to address the crisis. The current load capacity in Ghana is 1200 megawatts. The load has been flat since 2008 because this intervention made it possible to conduct "business as usual" without additional grid capacity.

This was a tremendously effective intervention for reducing energy consumption and demonstrating significant policy, mobilisation and outreach capacity on behalf of the government. **The critical missing element was an ability to coordinate these efforts within the CDM project cycle.**

Within the context of the CFL example two primary factors contributed to Ghana missing out on registering this policy intervention as a CDM project: 1) **a lack of coordination across government with regards to the carbon market opportunity and the appropriate steps to capitalise on that opportunity** and 2) **a lack of private sector capacity and interest to step in and develop the project.**

Public Awareness Campaigns: There are significant opportunities in Ghana to engage civil society and NGOs in climate change awareness programmes that could lead to **the uptake of PoAs** and behaviour change at a community level. There is a vibrant NGO community working in Ghana but the potential of these organisations to galvanise behaviour change, gather data and participate in a coordinated national outreach effort has not occurred due to a lack of clear signalling from the government and/or private sector.

All of the energy efficiency projects mentioned in this section are well scoped, 'additional' and reduce emissions but all have failed to be implemented due to **1) a lack of private sector intervention to cover the cost of the PDD and the cost of the technology necessary to test the energy efficiency of the appliances, 2) a lack of coordination and incentives within the system to take a project through the whole project cycle and, 3) specific to Renewable Energy, the lack of government progress towards the introduction of feed-in tariffs, has meant that a crucial step in encouraging private sector investment has been missing.**

Recommendation: The Formation of an NGO/civil society association tasked with bridging the gap between policy and project potential and community engagement and behaviour change should be scoped as part of the LCGP.

Recommendation: A representative of such an organisation could sit in the NCCC/CCC to ensure that these groups have a voice at the national level and that policy interventions have a way of being ‘heard’ across these groups and within the communities they represent.

iii. Capacity for data management (MRV and technical capacity)

This section will look at Ghana’s capacity for data management. Ghana has much of the capacity necessary for participation in the current CDM, but is lacking the technical capacity necessary to move towards the increased MRV requirements of standardised approaches in the CDM and new market mechanisms.

Ghana prepared Greenhouse Gas Inventory (GHGI) data for 1990-1996 as part of the first national communication. Currently there are no agreed numbers for the national mitigation potential but discussions are underway with the University of Cape Town and McKinsey along with some private sector partners to examine and consolidate the inventory and create a national registry as part of the Second National Communication (currently in preparation)¹⁹. The DNA received funding from the UNFCCC to cover some of the costs of this preparation.

This report does not focus on forestry due to the extensive work being done on the topic by other partners. However, it is worth mentioning that the opportunities to participate in REDD and forestry related mitigation projects are being heavily explored in the country with public and private stakeholders taking part. **This represents a level of capacity that is relevant because of extensive data collection practices and can be applied to Ghana ability to participate in large-scale crediting.**

Local DOE: SGS, a Designated Operational Entity (DOE), has recently established a local presence in Accra and is committed to building up local CDM/PoA capacity. SGS provides the critical, local presence of a DOE and could be approached to help with the data collection and set-up of a national registry. This represents the potential for significant improvement in Ghana’s capacity for MRV, technical capacity and technical knowledge transfer through the training of local staff. The SGS ‘team’ currently comprises only one person and has only recently been established so its effectiveness and/or role in scaled up data collection is still unknown.

¹⁹ This process is also necessary as part of Ghana’s applications to the Forest Carbon Partnership Facility and Forest Investment Programme.

Box 6 – Programme of Activities: A comprehensive demand-side energy efficiency programme has been scoped with the potential to leverage up to \$9m per annum in carbon financing using PoAs to: (i) provide a rebate scheme for new efficient refrigerators and freezers, combined with incentives for early phase-out of ozone depleting substances under the Montreal Protocol; (ii) implement a second nationwide distribution of energy efficient light bulbs (iii) promote new efficient air conditioners.

Use of Policy Tools: The Energy Commission (EC) is currently considering setting a new standard for minimum efficiency of new appliances. The EC is in conversations with several financial institutions (including EcoBank) about combining **a micro finance instrument with carbon finance to provide an early replacement of old appliances and provide a discount for consumers going beyond the standard.** This rebate scheme will be tied to a PoA methodology, incentivising local financiers to provide up-front financing to consumers in exchange for the residual carbon finance earned over a 28 year period. At present, these projects are stalled at the design phase because of a lack of financing and of a project developer to implement it. This programme has the potential to lower emissions, lower up-front cost for consumers, provide substantial savings on electricity bills, and lower the need for new power generation capacity.

Next Steps: A PoA managing entity must be identified along with investment to purchase the equipment necessary to test energy efficiency of domestic appliances and a financial vehicle to assist consumers in making the low energy conversions. The Ghanaian government and/or development partners could guarantee carbon micro finance vehicle, thereby mitigating risk and encouraging local financial institutions to get involved.

The obstacles with regards to MRV and data management in Ghana are significant. A national registry is not yet in place and must be established in order for Ghana to satisfy the MRV requirements of climate funds promised in Copenhagen and the requirements of the evolving new market mechanisms.

Currently there is no institutional body responsible for collecting, coordinating, housing and verifying this data. If Ghana is to access large scale finance, this ‘central database’ function²⁰ will need to be established to warehouse data for national and international MRV requirements.

Recommendation: The Climate Change Commission (CCC), once established, could act as the high level coordinating body responsible for assisting local government with collecting emissions data, building local registries, and acting as a central database for all national GHG baseline information. Getting this function up and running will be necessary if Ghana is to participate in new scaled up mechanisms. The CCC could also act as a clearinghouse for all climate change, carbon market and baseline documents. This coordinating role is as important to national implementation as the gathering and storing of data. However, in order to fulfil this role, the CCC will need to be established as a sufficiently resourced, separate institutional body rather than a collection of individuals.

²⁰ It is assumed that such a database will be electronic and will migrate over time towards standards for MRV that will be set an international level.

As is the case with all of the institutional capacity building efforts referenced in this paper, it will be important for data collection efforts to be communicated and coordinated **across government and development partners** to ensure accuracy, quality and to avoid duplication. There is scope to further outline the national capacity for MRV/data management as part of the LCGP process with specific costing allocated for each action associated with enhanced data management. Human capital/Local technical experts must be identified/trained via training programmes for local individuals and knowledge transfer programmes from international experts.

The University of Ghana-Legon, KNUST-Kumasi and the University of Development Studies-Tamale represent Ghanaian academic centres of excellence and this capacity could be utilised to assist with training and sourcing of technical graduates.

It should be noted that financing for both the data collection and the institution responsible for maintaining data has not yet been identified. The Ghanaian government hopes that the majority of its MRV capacity requirements will be financed by development partners and by the large scale financing that have been linked to enhanced MRV requirements for developing countries.

iv. Financial Capacity

A lack of financial resources has been one of Ghana's primary constraints in responding to carbon market opportunities (as is the case for many of the low income developing countries). Like many low income developing countries, Ghana has struggled to attract carbon finance and has also seen the sources and amount of its development aid affected by the financial crisis.

Financial capacity for carbon market related initiatives in Ghana has tended to come from development partners as grants or concessional finance. Funding is typically small in size, short in duration, uncoordinated and rarely tied to a long term strategy with regular impact assessments.

This creates a significant gap between the financing available versus the funding needed. At present, local financial institutions are not participating in the carbon market and many of the international financial institutions that were once active in carbon markets have had their budgets restricted and/or internal mandates changed as a result of market volatility including general market and carbon market uncertainty. Therefore, local financial institutions will play an important role if CDM and PoAs are to take off in Ghana.

This financing gap has several effects 1) the amount of total capital entering the market has decreased and 2) the need for concessional finance (for capacity building) and commercial finance (project and carbon finance) has increased but the amount available has been constrained and is coming from governments and/or multinational agencies as opposed to commercial sources.

Recommendation: **development partners could potentially increase financial capacity by developing programmes with local financial institutions to train them on how to conduct due diligence for project finance/carbon finance and micro finance programmes that support PoAs.**

5.1.5 Conclusions and recommendations

Although most of the focus for capacity development to date in Ghana has been at the government level, this paper argues that strong government intervention is not necessary in order for Ghana to begin participating in the CDM. **With minimal additional effort, Ghana has adequate capacity at the private sector level to begin participating in the current CDM (including Programmatic CDM), as well as a reformed CDM (with greater use of standardised approaches to baseline and additionality setting).**

However, if Ghana is to fully participate in an evolving carbon market then it must migrate away from individual knowledge/power bases and move towards the formation of robust systems and systemic processes around national decision making, data aggregation/MRV and private sector/civil society engagement strategies.

In recognition of the two streams of capacity building necessary in Ghana this paper concludes with recommendations focused on both **developing capacity for the current CDM** and **developing capacity to take advantage of proposed reforms to the CDM and new scaled up market mechanisms** at both an emitter and government level.

- 1) In order to begin participating in the current CDM and PoAs Ghana would need to develop the following:
 - A private sector/civil society engagement strategy that incentivises local project developers and financial institutions to develop the technical/human capacity necessary to implement projects. Such a program can be led by the government, development partners or private sector.
 - Development partners and multilateral institutions may choose to support technical skills training programmes that demonstrate how to conduct the sector or sub-sector baseline studies necessary for PoAs and standardised approaches in the CDM. UNEP would be an ideal partner in supporting such a programme. ‘Learning by doing,’ programmes in which project developers are taken through the technical requirements of PDDs would be especially useful in building capacity in the private sector.
 - NGOs and Civil Society organisations can be trained and funded to act as managing entities for PoAs. Both KITE and NCRC would be good organisations to spearhead such activities.
 - Community outreach programmes can be formed to educate communities about PoA opportunities.
 - The government and development partners may wish to work with local financial institutions to encourage them to take on carbon finance projects. Local financial institutions have expressed an

interest in participating in government/development partner backed credit export guarantee programmes as a mechanism for mitigating risk and encouraging participation. Ecobank is already in discussions with the Energy Commission around financing PoAs.

- There is also a need to explore structures in which the up-front financing costs (for consumers) of PoA activities can met with micro finances vehicles.
- 2) Systemic Recommendations that safeguard sustainable development and promote national capacity to participate in evolving carbon market mechanisms:
- **Harmonisation and Alignment of Objectives:** A commitment to coordination and transparency amongst the development partners operating in Ghana, would minimise the potential of overlapping initiatives and maximise the impact of their collective support. At a minimum, this would mean a commitment to transparency around funding commitments from development partners.
 - Development partners may wish to consider **supporting a high level Advisory Council to sit within the NCCC to assist with technical capacity requirements and the identification of all carbon market related activities in the country.** It is envisaged that this could include **2-3 industry experts** that are tasked with, amongst other roles and responsibilities, training local staff with necessary technical and operational skills to take over roles and responsibilities within an 18-month timeframe. The advisory council could include an in-country **carbon finance coordinator responsible for liaising with international investors/donors and a technical specialist tasked with preparing Ghana for the MRV requirements of future carbon finance streams.**
 - Development partners may wish to link their support to the setting up and implementation of the Climate Change Commission. Particular attention could be made to the need to develop strategies to engage the private sector and civil society. Currently, neither group is incentivised nor fulfilling the potential role it could play in the Ghanaian carbon market. Representatives from civil society and the private sector should be allocated a position within the CCC.
 - Development partners may wish to consider funding the establishment of a national registry and/or the establishment of an institutional body tasked with data collection. It is suggested that such funding be contingent upon the implementation of clear MRV targets for the institutional body.
 - Development partners may choose to partner with the Ghanaian government and local project developers to conduct the necessary data to implement a Gas Flaring Avoidance project. Data collection can include site specific data or data gathered from other gas flaring avoidance projects in the region. This project falls under the existing CDM and/or could be relevant for a more standardised approach if the data necessary to set the baseline could be drawn from similar projects in the region. This model of using a non site specific data set could be used across the region to reduce the necessary data collection on a local level.