



SUSTAINABLE BANKING PRINCIPLES AND SECTOR GUIDANCE NOTES

FOREWORD

The Sustainable Banking Principles Committee was inaugurated on 20th November 2015 by the Governor of Bank of Ghana, signalling the beginning of work on developing sustainable banking principles (The Principles).

The Principles are to assist banks to respond to the emerging global megatrend issues, such as human security, anti-money laundering, socially responsible stewardship, information communication transparency and disclosure, corporate integrity, environmental and climate change.

In the September 2019 Monetary Policy Committee's press release, the Bank of Ghana (BoG) reported that banks in Ghana hold a total asset of GH¢115.2 billion, indicating the crucial role universal banks are playing in allocating financial resources. In Ghana, like in many developing countries, a significant proportion of projects is being financed by universal banks. However, banks' funding is often used for activities which impact adversely on the environmental quality and social standards. Thankfully, we are experiencing a changing business direction, which recognises that a strategic integration of economic, social and environmental factors in decision-making is not only a value addition to bank's businesses. This change helps to reduce economic imbalance and social inequality, as well as mitigate the rate of environmental pollution and the effects of climate change.

Until recent times, the primary motive of universal banks is to maximize shareholders' returns. However, the 2016 United Nations Sustainable Development Agenda (SDG), the Paris Climate Declaration, the inherent environmental and social risks in banking business, the reality of global warming and climate change coupled with the rising civil society actions as well as pressure from Development Financial Institutions (DFIs), have necessitated the need for banks to explore and act upon the profound linkages between a healthy financial system, transition to green economy and the pursuit of long-term sustainability.

Sustainability is about meeting the needs of the present without compromising the ability of future generations to meet their needs. It is about preserving the natural resources and climate for future generations. It is also about guaranteeing human

rights and a life in dignity, free from want and poverty for all. Therefore, the sustainable banking concept is essentially about contributing to making this happen, through the financial products, model, marketing services and business operations of banks.

Contextually, it was necessary that our approach to sustainable banking must respond to the desired banking industry contribution to the economic, social and environmental development nexus issues in Ghana.

The Committee's tasks included aligning the banking business to the shifting paradigm, the selection and development of a set of seven Principles and five Sector Specific Guidance Notes in mapping the risks in sustainable banking with potential impacts and financially viable opportunities in an integrated manner.

The Principles will be applied to five sectors that are among the most critically sensitive to the environmental and social (E&S) standards and at the same time constitute significant proportion of portfolio exposure in the banks. They are: Agriculture & Forestry; Construction & Real Estate; Manufacturing; Oil & Gas and Mining; and Power & Energy.

In the pursuit of our mandate, we also organised a series of stakeholders' consultations to inform the expected outcomes, as well as leveraged best practices from the globally recognised Environmental, Social and Governance (ESG) frameworks, such as the IFC Performance Standards, the United Nations Global Compact, United Nations Environment Programme Finance Initiative (UNEPFI) and the Equator Principles among others. Even though the geographic focus of our work is Ghana, the experiences from Bangladesh, Kenya and Nigeria in developing their Sustainable banking frameworks have been worthwhile.

With the endorsement of the Principles and Sector Guidance Notes by the Chief Executive Officers and Managing Directors of Banks in Ghana, the next two years will present a period of transition to implement the Principles. The period will also present the opportunity to develop and consolidate the needed capacity building for the banks, while at the same catalyze the scope for aligning the Principles with the priority

businesses and operational activities of banks. Thankfully, through the IFC program on Environmental and Social Risk Management (ESRM), a number of consultants have been trained on ESRM and their knowledge enhanced on the general sustainability agenda as it relates to the banking industry. Notwithstanding these, the three collaborating institutions comprising the BoG, EPA and GAB will continue to leverage on their comparative institutional strength to accelerate the development of relevant policy frameworks and regulatory interventions; stimulate capacity building and technical inputs; as well as coordinate exchange of knowledge and promote learning towards a successful implementation of the Principles by the banks.

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Ghana Sustainable Banking Principles Commitment and Endorsement Statement

The Ghana Sustainable Banking Principles and the Sector Guidance Notes reflect a process-led initiative to take account of the environmental considerations, social inclusion and good governance in the lending decision-making by banks in Ghana. It is also a guide to the banks in mainstreaming the fundamental tenets of sustainability in their business and operations, leading to enhanced growth and increased returns.

They consist of 7 General Principles, and 5 Sector specific Guidance Notes and present sustainable banking as a two-way interrelated imperative, namely:

- Improving the contribution of finance to sustainable and inclusive growth by funding society's long-term needs;
- Strengthening financial stability by incorporating environmental, social and governance (ESG) factors in lending decision-making.

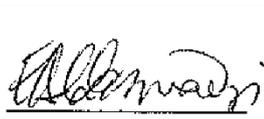
The themes of these Principles are as follows:

- Principle 1. Environmental and Social Risk Management (ESRM)
- Principle 2 Internal Environment Social and Governance (ESG) in banks operations
- Principle 3 Corporate Governance and Ethical Standard
- Principle 4 Gender Equality
- Principle 5 Financial Inclusion
- Principle 6 Resource efficiency, Sustainable Production and Consumption;
- Principle 7 Reporting.

Furthermore, the 5 Sector-specific Guidance Notes on priority areas of the economy cover the Agriculture & Forestry, Mining and Oil & Gas, Construction & Real Estate, Power & Energy, and Manufacturing activities as related to the banking portfolios.

Inspired by the Ghana green economy agenda and green growth initiatives, the Bank of Ghana, Ghana Association of Bankers and Environmental Protection Agency are therefore committed to working together in the spirit of collaborative partnership to implement the Ghana Sustainable Banking Principles. This collaborative effort of the

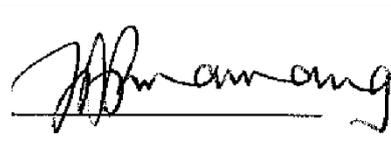
parties is a concrete step and contribution towards the attainment of Sustainable Development Goals and the Paris Climate Declarations in Ghana.



Mrs. Elsie Addo Awadzi,
Deputy Governor
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Executive Director
Environmental Protection Agency
Accra

Ghana Association of Bankers Signatures

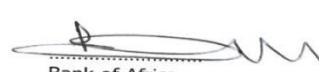
We, the Managing Directors and Chief Executive Officers of Banks in Ghana, whilst representing each institution's mandates, pledge our commitment to the Ghana Sustainable Banking Principles as a means to mainstream sustainability tenets in an environmentally friendly and socially acceptable approach in our business and operations.



Access Bank



ADB Bank



Bank of Africa



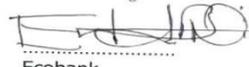
BBG



CAL Bank



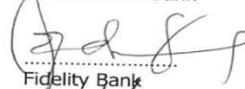
Consolidated Bank



Ecobank



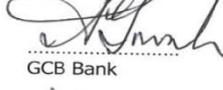
FBN Bank



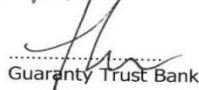
Fidelity Bank



First Atlantic Bank



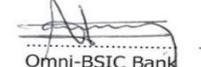
GCB Bank



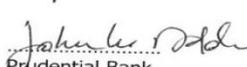
Guaranty Trust Bank



NIB



Omni-BSIC Bank



Prudential Bank



SGSSB



Republic Bank



Stanbic Bank



SCB



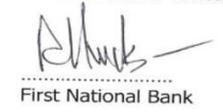
United Bank for Africa



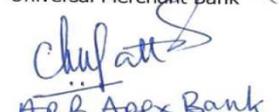
Universal Merchant Bank



Zenith Bank



First National Bank



ARB Apex Bank

ACKNOWLEDGEMENT

Under the auspices of the Management of Bank of Ghana (BoG), Ghana Association of Bankers (GAB) and Ghana Environmental Protection Agency (EPA), the Ghana Sustainable Banking Principles and Sector Guidance Notes were prepared by the Sustainable Banking Principles Committee with technical assistance from PricewaterhouseCoopers (PwC) as Consultant, and inputs from other stakeholders.

Notable among the stakeholders were the Ministries, Departments and Agencies (MDA) in Ghana, Civil Society Organisations, academia, the IFC team on Environmental, Social and Governance (ESG), United Nations Environment Programme Finance Initiative (UNEPFI), Central Bank of Nigeria, Bank of Bangladesh, Kenya Central Bank and Kenya Bankers Association, among others.

The preparation of the Ghana Sustainable Banking Principles was underpinned by shared knowledge, impactful experience and professional perspectives in charting the way forward on sustainability stewardship in Ghana's banking industry.

We wish to extend special thanks to our internal and external stakeholders for their invaluable contributions which helped to enrich the quality of the documents. Finally, we deeply acknowledge the support of the BoG, EPA and GAB (represented by Barclays Bank, Ecobank, Prudential Bank, Société Générale Ghana Bank and Stanbic Bank) in diverse ways for the completion of this work.

Thank you all.

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GUIDANCE NOTES FOR SUSTAINABLE BANKING PRINCIPLES

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About these Guidance Notes

These guidance notes have been designed to assist implementing banks with the practical application of the Sustainable Banking Principles. The notes are intended to bring the Principles to life, by describing both the relevance of each Principle to the banking sector and the practical steps that banks can take to begin their journeys towards implementation.

Sector-specific guidance documents have also been prepared for banks working with clients in the following sectors, which represent higher environmental, social or governance risks: Agriculture and Forestry, Construction and Real Estate, Manufacturing, Oil and Gas, Power and Energy. These sector specific guidance notes can be accessed.

Principle 1 Guidance

Identify measure, mitigate and monitor environmental and social risks in our business activities. Identify environmental and social opportunities in our business activities.

Explanation of Principle 1 - We will work with our clients to identify measure, mitigate and monitor environmental and social risks in our lending and other financial products and services. We will also identify opportunities to encourage environmental and social improvements through our products, services and client interactions

Alignment to international best practice – The guidance to this Principle draws upon the Equator Principles, IFC Environmental and Social Sustainability Performance Standard 1, UNEPFI's Guide to Banking and Sustainability and UNEPFI's Principles for Positive Impact Finance. For further details please see the reference section at the end of this document.

Why is this Principle important?

The banking sector can positively influence the society in which it operates. Banks, through the risk management processes, decide which companies may be supported via access to financial products and services. To achieve this, banks need to work with clients to encourage them to follow good environmental and social (E&S) practices.

Furthermore, as part of its business activities, every bank must manage its own risk exposure. When a bank's clients take E&S risks, the bank can in turn be exposed to these E&S risks which may manifest themselves as legal, financial and reputational risks. For example, if a bank lends to a company that displays poor environmental practices (which can result in fines and other financial losses for the client) that client may be less able to repay their loan which presents a credit risk for the lending bank.

Similarly, if a bank funds a client that displays poor labour practices (which can result in a tarnished reputation for the client) the bank may also suffer from reputational risk by association. Therefore, it is important that a bank is aware of its clients' E&S risk exposures and how these impact the bank's broader risk profile. A bank should also be aware of the business opportunities associated with working with clients that

demonstrate good E&S practices. Further details on risks and opportunities are provided below:

Risks: A bank's clients may undertake activities that result in damaging E&S consequences for society. For example, their projects may harm the environment through pollution of water or contamination of land, or their projects may contribute to the exploitation of labour. This can in turn lead to negative outcomes for the client, the bank and wider society. For the client, this can lead to:

- Loss of revenue and/or share value due to unsafe or unsustainable activities
- Increased costs due to regulatory fines or third party law suits (e.g. for contamination clean-up)
- Damage to reputation for negatively impacting society

Any of these impacts can harm a client's business and potentially lead them to default on financial obligations which could in turn result in financial loss to the bank. A bank can also suffer reputational damage from working with a client whose reputation becomes tarnished.

Opportunities: Banks also have the opportunity to fund client activities that have positive E&S impacts on society. Examples might include projects that promote sustainable environmental practices (e.g. financing installation of solar panels) or empower communities (e.g. financing social enterprises that support community programmes such as youth education). This can in turn lead to positive outcomes for the client, the bank and wider society. For the client, this can lead to:

- Increased profitability and longevity of business activities due to sustainable business practices
- Improved reputation for demonstrating leadership and positively impacting society
- Increased business opportunities as society becomes stronger and more affluent

These client opportunities may lead to longer-term, indirect, positive impacts for banks. For example, if a client has stronger financial performance, through sustainable business practices, it may be more likely to seek loans to enable the expansion of its

business activities. Similarly, as society becomes more affluent, a bank may experience increased opportunities to provide financial products and services to new clients.

Where does this Principle Apply?

This Principle should be applied to (but its application is not necessarily limited to) the following types of business activities:

- Corporate lending
- Small and medium enterprise (SME) lending
- Project finance
- Leasing
- Equity investments

The threshold transaction value above which this Principle should apply should be determined by each individual bank and should be selected to reflect other risk-driven due diligence procedures at that bank. It should also be informed by the potential severity of negative E&S impacts associated with the transaction.

Implementing this Principle

Risks

To effectively implement this Principle, banks should develop an E&S risk management process that uses four specific tools and follows four **high-level steps**:

Tools:

These tools can be leveraged to help banks achieve the high-level steps described later in this section:

- A. Policy** – Banks should develop and implement an E&S risk management policy, visibly endorsed by senior leadership, indicating their intent to address E&S risks in their business activities. All relevant staff should be made aware of, and incentivised to adhere to, this policy and should treat it with the same level of respect as any other internal risk management policy.
- B. Procedures** – Banks should implement procedures that detail the process staff should follow, in order to comply with the requirements of the E&S risk management policy. The bank should consider providing further tools to lending

teams to assist in E&S risk identification, measurement, mitigation and monitoring (e.g. E&S sector briefing notes), and incorporate E&S Procedures into existing credit assessment processes.

- C. Training** – Banks should provide training to all relevant staff so that they are well aware of why they should, and how they can, adhere to the E&S policy and procedures described above.
- D. Client reporting** – Banks should require (e.g. via covenants in loan agreements), clients to report on their E&S performance, so as to help monitor compliance with the bank’s E&S risk management policy and procedures, as outlined above. Banks should refer their clients to a list of reporting tools for example; GRI reporting standards, UN Global Compact etc.

High-level steps:

Banks should use the tools above in order to take the following high-level steps. In order to take these steps, banks should assign staff who are responsible for executing them and reviewing these periodically. Banks should also require that the E&S risks addressed through all four steps are treated with the same level of scrutiny that is used in other risk processes at the bank.

- 1. Identify E&S related risk exposures*
- 2. Assess E&S related risk exposures*
- 3. Mitigate E&S related risk exposures*
- 4. Monitor E& S related risk exposures*

Further detail on these steps is provided below:

1. Identify E&S related risk exposures

A bank's exposure to E&S risks through its business activities varies depending on the sectors and clients with which it works, the locations in which it and its clients operate and the types of products or services it provides. Banks must be able to identify the E&S risks to which they may become exposed through their business activities before they can assess, mitigate and monitor these risks.

Sectors: By their nature, some sectors tend to present greater levels of inherent E&S risk exposure. For example, a chemical manufacturer would have higher inherent environmental risk than a computer software designer. As a result, the Ghana Sustainable Banking Principles include 5 sector-specific guidance notes for high E&S risk sectors. Moreover, the business activities within some sectors pose such high levels of E&S risk that some banks may avoid doing business with clients that undertake these types of activities altogether. This is often referred to as keeping an "exclusions list". If a bank keeps an exclusions list, it is critical that its staff are able to identify the business activities listed.

Locations: Different locations of operation present different levels of E&S risk. This is because some locations have inadequate E&S legislation or have E&S legislation that is poorly enforced. Staff should be able to identify the E&S risks associated with the locations in which they operate.

Products and services: In addition to being aware of the E&S risks associated with particular sectors and locations, banks must also be aware of the risks associated with the types of products or services that they offer. At a high level, financial products and services that are shorter term and involve extending smaller amounts of credit have lower risk profiles, whereas the reverse is also true. Likewise, if a bank takes an equity position in a company client, it may legally hold greater responsibility for the operations of that company. Depending on percentage of ownership, this may introduce heightened levels of E&S risk for the bank.

E&S risks can arise when a bank's client conducts business that is, or could be, related to any of the following issues:

- Resource depletion (e.g. mining)
- Environmental degradation (e.g. air or water pollution)
- Greenhouse gas (GHG) emissions and climate change
- Deforestation
- Waste management
- Employee health, safety and wellbeing
- Public health, safety and wellbeing
- Workplace diversity
- Human rights
- Labour rights
- Land tenure and community issues

In order to better understand and be able to identify their clients' E&S risk exposures, banks should implement a specific risk identification process to identify E&S risks in new and existing clients. This may involve developing a tool to help identify inherent risk by sector, location and transaction size or type.

2. Assess E&S related risk exposures

Once a bank has identified the E&S risks to which it may be exposed through its business activities, the bank should then assess these E&S risk exposures by evaluating and then categorizing them as High, Medium or Low. In order to do this, banks should:

- Develop or use a tool for consistently assessing and categorizing the E&S risks associated with each client. This tool should require the bank to understand the client and in order to do so may require the bank to undertake any of the following activities with the client:
 - Discussions with the client's management team in order to understand the client's commitment to addressing E&S risks that have been identified,
 - Conducting a site visit (or hiring a specialist third party to conduct a site visit) in order to evaluate and measure the E&S risks that have been identified.

3. Mitigate E&S risk exposures

Once a bank has identified and measured the E&S risks to which it may be exposed through its business activities, the bank should then mitigate these E&S risk exposures.

In order to do this, banks should:

- Identify E&S risk appetite - a clear threshold above which the level of E&S risk is deemed unacceptable (this will likely be determined by a combination of the E&S risk exposure associated with the client and the other risk exposure associated with the size and type of transaction).
- Stipulate that where the level of inherent E&S risk exposure is deemed to be unacceptable, banks may choose to avoid or mitigate risks by:
 - Reconsidering the business opportunity,
 - Restructuring the size or tenure of the transaction,
 - Raising client awareness of relevant E&S risks and potential risk control measures,
 - Developing and agreeing a corrective Action Plan with the client before disbursement of funds. This could include, but is not limited to:
 - Requiring, via loan covenants, the adoption of specific corrective E&S measures,
 - Requiring the client to warrant compliance with relevant E&S legislation,
 - Requiring that a client obtain appropriate insurance (e.g. environmental impairment liability insurance).

4. Monitor E&S risk exposures

Once a bank has identified, measured and sought to mitigate the E&S risks to which it may be exposed through its business activities, the bank should then monitor these E&S risk exposures. This monitoring process can take place alongside standard loan reviews. Monitoring should be undertaken at both the transaction level and the portfolio level. A bank may find that the risk presented by one transaction is acceptable but only in the absence of that risk from other transactions in the portfolio. In order to monitor E&S risks, banks should:

- Implement a specific process for monitoring exposure to E&S risks with existing clients which includes:

- Agreement with clients for ESAPs to be reported to the bank on a regular basis,
- Meetings with clients to discuss, and ensure sufficient reporting on E&S performance and compliance with relevant E&S legislation,
- If clients are found, through the monitoring process, to be failing to manage their E&S risks, banks may need to take measures to mitigate their exposures to these risks. Please refer to step 3 on mitigation of E&S risk exposure for examples of steps that may be taken.

Opportunities

In addition to identifying, measuring, mitigating and monitoring risks, banks can encourage positive E&S behavioural change in clients through product and service design. In the process, the banks would not only make their clients more resilient (and thus make them more financially stable, more likely to pay back debts and more likely to seek additional financial products and services), but would also improve their reputations as banks that drive responsible business.

Examples of activities that banks could undertake to encourage positive E&S behavioural change in clients could include:

- Providing advice and guidance to clients on the financial implications of sector-specific E&S issues,
- Providing finance to clients for projects or infrastructure investments that may lead to E&S performance improvements (e.g. retro-fitting solar panels to a factory roof),
- Financing captive power generation plants or installing or adapting to energy efficient equipment,

For specific examples of how banks may encourage clients to undertake resource efficiency related behavioural changes, please refer to the guidance note to Principle 6.

Principle 2 Guidance

Promote good environmental, social and governance practices in our internal business operations.

Explanation of Principle 2 - We will identify and effectively manage the environmental and social aspects and impacts of our internal business operations (such as our carbon footprint, use of resources and employment practices).

Alignment to international best practice – The guidance to this Principle draws upon the Equator Principles, IFC Environmental and Social Sustainability Performance Standards 2 and 4, UNEPFI's Guide to Banking and Sustainability, The Banking Business - Corporate Governance Directive 2018, as well as a variety of examples of industry best practice from an examination of sustainability at a large number of multi-national banks. For further details please see the reference section at the end of this document.

Why is this Principle important?

While a bank can derive numerous benefits by addressing E&S risks and opportunities in its business activities with its clients (as seen in Principle 1), it can also benefit from promoting good E&S practices in its own internal business operations. By effectively promoting good E&S practices, banks may enjoy the following benefits:

- **Reduced internal operational costs.** When a bank adopts measures that improve its performance on environmental and social indicators, it can reduce its operational costs. For example, by adopting energy saving and Greenhouse Gas (GHG) reducing measures (such as reducing the use of lights and air conditioning and reducing business travel) a bank can decrease its electricity bills and travel costs. Similarly, by reducing consumption (for example of paper), a bank can reduce the amount it must spend on purchasing supplies, whilst at the same time reducing waste volumes, and the costs of waste disposal. Also, by providing increased employee wellbeing, a bank can reduce staff absence and increase staff productivity, both of which flow straight through to the "bottom line".
- **Avoidance of regulatory fines or lawsuits.** When a bank fails to address E&S issues in its own business operations, it is less likely to comply with regulations and

in turn is more likely to be faced with regulatory fines or lawsuits. For example, attention to social issues could help a Ghanaian bank demonstrate compliance with the Labour Protection Act¹. This could in turn help that bank to avoid any penalties associated with failure to comply. Similarly, attention to environmental issues could help a Ghanaian bank demonstrate compliance with the Environmental Protection Agency Act 1994 (Act 490)² and avoid the penalties associated with non-compliance. More generally, when a bank elevates its level of attention to E&S issues in its own business operations, it becomes better prepared to anticipate and address changing regulatory environments and to avoid fines associated with failure to comply with new regulations.

- **Avoidance of reputational damage and/or improved reputation and brand.** For companies in the service industry, such as banks, reputation and brand often directly affect business performance. Therefore, in order to sustain good business performance, a bank should direct resources towards improving its brand and avoiding any reputational pitfalls. By adopting good internal E&S practices, a bank can establish itself as transparent, accountable and engaged in creating positive impacts at both a local level and a global level. This will help a bank maintain a good reputation in the communities in which it operates.
- **Attraction, retention and motivation of a productive workforce.** When a bank institutes a good E&S programme (which includes measures such as attention to environmental impacts, community engagement, charitable giving, employee volunteering and good labour and working conditions including wellbeing programmes and grievance redress mechanisms), it will facilitate the attraction, retention and motivation of a productive staff who believe that their employer shares their values³. It will also increase the likelihood of attracting employment

¹ This Act covers, among other topics, the protection of the rights of workers, the health and safety of workers, minimum wage and maximum hours, overtime and annual leave, accommodation for persons with disabilities, conditions of employment of younger persons and temporary workers and prohibition of forced labour. Further details can be found at: <http://www.melr.gov.gh/wp-content/uploads/2015/11/LABOUR-ACT-2003.pdf>

² This Act established the Environmental Protection Agency with is tasked with addressing, among other topics, the control of waste and toxic substances, air pollution, water pollution. Further details can be found at: <http://www.epa.gov.gh/ghanalex/acts/Acts/ENVIRONMENTAL%20PROTECTION%20AGENCY%20ACT%201994.pdf>

³ For further details please refer to <http://www.engageforsuccess.org/about/why-does-it-matter/>

interest from a diverse variety of backgrounds which will increase the number of talented individuals who will be considered for employment.

In addition to deriving the benefits described above, it is also important that a bank promotes good E&S practices in its own internal business operations in order to uphold the standards that it will require of its clients (as outlined in Principle 1) – in other words that it is “walking the talk”.

Where does this Principle Apply?

This Principle should be applied to a bank’s own internal business operations.

Implementing this Principle

In order to implement this Principle, banks should - at a high level - seek to take the following steps:

- 1. Issue Identification** – Identify the E&S aspects and impacts of the bank’s internal operations. It may be helpful to categorise the aspects and impacts as Environmental, Social or Governance related. For example: use of electricity for lighting (aspect) generates climate-changing carbon dioxide emissions into the environment (impact).
- 2. Materiality Analysis** – Prioritise the impacts that have been identified in Step 1. This prioritisation should be based on an understanding of which aspects and impacts pose the greatest potential risks and which present the greatest potential opportunities.
- 3. Visioning** – Determine the bank’s desired goal in relation to the aspects and impacts prioritised in Step 2. This should help clarify where senior management would eventually like the bank to be from a sustainability perspective – either in absolute terms, or relative to other banks (which will also be working on this agenda).
- 4. Gap Analysis** – Determine the gaps between where senior management would like the bank to be and where the bank is presently.

- 5. Development of an Internal Sustainability Strategy** – Develop a sequence of activities and initiatives that can be used to fill the gaps identified in Step 4, and determine the Key Performance Indicators (KPIs) that will help establish baselines and track progress over time.

In order to develop an **Internal Sustainability** Strategy, as described in Step 5 above, a bank should consider undertaking some or all **of the activities and initiatives outlined below**. The Internal Sustainability Strategy should be designed to be both sufficiently ambitious to be worthwhile but also realistic to implement. A bank will need to consider how to phase in activities and initiatives and increase the ambition of KPIs over time.

Activities and initiatives:

- **Draft relevant sustainability-related policies that are approved by the board and senior level management and are communicated to staff.** These policies may include but may not be limited to a Human Resources Policy, an Environmental Policy, a Health and Safety Policy and a Community Engagement Policy. Board and senior level management approval of these policies will signal both internally and externally that the bank is committed to the Internal Sustainability Strategy.
- **Draft a Code of Conduct that is approved by the board and senior level management.** Require all management and staff to adhere to this code. The code should include a provision to comply with labour and social standards such as those put forward by the International Labour Organisation (ILO) and/or the United Nations Declaration of Human Rights. Training for staff and contractors should be implemented on a periodic basis to bring to life what compliance with the Code entails in practice.
- **Appoint a sustainability champion to the Board of Directors.** This will also signal the bank's commitment to the Internal Sustainability Strategy and will help ensure that sustainability is on the agenda for the Board, at least on a periodic basis.

- **Dedicate one or a team of staff members who are responsible for the implementation of the tangible elements of the Internal Sustainability Strategy.** If it is not possible to dedicate one or multiple full time staff members, then create a part-time role or designate a group of willing volunteers.
- ***Establish targets for some or all of the KPIs listed in Table 1 on page 12. Please refer to Table 1 on page 12 for further details.***
- ***Introduce an award or awards for other members of staff to recognize proactive leadership in implementation of the Internal Sustainability Strategy.*** This will encourage staff to embrace the Internal Sustainability Strategy and help with its successful implementation.
- ***Communicate the relevant elements of the Internal Sustainability Strategy to vendors/suppliers.*** Where appropriate, a bank should encourage or require suppliers to demonstrate adherence to relevant standards such as those around labour rights as well as those around minimum health and safety and environmental standards. If possible, a bank should introduce a sustainable procurement strategy which involves screening new vendors and periodically reviewing current vendors with respect to their labour, health and safety and environmental standards.
- ***Report on sustainability performance*** in order to demonstrate progress achieved through the strategy. Please refer to the guidance to Principle 7 for further details.

Table 1 – Example KPIs and actions to include within a bank’s Internal Sustainability Strategy

| Indicator | Example actions to achieve targets for each indicator |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electricity consumption per employee | Can be reduced by: <ul style="list-style-type: none"> • Turning off lights, computers, air conditioners and other appliances when they are not in use • Using energy efficient lighting, computers, air conditioners and other appliances such as printers • Improving insulation in facilities in order to reduce the need for air conditioning |
| Paper consumption per employee | Can be reduced by: <ul style="list-style-type: none"> • Implementing policies for limiting printing • Printing documents double sided when they must be printed |
| Water consumption per employee | Can be reduced by: <ul style="list-style-type: none"> • Improving water infrastructure - including pipes and taps (e.g. spray taps, or motion sensor taps, to limit consumption) - within office buildings • Installing wastewater recycling systems |
| GHG emissions per employee | Can be reduced by: <ul style="list-style-type: none"> • Purchasing electricity from renewable sources where possible • Reducing electricity consumption – see “electricity consumption” indicator above • Reducing business travel by leveraging technology to enable virtual or over-the-phone meetings, in place of in-person meetings |
| Waste per employee | Can be reduced by: <ul style="list-style-type: none"> • Implementing policies for reducing, reusing and recycling product and paper wastes • Providing recycling bins with associated collection contracts |
| Employee health and safety incidents per employee | Can be reduced by: <ul style="list-style-type: none"> • Introducing training for employees – such as fire drill safety training - around any potential hazards • Improving workplace hygiene and sanitation |
| Employee sick days per employee | Can be reduced by: <ul style="list-style-type: none"> • Creating a safe and healthy working environment • Developing and implementing an employee wellbeing strategy |
| Employee training hours or days per employee | Can be increased by: <ul style="list-style-type: none"> • Conducting a training needs assessment • Developing training programmes that are to be delivered to staff within a defined schedule |
| Workplace diversity (as | Can be increased by: |

| Indicator | Example actions to achieve targets for each indicator |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a percentage) | <ul style="list-style-type: none"> • Implementing a clear policy on diversity and inclusion that creates equal employment opportunities for all people regardless of gender, race, religion, sexual orientation, or health status • Assessing recruitment activities in order to ensure that people from a variety of diverse backgrounds are considered for employment |
| Community Engagement (includes: employee volunteering hours, amount of money invested in local communities, community initiatives implemented) | <p>Can be increased by:</p> <ul style="list-style-type: none"> • Partnering with volunteer organisations (applies to employee volunteering hours) • Developing a policy that allows and/or encourages employees to volunteer during the working day for a set number of days per year (applies to employee volunteering hours) • Assessing the needs of the community and identifying initiatives where funding could be provided to promote the inclusivity of the community and generate positive social outcomes in line with national sustainability priorities (applies to amount of money invested) • Assessing the needs of the community and developing initiatives that promote inclusivity in the community and generate long-term positive social outcomes in line with national sustainability priorities (applies to community initiatives implemented) |

Principle 3 Guidance

Promote good corporate governance and ethical standards

Explanation of Principle 3 - We will follow good corporate governance practices within our own institution and will refrain from doing business with entities that engage in unethical behaviour or practices.

Alignment to international best practice – The guidance to this Principle draws upon the Institute of Business Ethics (IBE) Ethics and Compliance Handbook, 9 Step Model, and Briefing on Enhancing the Effectiveness of the Ethics Function, The Banking Business - Corporate Governance Directive 2018, the Wolfsberg Standards and the UNEPFI Guide to Banking and Sustainability. For further details please see the reference section at the end of this document.

Why is this Principle important?

As described in the supporting notes for Principle 1, banks have the ability to positively influence the societies in which they operate. One way that banks can do this is by ensuring that they and their clients follow good corporate governance practices and maintain ethical standards. In addition to positively influencing society, this will assist banks in managing their reputational, legal and credit risk exposures.

Banks may incur reputational, legal or credit damage if they or their clients have poor corporate governance or weak ethical standards. Examples include, but are not limited to:

- Failure to appoint designated, qualified, staff to take responsibility for the key functions of the client entity, including a Chairman, separate Chief Executive, and skilled/competent persons responsible for managing core departments (e.g. Human Resources, Risk, IT etc.)
- Failing to manage bribery risks which include offering, paying or receiving a bribe through an officer, employee, subsidiary, intermediary or any third party,
- Failing to manage other operational and business risks, including E&S risks,
- Engaging in illegal activities of any kind,
- Using aggressive tax avoidance schemes,

- Taking unethical approaches to procurement, sales, and executive pay,
- Failing to follow relevant and required local and international regulations.

The following paragraphs provide further information on how poor corporate governance and weak ethical standards in a bank or in a bank's clients can result in risks to the bank.

Reputational: If banks are seen to be demonstrating poor governance practices – for example, by engaging in any of the activities listed above – they may incur reputational damage. Moreover, if banks are seen to be working with clients that demonstrate poor governance practices they may also incur reputational damage by association. For companies in the service industry, such as banks, reputation and brand often directly affect business performance (e.g. through lost business). Therefore, banks will want to ensure that they engage in good governance practices and that they work with clients who do the same.

Legal: If banks are found to be engaged in corrupt activities or if they fail to follow required regulations, they may incur costs associated with legal fines or third party lawsuits. These costs can often be high and may impact banks' financial bottom lines. Engaging in good governance practices and upholding ethical standards will help banks avoid incurring these costs.

Credit: If a bank's clients are engaged in poor governance practices, they may suffer reputational damage or legal censure. For the bank's clients this can lead to loss of revenue, decreased share value, or decreased profit. In turn, this may make it difficult for the bank's clients to meet their financial obligations which could negatively impact the lending bank's credit exposure.

Where does this Principle Apply?

This Principle applies both to banks internal business operations and their core business activities with clients.

Implementing this Principle

The subsections below provide high level guidance on steps that can be taken in order to integrate good corporate governance and ethical standards into banks' core

business activities and internal business operations. For guidance on what good corporate governance and ethical standards constitute, including examples of best practice, please refer to the following list of publications:

- Institute of Business Ethics (IBE) Ethics and Compliance Handbook⁴,
- BE 9 Step Model⁵,
- IBE Briefing on Enhancing the Effectiveness of the Ethics function⁶,
- Institute of Directors in Southern Africa (IoDSA) King IV report⁷,
- UK Bribery Act⁸,
- UK Corporate Governance Code⁹,
- The Wolfsberg Standards¹⁰,
- The Banking Business - Corporate Governance Directive 2018¹¹.

These publications should be referred to when taking the actions outlined in the following two subsections.

Business activities

In order to implement this Principle in their business activities, banks should develop the following:

- **A policy** that sets out the types of client behaviours that the bank finds unacceptable. These types of behaviours should include but may not be limited to the behaviours that are listed in the “Why is this Principle important” section above. This policy should be visibly endorsed by senior leadership and should also be shared with the relevant staff, who should be incentivised to adhere to it.

⁴ http://www.ibe.org.uk/userassets/reports/ibe_ethics_and_compliance_handbook_south_africa_2017.pdf

⁵ <http://www.ibe.org.uk/the-ibe-9-step-model-for-developing-and-implementing-a-code/103/52>

⁶ http://www.ibe.org.uk/userassets/briefings/b54_ethicsfunction.pdf

⁷ <http://www.wolfsberg-principles.com/standards.html>

⁸ <https://www.legislation.gov.uk/ukpga/2010/23/contents>

⁹ <https://www.frc.org.uk/directors/corporate-governance-and-stewardship/uk-corporate-governance-code>

¹⁰ <http://www.wolfsberg-principles.com/standards.html>

¹¹

[https://www.bog.gov.gh/privatecontent/Public_Notices/Corporate%20Governance%20Directive%20\(FINAL032018\).pdf](https://www.bog.gov.gh/privatecontent/Public_Notices/Corporate%20Governance%20Directive%20(FINAL032018).pdf)

- **Procedures** that detail the process staff should follow in order to avoid working with clients that demonstrate poor corporate governance or unethical behaviour. These procedures should detail both how to screen new clients and how to monitor existing clients. On-boarding processes at banks typically include screening and monitoring procedures (such as those required to follow the Anti-Money Laundering Act 2008 - Act 749). However, when implementing this Principle, banks should examine the scope of their existing procedures and consider enhancements. In particular, the procedures should detail how to proceed if a new or existing clients is found to demonstrate poor governance or unethical behaviour.

For new clients this may involve any of the following:

- Abandoning the business opportunity,
- Restructuring the size or tenure of the transaction,
- Raising client awareness of relevant governance and ethics risks, the bank's own standards in this area and potential risk control measures,
- Requiring the client to agree to a corrective Action Plan prior to the opening of an account or the disbursement of funds.

For existing clients, this may involve any of the following:

- Requiring clients to agree to a corrective Action Plan,
- Relying on the protection available from existing loan documentation which may state that a failure to comply with legislation constitutes an Event of Default, allowing the bank to demand repayment of sums owing,
- Training to assist staff with implementing the procedures. This should include teaching staff the appropriate ways to check for poor governance and unethical behaviour in clients and how to address it,
- Organisational Structures for the banks and client businesses that are designed to ensure that good corporate governance and ethical standards can be maintained (e.g. Board Structure, Corporate/departmental structures).

Internal business operations

In order to implement this principle in their own internal business operations, banks should develop the following:

- **A policy** covering internal governance and ethics which is visibly endorsed by senior leadership. The policy should also be shared with relevant staff who should be incentivised to adhere to it. The policy should demonstrate that the bank takes a zero-tolerance approach towards unethical behaviour in its business operations.
- **Procedures** that detail the process staff should follow in order to avoid engaging in any unethical behaviour or business activities. These procedures should include a process or mechanism (such as a whistleblowing hotline) for raising concerns anonymously about poor governance or unethical behaviour to the appropriate member of senior management.
- **Training** to assist staff with recognising instances of poor corporate governance or unethical behaviour in the bank's business operations. This should include training to help staff understand how to recognise this type of behaviour and report it to the appropriate member of senior management (for example, via a whistleblowing hotline).

Principle 4 Guidance

Promote gender equality

Explanation of Principle 4 - We will encourage awareness of, and initiate action to promote gender equality both with our clients and within our own business operations.

Alignment to international best practice - The guidance to this Principle draws upon the UN Women's Empowerment Principles. For further details please see the reference section at the end of this document

Why is this Principle important?

Inclusive participation in economic life is critical in building stronger economies. The proportionate representation of gender across various sectors of economy increases diversity and work place harmony which is instrumental in productivity. In spite of efforts to ensure harmonious gender representation, women still face gender inequalities and discrimination that limit their ability to access, and participate in, financial services and the economy. This is evident in many businesses including the banking sector. Studies in Ghana, have shown that, men are two to three times more likely to be appointed to senior management positions or have access to credit compared to women. Inequalities likely to occur in the banking sector may include, for example, barriers inhibiting women from reaching leadership positions, verbal and physical harassment in the workplace, discrimination against women customers, and unequal pay between men and women in equivalent roles. These risks may hamper a bank's financial performance, as well as expose it to reputational risks, either from the bank's own practices or by association with a client with a poor performance on gender equality.

Banks can play a key part in redressing gender inequality in the financial sector and have a responsibility to ensure that their practices are fair for their employees and clients. Women's economic empowerment not only benefits women and their families, but it is linked to a country's overall economic performance, and can boost productivity, innovation and help to create more prosperous communities. Furthermore, diversity and women's empowerment benefit banks themselves, having positive commercial impacts. Comprising 51% of the Ghanaian population, women

represent a sizeable client base and significant pool of talent for recruitment. Diverse teams in an organisation are associated with greater innovative capacity, increased institutional trust, improved decision-making, better performance, better ability to retain talented employees, higher market share gains and better financial performance¹².

Further details on risks and opportunities are provided below:

Risks

A bank or its clients may have gender inequality in their business operations. For example, women may be underrepresented in positions of leadership or may be paid less than men for the same role. This can in turn lead to negative outcomes for the client, the bank and wider society. In addition, banks should be aware of gender risks in their lending portfolio. e.g. financing large construction projects which may lead to influx of migrant workers, introducing social risks to women and men in the communities, where construction is taking place. Such risks may include increased incidence of social ills, including alcoholism, drug abuse, gambling as well as increases in domestic violence and sexual exploitation.

For the bank or its client, this can lead to:

- Group think' or lack of diversity of thought,
- The viewpoint of the organisation, particularly of leadership, not being representative of society or the organisation's clients,
- Reputational damage.

Opportunities

Banks also have the opportunity to fund clients that demonstrate gender equality in their operations and to improve gender equality within their own business practices. Examples might include female board members and the elimination of discrimination on the basis of gender, particularly in relation to family and caring responsibilities, and the opportunity to help clients involved in large scale construction projects for

¹² <https://www.wgea.gov.au/sites/default/files/wgea-business-case-for-gender-equality.pdf>

example, to realise their risk exposure early enough in the planning process in order to mitigate effectively.

For the bank or its client, this can lead to:

- Increased organisational performance,
- Enhanced organisational reputation,
- Enhanced ability of companies to attract talent and retain employees.

Where does this Principle Apply?

This Principle should be applied to a bank's own internal business operations as well as a bank's business activities with clients.

Implementing this Principle

To effectively implement this Principle, banks should adopt some or all of the following seven practices. It should be championed by senior leadership, in order to demonstrate their commitment to addressing gender equality risks and opportunities in their business operations. The practices have been adapted for the banking sector from the UN Women's Empowerment Principles¹ and aligns with Ghana National Gender Policy¹³ 2015.

1. Establish high-level corporate leadership for gender equality,
2. Treat all women and men fairly at work – implement gender sensitive recruitment and retention practices e.g. ensuring recruitment panels include both men and women,
3. Ensure the health, safety and well-being of all women and men workers,
4. Promote training and professional development for women,
5. Implement enterprise development and marketing practices that empower women,
6. Promote equality through community initiatives,
7. Measure and publicly report on progress to achieve gender equality,
8. Provide a grievance mechanism to address workplace related grievances that is accessible and confidential,

¹³ file:///Users/evelynagyekum/Downloads/National%20Gender%20Policy.pdf

Further details on how these recommended practices can be implemented are provided below and on the following pages.

1. Establish high-level corporate leadership for gender equality

In order to improve gender equality, commitment and support from high-level leadership is essential. In order to do this, banks and their clients can:

- Encourage women to pursue senior leadership roles. This will create role models such that a pipeline of female talent will evolve;
- Establish direct policies for gender equality and human rights;
- Include gender equality targets as a factor in managers' performance reviews; and
- Involve employees of different levels in developing policies, programmes and implementation plans that advance gender equality.

2. Treat all women and men fairly at work – respect and support human rights and non-discrimination

As a fundamental first step, banks should not accept discrimination by gender and should treat men and women fairly, both in their own workforces and when opening new client accounts and working with clients.

In order to do this, banks and their clients can:

- Pay equal remuneration, including benefits, for work of equal value,
- Ensure that existing and new workplace policies and practices are free from gender-based discrimination and are gender-sensitive (take into account the differences between genders and how this might impact working practices),
- Implement gender-sensitive recruitment and retention practices, such as:
 - encouraging both men and women to apply in job advertisements,
 - ensuring transparent selection procedures (for example, ensuring that a candidate's gender is hidden when applications are reviewed, employing mixed gender interviewing panels and providing unconscious bias training for all staff),
 - Ensure that women's voices and opinions are heard, acknowledged and acted upon in decision-making and governance at all levels (including managerial and executive positions) and across all business areas,

- Offer flexible work options, leave and allow women after a leave of absence to re-enter the workforce at in a position of equal pay and status to their prior role; and
- Support access to parental leave, child care and dependent care by providing services, resources and information to both women and men.

3. Ensure the health, safety and well-being of all women and men workers

In addition to respecting human rights and non-discrimination, banks and their clients should ensure the health, safety and well-being of their workers. In particular, they should protect women from violence or any form of abuse.

In order to do this, banks and their clients can:

- Consult with employees about the key security and health issues in the workplace;
- Establish a zero-tolerance policy towards all forms of violence at work, (including verbal and/or physical abuse);
- Establish a grievance mechanism that is accessible and confidential;
- Strive to offer health insurance or other needed services to all employees; and
- Respect women and men workers' rights to time off for medical care, and counselling for themselves and their dependents.

4. Promote equal opportunity for professional development for all Employees

Training and professional development should provide equal opportunities to both genders, which will help support a strong female talent pipeline.

In order to do this, banks and their clients can:

- Invest in workplace policies and programmes that open avenues for advancement of women at all levels and across all business areas;
- Encourage women to enter non-traditional job fields or roles (for example technical or senior leadership roles that are traditionally male-dominated);
- Establish internal women's networks to create connectivity between women at all staff levels and with female clients, which could lead to mentoring relationships and greater visibility of role models;

- Ensure equal access to all company-supported education and training programmes, including literacy classes, vocational and information technology training; and
- Provide equal opportunities for formal and informal networking and mentoring.

5. Implement enterprise development and marketing practices that empower women

Banks should consider gender equality in their products and marketing, and should promote financial inclusion for women.

In order to do this, banks can:

- Expand business relationships with women-owned enterprises, including small businesses, and women entrepreneurs;
- Encourage women entrepreneurs to start-up businesses by providing products that strives to reduce barriers to initial start-up loans;
- Market lending and commercial bank services to women and men equally and support gender-sensitive solutions to lending barriers;
- Ask clients to respect the bank's commitment to advancing equality and inclusion; and
- Respect the dignity of women in all marketing and other company materials.

6. Promote equality through community initiatives

Banks have a significant role to play in the community, and can use their influence to promote gender equality more widely.

In order to do this, banks can:

- Publicise the bank's commitment to gender equality and women's empowerment;
- Carry out initiatives with community stakeholders to eliminate discrimination and exploitation and open opportunities for women and girls (for example, promoting women's bank accounts, and female ownership of capital and property (which may involve lobbying in some jurisdictions));

- Promote and recognise women’s leadership in, and contributions to, their communities and ensure sufficient representation of women in any community consultation; and
- Use philanthropy and grants programmes to support gender equality and human rights.

7. Measure and publicly report on progress to achieve gender equality

Measuring and report their gender equality performance will increase transparency.

For further details on reporting, please refer to Principle 7.

In order to do this, banks and their clients can:

- Collect and publish data on staff profile and on the gender pay gap (males’ and females’ relative salaries) disaggregated by gender;
- Create key performance indicators (e.g. number of people trained in unconscious bias) to measure progress towards gender equality and use them to report on progress; and
- Make public the company policies and implementation plans for promoting gender equality.

Key National Gender Equality and Women Empowerment Frameworks/ Laws related to the banking sector and their clients

- The 1992 Constitution of Ghana (**Article 17**) - Prohibits discrimination of persons on the basis of gender;
- The Labour Act, 2003 (**Act 651**) with specific provisions including **section 68** which reiterates the right to equal pay for equal work “without distinction of any kind”;
- Ghana National Gender Policy, 2015.

Principle 5 Guidance

Promote financial inclusion

Explanation of Principle 5 - We will extend banking services to the unbanked and underbanked areas of the country.

Alignment to international best practice - The guidance to this Principle draws upon the Global Partnership for Financial Inclusion (GPFI), the Alliance for Financial Inclusion (AFI), and the World Bank Group's Universal Financial Access 2020 initiative and National Financial Inclusion Strategies. For further details please see the reference section at the end of this document.

Why is this Principle important?

In recent years, substantive steps have been taken to promote financial inclusion in Ghana. In 2012, the Bank of Ghana became the 18th Alliance for Financial Inclusion (AFI) member to commit to the Maya Declaration (an initiative pushing to expand financial inclusion worldwide)¹⁴. Furthermore, the expansion of the digital financial sector has helped drive major increases in financial inclusion in Ghana. In fact, according to the World Bank, between 2009 and 2015 the portion of the population of Ghana that was completely excluded from the financial service sector dropped from 44% to 25%¹⁵.

Mobile Money technology innovation in Ghana has clearly demonstrated the potential to break the barriers of financial inclusion in Ghana. With three Mobile Money service providers in the country, various FinTech platforms for payments, and partnership of Banks, it has penetrated through most of the unbanked and underserved population of Ghana. According to a recent Bank of Ghana publication, the value of mobile money transactions in 2017 was GH¢155.8b, up from GH¢35.4b in 2016¹⁶. Clearly, this shows a meteoric rise that evidences the acceptance of the service and demonstrates its relevance in attaining financial inclusion in Ghana.

¹⁴ <https://www.afi-global.org/news/2012/03/bank-ghana-commits-maya-declaration>

¹⁵ <https://www.pwc.com/gh/en/assets/pdf/2016-banking-survey-report.pdf>

¹⁶ BoG Payment Systems Statistics 2018: <https://bit.ly/2LH8usF>

Banks on the other hand are striving to achieve financial inclusion by rolling out innovative products and services such as the mobile and digital banking apps/services that promote easy access to financial transactions.

Nevertheless, a substantial portion of the population in Ghana still remains completely excluded from the financial services sector. This exclusion disproportionately impacts women, young people and the rural poor. Many small businesses also struggle to obtain loans and access to other financial services because they are not sufficiently financially literate to demonstrate their financial credibility.

People and populations that are excluded from the financial services sector are more likely to be financially unstable and/or in poverty. When these people and populations continue to lack access to basic financial services, the cycle of poverty is perpetuated. However, if these groups are granted access to useful and responsibly marketed financial products and services, they are more likely to achieve greater financial stability. In fact, the World Bank indicates that financial inclusion is a “key enabler to reducing poverty and boosting prosperity”¹⁷. Financial inclusion has also been identified as an enabler for 7 of the 17 Sustainable Development Goals⁵. Financial inclusion is an enabler in many ways:

- It can help people start to meet their most basic daily financial needs (such as making payments);
- It can help people build savings and acquire other financial assets;
- It can help people prepare for future goals (such as education for their children);
- It can help people plan for unexpected emergencies.

In short, wider financial inclusion can help people in poverty to become more financially stable and to gain access to a greater scope of opportunities. Besides helping alleviate poverty for large numbers of the population, enhanced financial inclusion in Ghana can also accelerate economic development which will lead to increased business opportunities for banks in the long term.

¹⁷<http://www.worldbank.org/en/topic/financialinclusion/overview>

In addition to increasing broad, long-term, economic development, financial inclusion also represents a more immediate business opportunity for banks. As people and populations that lack access to financial services gain this access, banks gain new customers and clients. This is true both for individuals who previously lacked access to retail banking services, as well as for small businesses that previously lacked access to loans and other banking services.

Providing this access to unbanked populations may initially prove challenging for banks, as they may be required to offer very basic bank accounts which may not be particularly profitable. However, if banks are aware of this, they may be able to design accounts in order to minimize their own costs (e.g. by paying minimal or no interest on these basic accounts).

Moreover, once individuals and small businesses gain initial access to the most basic financial products or services, they are much more likely to seek additional financial products and services – often from the same bank where they obtained their initial basic services. For example, when an individual gains access to an account that allows him or her to make payments, he or she also may eventually seek other services such as saving accounts or insurance. Moreover, when a small business gains access to a loan that allows it to grow, it may need additional services such as additional loans or other commercial banking services – such as “payroll” services, enabling salary payments. In order to reap the benefits of selling additional products and services to existing clients, it is important for a bank to be a leader in financial inclusion.

Finally, it is important for the banking industry to fully engage in financial inclusion in order to ensure that it maintains a market share in the business opportunity. This is exemplified by the recent expansion of mobile money in Ghana and the operation of Telco's in this space. Although mobile money transactions have more than quadrupled between 2016 & 2017, much of this growth was not driven by banks but by telecommunication companies (Telcos). In this example, it's important for banks to become increasingly engaged in driving, or at least supporting, financial inclusion, so that they can work collaboratively with Telcos in order to ensure harmonious mobile money outcomes for Ghana.

Where does this Principle Apply?

This Principle should be applied to a bank's business activities.

Implementing this Principle

In order to implement Principle 5 it is recommended that a bank must consider how to expand both the scope and reach of its product and service offerings in order to improve the access of individuals and small businesses in Ghana to financial services.

In order to do this, a bank should develop a **Financial Inclusion Policy**. When developing this policy it should undertake these two key steps:

- 1. Understand the barriers to access.** In order to increase financial inclusion in Ghana, a bank must first understand which barriers are preventing individuals and small businesses from obtaining access to its products and services. Some examples of barriers might include, but are not necessarily limited to the following:
 - a) *Lack of access to banking branches* – People in rural regions may live too far from banking branches to use them. Similarly, people who work multiple jobs may be unable to visit banking branches during the branches' normal hours of operation.
 - b) *Inability to meet certain minimum requirements* – Many banking products and services have requirements that cannot be met by disenfranchised people. For example, savings and checking accounts may have minimum balance and spend requirements that people may be unable to meet.
 - c) *Lack of credit history* – Some financial products and services require customers and clients to be able to demonstrate some level of credit history. However, people who are unbanked inherently have no credit history. Similarly, it may be difficult for small businesses to demonstrate creditworthiness.
 - d) *Lack of financial literacy* – The language and nature of the financial services industry is complex and often requires some level of learning in order to be understood. Individuals and small businesses who lack this level of learning may be unable to understand the products and services that are available to them, or may be simply intimidated by the perceived complexity.

2. Remove the barriers to access. Once a bank understands the barriers that are preventing individuals and small businesses from obtaining access to its financial products and services, it can take measures to remove these barriers by providing a broad array of products and services that are affordable, accessible, trustworthy and sustainable. Some examples of such measures might include, but are not necessarily limited to, the following (the barrier(s) from above that each measure seek(s) to remove are indicated in parenthesis):

- i. Opening branches in new locations (a);
- ii. Changing the opening hours at branch locations (a);
- iii. Introducing or promoting new technology that eliminates the need for customers and clients to visit a branch (e.g. mobile money in Ghana which enables people to transfer money, make payments and engage in other transactions from their mobile phones) (a);
- iv. Developing new product and service offerings that are tailored to unbanked individuals and populations (e.g. basic bank accounts that do not have minimum balance or spend requirements but also offer little or no interest, or bank accounts that are designed exclusively to be used over tech platforms) (b, c);
- v. Offering services to assist individuals with building credit (c);
- vi. Offering coaching to help small businesses meet the requirements to obtain loans (c, d);
- vii. Offering or sponsoring community outreach programmes (or tailoring current community programmes) to assist with individuals and small businesses with developing greater financial literacy (d);
- viii. Offering or sponsoring community outreach programmes (or tailoring current community programmes) in schools in universities to assist students and youth with developing financial literacy - this may have the dual benefit of breaking down barriers to financial inclusion for students and youth as well as attracting future customers and employees (d).

When seeking to understand and remove barriers to financial inclusion, banks in Ghana should also become familiar with Ghana's National Financial Inclusion and Development Strategy (NFIDS) which was approved in 2017 for implementation in

2018. The development and implementation of NFIDS is part of a larger World Bank initiative to develop financial inclusion action plans in over 20 countries¹⁸. In Ghana, the NFIDS is designed to “promote action and usage of quality financial services, strengthen protection and improve upon financial literacy and capacity”¹⁹

Banks should also track some key indicators associated with their contributions to financial inclusion. These indicators may include but are not limited to:

- Additional accounts opened by region;
- Additional transactions on tech platforms;
- Additional products and services developed;
- Uptake of these products and services.

The data from tracking these indicators can be used both to help with internal strategic development and also for external reporting purposes. For further information on reporting please refer to the Guidance to Principle 7.

Key National Regulations on Financial Inclusion in Ghana

- Bank of Ghana issued the Guidelines to Financial Institutions regulated under the Banking Act, 2004 (Act 673), (RFIs) Dedicated E-Money Issuers (DEMI)s and the General Public. The two new regulatory Guidelines are “Guidelines for E-Money Issuers in Ghana” and the “Agent Guidelines”.

Principle 6 Guidance

Promote resource efficiency and sustainable consumption and production

Explanation of Principle 6 - We will encourage awareness and initiatives towards resource efficiency (with respect to energy, water, waste management, etc.) with our clients.

¹⁸ <http://www.worldbank.org/en/topic/financialinclusion/brief/national-financial-inclusion-strategies>

¹⁹ <https://www.financialtechnologyafrica.com/2017/05/03/ghana-to-launch-national-financial-inclusion-strategy-in-june>

Alignment to international best practice – The guidance to this Principle draws upon IFC Performance Standard 3 and 6, EBRD Sustainable Energy Initiative (SEI) and UNEPFI’s Guide to Banking and Sustainability. For further details please see the reference section at the end of this document.

Why is this Principle important?

Natural resources, such as minerals and fossil fuels (e.g. natural gas, oil and coal) can be considered finite resources. This means that once they are used, they cannot be regenerated (or cannot be regenerated for extremely long periods of time e.g. with fossil fuels). Some resources such as wind and sun are “renewable”, meaning that when they are used (e.g. to generate electricity) they are not depleted.

Some other resources, such as water and fertile land, are more complex. Water can be reused but if it is contaminated it may not be able to be used for a number of purposes (such as for human consumption or for watering crops), unless and until it is de-contaminated. Fertile land can quickly become desolate through poor land use practices such as overharvesting of vegetation or overexploitation of soil. If these poor land use practices continue unchecked they can lead to desertification of the land. Once desertification has occurred, it can be difficult to restore land to being fertile again.

Resources are crucial for both human survival and for economic growth. Therefore, in order to perpetuate both human life and sustainable economic growth, businesses must learn to produce more outputs using fewer finite resources. This can be done both by using finite resources more efficiently and by using renewable resources in place of finite resources.

In addition to having altruistic positive impacts for the planet and contributing to sustainable economic growth, implementing resource efficiency initiatives can also help a bank’s corporate clients increase their profitability and improve their brand strength. Further detail on this is provided below:

Increase profitability: When companies adopt resource efficiency practices, they can reduce their operational costs. For example, by adopting energy saving measures,

a company can reduce its energy bills. A specific example of this might be a textiles company introducing cold dyeing to reduce the use of heat and thus reduce energy consumption. Similarly, companies may even be able to turn some of their resource-related costs into financial benefits through industrial symbiosis. Industrial symbiosis occurs when one company can use the waste or by-products of another company as its raw material inputs²⁰. A specific example of this might be a timber processing company that sells its saw dust to a nearby farm which then uses it as bedding for livestock (instead of paying to remove the saw dust for final disposal, the company earns a new income stream). Reducing resource costs or turning wastes into saleable assets will generate positive impacts for companies' bottom lines. For more specific examples of how companies in resource-intensive sectors can improve their resource efficiency and become more profitable, please refer to the five sector-specific guidance notes (Oil & Gas, and Mining; Agriculture and Forestry; Power and Energy; Construction and Real Estate; and Manufacturing).

Improve reputation: By adopting good resource efficiency practices, companies can establish themselves as engaged in creating positive economic, environmental and social impacts both at a local and a global level. This will help such companies to build and maintain a brand that is linked to sustainable practices and will also crucially help them to avoid reputational damage. Conversely, many companies suffer reputational damage if they are perceived to be exploiting natural resources. For example, over one million traders in India boycotted Coca Cola and Pepsi products because these companies were seen to be exploiting strained water resources²¹. On the other hand, Niche Cocoa Industry Ltd in Ghana was lauded for embracing resource efficiency measures²². For specific examples of how companies in resource-intensive sectors can avoid reputation damage and/or improve their reputations, please refer to the five sector-specific guidance notes (Oil & Gas, and Mining; Agriculture and Forestry; Power and Energy; Construction and Real Estate; and Manufacturing).

²⁰ <http://www.wrap.org.uk/content/what-industrial-symbiosis>

²¹ <https://www.theguardian.com/world/2017/mar/01/indian-traders-boycott-coca-cola-for-straining-water-resources>

²² <http://www.downtoearth.org.in/news/ghanas-cocoa-industry-aims-at-sustainability-49880>

When companies experience increased profitability and improved reputation, they become more attractive clients to banks. This is because they are more likely to be financially stable and in turn are more likely to pay back debts and to seek additional products and services from their banks.

Where does this Principle Apply?

This Principle should be applied to a bank's business activities.

Implementing this Principle

In order to implement this Principle, banks should consider designing products and services that increase their clients' awareness of resource efficiency opportunities and encourage their clients to adopt resource efficiency and cleaner production initiatives. Some examples of these types of products and services include, but are not limited to the following:

- Guidance to clients to help increase their awareness of opportunities to introduce resource efficiency into their business operations;
- Guidance to clients to encourage them to seek finance for their own resource efficiency initiatives;
- Promoting the availability of finance for sustainable energy projects (including e.g. renewable energy projects and climate change adaptation projects);
- Preferred interest rates on loans that are used for capital investments in systems or infrastructure that promote resource efficiency. Financing these types of capital investments may be appealing to banks because these investments are likely to create efficiency savings (i.e. financial savings) for clients. In turn, this may enable clients to more easily afford loan repayments and consequently represent lower levels of lending risk. Examples of systems or infrastructure that promote resource efficiency may include:
 - New, more energy efficient lighting, heating, ventilation and air conditioning systems
 - Improved insulation in buildings
 - Alternative source of electricity generation for example, solar PV
 - Rainwater harvesting systems
 - Leak control systems

- Water and on-site recycling systems
- Resource efficiency-themed savings accounts: that is, higher interest rates paid on credit balances held in accounts for companies that have and/or report on resource efficiency initiatives (e.g. companies that have demonstrated either a sustained track record of attention to resource efficiency or have recently turned their attention to resource efficiency. This may be demonstrated by lowered energy bills, reduced carbon emissions and/or the introduction of and adherence to a Waste Management Plan);
 - Loans or grant funding that can be used by companies to explore options for deriving financial benefits from waste through industrial symbiosis (as explained in the “Why is this Principle Important” section above).

As part of the implementation of this Principle, banks should also track some key indicators associated with these products and services. These indicators may include: amount lent targeted at improving resource efficiency by clients or number of new products and services introduced that are intended to encourage resource efficiency by clients. The data from tracking these indicators can be used both to help with internal strategic development and also for external reporting purposes. For further information on reporting please refer to the Guidance to Principle 7.

Key National Regulations on Resource Efficiency and Sustainable Consumption and Production in Ghana

- The Hazardous and Electronic Waste Control and Management Act 2016 (Act 917);
- Land Use and Spatial Planning Act 2016 ACT 925;
- The Environmental Protection Act 1994 (Act 490);
- The Environmental Assessment Regulations 1999 (LI 1652).

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Principle 7 Guidance

Reporting

Explanation of Principle 7 - We will measure and report on the implementation of the Principles.

Alignment to international best practice – The guidance to this Principle draws upon reporting approaches taken by the UNEPFI's Guide to Banking and Sustainability, UNEPFI's Principles for Positive Impact Finance and the Recommendations of the Task-Force for Climate-Related Financial Disclosures. For further details please see the reference section at the end of this document.

Why is this Principle important?

Reporting is important because it will help a bank transparently demonstrate its progress on implementation of the Principles. It will also drive performance improvement between reporting dates. Demonstrating implementation progress and performance improvement will help a bank concretely substantiate its commitment to uphold the Principles.

Where does this Principle Apply?

This Principle addresses reporting on the other 6 Principles. Therefore, while reporting is itself an internal business operation, this Principle should be applied both to a bank's business activities with clients and to its internal business operations.

Implementing the Principle

Reporting will be phased in over time. Below is a set of guidelines that the Bank of Ghana may choose to follow when requesting that banks report on their implementation of the Principles. However, the specific mechanisms (e.g. annual report vs. integrated report, timing of reporting etc.) by which banks should report will be left at the discretion of the Bank of Ghana in consultation with the banks. In alignment with international best practice, banks may consider having an external communication mechanism in place. Furthermore, the Bank of Ghana, in consultation with the banks may adjust these specific mechanisms as appropriate over time.

- **Phase 1: Qualitative description of plans and actions for implementation.** In the first phase the banks will only be expected to report qualitatively on their progress towards implementation of the Principles. This means that they will be expected to describe those measures they have taken toward implementation of each individual Principle. This qualitative reporting should be submitted to the Bank of Ghana for review. The Bank of Ghana will collate all qualitative reporting received and will give each bank (privately) an indication of its progress relative to all other banks. That is, the Bank of Ghana will not share any details of how individual banks have performed.
- **Phase 2: Identification of quantitative baseline data, KPIs and targets.** In the second phase banks will be expected to introduce a quantitative element to their reporting. During this phase, banks will be expected to identify baseline data, select KPIs and set targets against those KPIs (please refer to Table 2 for examples of KPIs). The Bank of Ghana will collate all reporting received and will give each bank (privately) an indication of its progress relative to all other banks. That is, the Bank of Ghana will not share any details of how individual banks have performed.
- **Phase 3: Demonstration of progress against targets.** In the third phase, banks will be expected to continue to demonstrate progress towards the KPI targets set in Phase 2. Over time, banks will also be required to set new targets (for example, once the time period for the original targets has elapsed). The Bank of Ghana will collate all reporting received and will give each bank an indication of progress relative to all other banks. Over time, the Bank of Ghana, in consultation with the banks, may choose to implement an award scheme to recognize strong performance in implementation of the Principles.

Implementing the Principle

Table 2 – Suggested KPIs by Principle

| Principle | Example steps to achieve targets for each Principle |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Identify and manage environmental, social and governance risks and opportunities in our business activities</p> | <ul style="list-style-type: none"> • Percentage of loan portfolio screened for E&S risks • Number of hours or days of employee training on E&S risk management policy and procedures • Percent of employees trained on the E&S risk management policy and procedures • Number of new products and/or services introduced that are intended to encourage good E&S performance by clients • Uptake of new products and/or services intended to encourage good E&S performance by clients (number of products and/or services sold) |
| <p>2. Promote good environmental, social and governance practices in our internal business operations</p> | <p>For further detail on each of these, please refer to Table 1 in the guidance to Principle 2. All KPIs under Principle 2 are for measuring a bank's internal business operations (i.e. not a bank's client's operations):</p> <ul style="list-style-type: none"> • Electricity consumption per sq. meter of office space • Paper consumption per full time equivalent employee • Water consumption per full time equivalent employee • GHG emissions per sq. meter of office space • Waste production per full time equivalent employee • Number of employee health and safety incidents per full time equivalent employee • Number of employee sick days per full time equivalent employee • Number of hours or days of employee training around health and safety per full time equivalent employee • Workplace diversity (measured by percent of women, ethnic minorities, etc. who are employed at the bank) • Community engagement (measured by number of employee volunteering hours, amount of money invested in the local community, and |

| Principle | Example steps to achieve targets for each Principle |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <ul style="list-style-type: none"> number of community initiatives sponsored or implemented) |
| <p>3. Promote good corporate governance and ethical standards</p> | <ul style="list-style-type: none"> • Number of hours or days of employee training on good governance and ethical standards • Number of ongoing law suits related to governance issues • Percent of total employees for whom bribery and corruption is a relevant issue |
| <p>4. Promote gender equality</p> | <ul style="list-style-type: none"> • Gender pay gap • Percent of FTEs who are women • Percent of women FTEs recruited in the last 12 months • Percent of women in senior leadership roles • Number of business relationships with women-owned enterprises (including small businesses and women entrepreneurs) • Amount of money and/or employee time invested in philanthropic programmes that support gender equality |
| <p>5. Promote financial inclusion</p> | <ul style="list-style-type: none"> • Number of new basic bank accounts opened over tech platforms • Number of transactions conducted over tech platforms • Number of new financial products and/or services introduced that are targeted at the financially underserved • Uptake of new financial products and/or services targeted at the financially underserved (number of new accounts opened or number of products sold) |
| <p>6. Promote resource efficiency and sustainable consumption and production</p> | <ul style="list-style-type: none"> • Amount lent targeted at improving resource efficiency • Number of new products and/or services introduced that are intended to encourage resource efficiency by clients • Uptake of new financial products and/or services intended to encourage resource efficiency by clients (number of products and/or services sold) |

References for Additional Information

- Equator Principles (<http://www.equator-principles.com/>)
- IFC Environmental and Social Sustainability Performance Standards (<https://www.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998895a12/IFCPerformanceStandards.pdf?MOD=AJPERES>)
- UNEPFI's Guide to Banking and Sustainability (<http://www.unepfi.org/wordpress/wp-content/uploads/2017/06/CONSOLIDATED-BANKING-GUIDE-MAY-17- WEB.pdf>)
- UNEPFI's Principles for Positive Impact Finance (<http://www.unepfi.org/wordpress/wp-content/uploads/2017/01/POSITIVE-IMPACT-PRINCIPLES-AW-WEB.pdf>)
- Institute of Business Ethics (IBE) Ethics and Compliance Handbook (<http://www.ibe.org.uk/userassets/reports/ibeethicsandcompliancehandbooksouthafrica2017.pdf>)
- IBE 9 Step Model (<http://www.ibe.org.uk/the-ibe-9-step-model-for-developing-and-implementing-a-code/103/52>)
- IBE Briefing on Enhancing the Effectiveness of the Ethics Function (<http://www.ibe.org.uk/userassets/briefings/b54ethicsfunction.pdf>)
- Institute of Directors in Southern Africa (IoDSA) King IV report (<https://c.ymcdn.com/sites/iodsa.site-ym.com/resource/collection/684B68A7-B768-465C-8214-E3A007F15A5A/IoDSAKingIVReport-WebVersion.pdf>)
- UK Bribery Act (<https://www.legislation.gov.uk/ukpga/2010/23/contents>)
- UK Corporate Governance Code (<https://www.frc.org.uk/directors/corporate-governance-and-stewardship/uk-corporate-governance-code>)
- Wolfsberg Standards (<http://www.wolfsberg-principles.com/standards.html>)
- UN Women's Empowerment Principles (<http://www.weprinciples.org/>)
- Global Partnership for Financial Inclusion (GPFI) (<https://www.gpfi.org/>)
- Alliance for Financial Inclusion (AFI) (<https://www.afi-global.org/>)
- World Bank Group's Universal Financial Access 2020 initiative and National Financial Inclusion Strategies (<http://www.worldbank.org/en/topic/financialinclusion/overview>)
- EBRD Sustainable Energy Initiative (SEI) (<http://www.ebrd.com/what-we-do/sectors-and-topics/sustainable-energy-initiative.html>)
- Recommendations of the Task-Force for Climate-Related Financial Disclosures (<https://www.fsb-tcfd.org/publications/>)

SECTION B

Environmental and

Social (E&S) Risk

Management

Sector-Specific Guidance

Preamble to All Sector Specific Guidance

While the guidance notes to the Principles provide high-level, all-sector guidance on the purpose and implementation of (and additional resources for) each Principle, some sectors represent higher environmental and social risk and require greater scrutiny. Therefore, we have provided sector-specific guidance notes, to assist with the implementation of the Principles in these high-risk sectors. These notes draw upon the IFC Environmental, Health and Safety Industry Sector Guidelines and the EBRD Subsectoral Environmental and Social Guidelines and have been adapted to reflect the Ghana-specific context.

Agriculture and Forestry





Agriculture and Forestry in Ghana

Agriculture, for the purposes of this sector guidance note, comprise of “primary activity of crop and livestock farming, fisheries, aquaculture and forestry”²³ It does not include aspects of risk associated with processing of agricultural or forestry commodities or products. Forestry is defined as “land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.”²⁴. The agriculture and forestry sector in Ghana accounts for about 36% of employment of Ghana (Ministry of Employment and Labour Relation Report, 2017)²⁵.

Crop cultivation in Ghana is primarily through smallholder farming, but commercial scale cultivation also exists for some commodities, including mango, pineapple, maize and cashew. The main agricultural crops produced include cassava, yams, plantains and rice, as well as cash crops such as cocoa, cashew, coconut and oil palm. Ghana is the second largest cocoa producer worldwide. Cocoa is the top agricultural export Ghana and contributes significantly to GDP. Livestock in Ghana is primarily made up of cattle, goat, sheep and poultry farming, typically an adjunct to crop farming.

²³ <http://www.fao.org/3/a-i6602e.pdf>

²⁴ <http://www.fao.org/docrep/017/ap862e/ap862e00.pdf>

²⁵ <http://www.melr.gov.gh/wp-content/uploads/2015/12/2016-Statistical-Report-MINISTRY-OF-EMPLOYMENT-AND-LABOUR-RELATIONS-AUGUST-2017-1.pdf>

The fishing industry in Ghana mainly consist of marine fishing (artisanal fishing) and inland fishing. Volta Lake is the main source of fishery for inland fishing.²⁶

Forestry plays an important role in sustaining local communities. 15% of Ghana's population depends on forests for their livelihoods and fuelwood fulfils 70% of energy needs²⁷. The forestry sector is export-oriented and focuses on timber and wood products, both primary and processed. There are also issues with illegal logging and deforestation in Ghana, particularly in tropical forests. This can accelerate illegal deforestation.

Regulations in the sector

The agriculture sector in Ghana is mostly regulated by the Ministry of Food and Agriculture (MoFA). The Ghana Cocoa Board (COCOBOD), operating under the Ministry of Finance, is responsible for the management of cocoa production and exportation. The Biosafety Act passed in 2011 regulates the transfer, handling and use of genetically modified organisms (GMOs). MoFA adopted a National Irrigation Policy in 2010 to promote sustainable growth and enhanced performance of irrigation for the agriculture sector.

The Plants and Fertilizer Act 2010 (Act 803) regulates matters related to plant protection, seeds and fertiliser control and the Pesticides Control and Management Act 1994, Act 490 (Part II of Act 490) oversees pesticide manufacturing and use. The Water Resources Commission Act (1996) Act 522 regulates the effective utilization of Ghana's fresh water and the Water Use Regulations 2001 which provides guidelines in water uses in Ghana and permits.

The Fisheries Commission is the implementing agency of the Ministry of Fisheries and Aquaculture Development (MoFAD). It is regulated under the Fisheries (Amendment) Act 2014 (Act 880). Which is guided by the Fisheries (Amendment) Regulation 2015 (LI 2217).

²⁶ Ministry of Food and Agriculture http://mofa.gov.gh/site/?page_id=244

²⁷ Forestry Commission <http://fcghana.org/news.php?news=98>

The Forestry Commission under the Ministry of Lands and Natural Resources (MLNR) is responsible for regulating the forestry sector. MLNR has developed a Forestry Development Master Plan for 2016 to 2036 that aims to develop a sustainable forestry sector and promote sustainable forestry livelihoods. Timber Resources (Legality Licensing) Regulations were adopted in 2012 for implementing the Timber Resources Management Act 1997 (Act 547) to control the illegal logging and trade of timber products. MLNR revised the Forest and Wildlife Policy in 2011 with the aim of halting and reversing deforestation and forest degradation. This followed on from the 2002 amendment of the Forest Protection (Amendment) Act 2002 (Act 624) which legislated for higher penalties for forest-related offences.

Summary of Key E & S Issues

ESG Risk category key

- Environment – Affects the natural environment
- ▲ Health and safety – Affects the health and safety of employees
- Labour – Affects workplace conditions and treatment of employees
- ◆ Community – Affects the health and safety, livelihoods and environment of the community and wider public

Note:

Key risk ordering based on significance of the potential financial impact to the company in question

| Key risks | Agriculture | Forestry |
|----------------------------------------------|-------------|----------|
| Biodiversity and ecosystems | ● ◆ | ● ◆ |
| Labour exploitation of children and migrants | ▲ ■ ◆ | ▲ ■ ◆ |
| Fire and explosion | ● ▲ ◆ | ● ▲ ◆ |
| Occupational health and safety | ▲ | ▲ |
| Water management and waste water | ● ▲ ◆ | ● ▲ ◆ |
| Chemical management | ● ▲ | |
| Deforestation and climate change | ● ■ ◆ | ● ■ ◆ |
| Land tenure | ● ◆ | ● ◆ |
| Lack of Community engagement | ◆ | ◆ |
| Soil erosion and degradation | ● ◆ | ● ◆ |
| Air emissions | ● ◆ | ● ◆ |
| Waste management | ● ◆ | ● ◆ |
| Noise nuisance | ▲ ■ ◆ | ▲ ■ ◆ |
| Road Construction and Transportation | ▲ ◆ | ▲ ◆ |

It is recommended that banks adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimise. Where residual impacts remain, compensate/offset risks and impacts to workers, affected communities, and the environment. Avoiding a risk is generally the best mitigation measure in E&S.

Anticipate and avoid risks during project planning

Where anticipating or avoiding is not possible, minimise risk

Where residual impacts remain, compensate/offset for risk and impacts

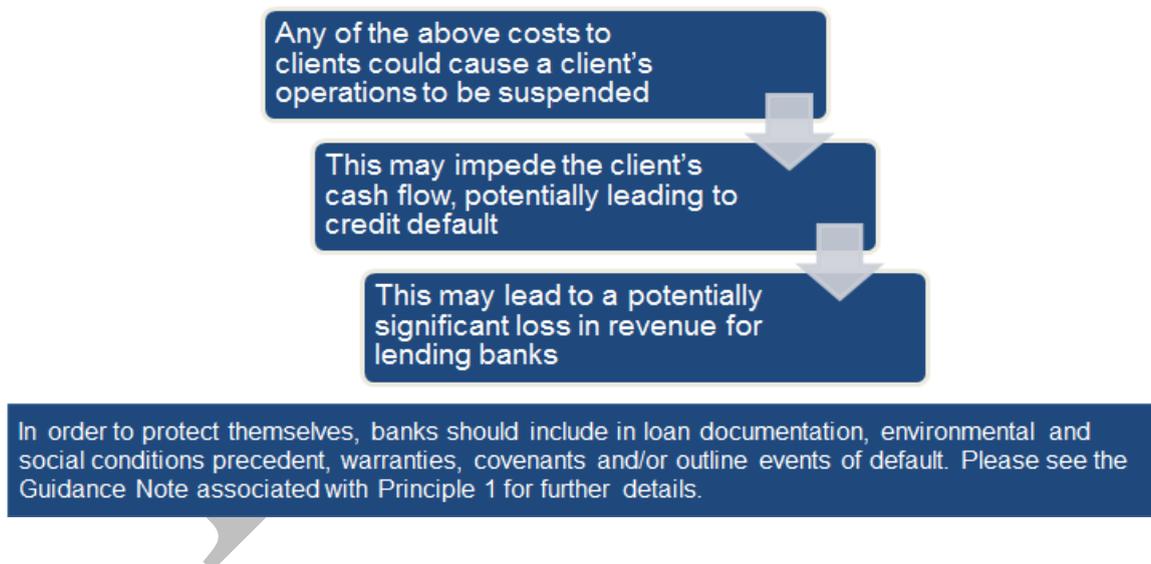
Mitigation Hierarchy. Adapted from IFC PS1 Objectives

Potential Costs Associated with Key E&S Issues

Potential costs to banks' clients associated with key E&S issues



Potential costs to banks' credit portfolios associated with key E&S issues



Analysis of Key E&S Issues

Biodiversity and Ecosystems

Biodiversity is the variability among human living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part of CBD, 1993.²⁸

Ghana's biodiversity and ecosystems provide numerous benefits to the people of Ghana including: food and nutrition, ecosystem services, aesthetics, and improved well-being. They also form an integral part of Ghana's tourism industry and the basis of traditional medicines.

Records indicate that Ghana contains at least 3,600 plant species, 221 species of amphibians and reptiles, 728 species of birds and 225 mammalian species²⁹.

Agricultural and livestock production can impact biodiversity on farmed land through the planting of monocultures, use of pesticides, introduction of invasive species and degradation of soil quality. Furthermore, surrounding ecosystems can be harmed by noise pollution and pesticide overspill, as well as the clearance of natural habitats to grow crops, particularly through "slash and burn" practices. Additionally, livestock may reduce biodiversity through grazing and, if they have access to natural water bodies, by contaminating the water with animal waste.

Forestry practices can result in habitat fragmentation and can alter forests' age structures, both of which negatively impact biodiversity. There is also the potential for negative biodiversity impacts if naturally regenerating forest or non-forest ecosystems are converted to plantation forestry.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure compliance with all relevant regulations for instance the Wildlife

²⁸ <https://www.cbd.int/convention/articles/default.shtml?a=cbd-02>

²⁹ IUCN, 1994. Red data book. IUCNNCMC, Gland, Switzerland

Conservation (Amendment) Regulation 1983 (LI 1283) and the Environmental Assessment Regulations 1999, LI 1652 (for sensitive areas);

- Before converting land for agricultural or livestock production, survey the area to identify habitat types and assess their biodiversity value. Avoid farming on areas of high ecological value, areas that comprise critical habitats for endangered species or areas that are important for wildlife breeding (agriculture);
- Plan for future site expansion (that will avoid areas of high ecological value) before selecting agricultural sites (agriculture);
- Be aware of the presence of endangered species in the areas already used for agricultural or livestock production and consider them during management processes (agriculture);
- Establish buffer zones to sensitive habitat areas, within which potentially harmful practices, such as pesticide spraying and grazing, are avoided (agriculture).
- Establish wildlife corridors in large agricultural sites, maintain ecological processes and allow movement of wildlife;
- Avoid the introduction of invasive species, either intentionally or accidentally. Some examples of invasive species that have caused issues in Ghana are Siam weed and fruit flies (agriculture) the introduction of invasive species must be subjected to environmental assessment;
- Observe internationally recognised guidelines on land requirements for livestock production per hectare, such as those published by the FAO (agriculture).
- Schedule harvesting activities to avoid the breeding and nesting season for endangered wildlife species (forestry);
- Ensure sustainable rates of timber harvesting, based on scientific understanding of the regeneration success and growth rates of forests, reserving adequate numbers of trees for regeneration purposes (forestry);
- Avoid clearing the areas under forest canopies (forestry);
- Banks should develop their own guides on the risk management practices to ensure compliance by clients;
- Maintain canopy closure over roads to keep habitat continuity (agriculture).

Labour Exploitation of Children and Migrants

Labour regulation in Ghana stems from the Labour Act 2003 (Act 651). The Act consolidated all laws relating to labour, employers, trade unions and industrial relations, as well as establishing a National Labour Commission. Moreover, Ghana has ratified all 8 of the International Labour Organisation (ILO) Fundamental Conventions which binds countries to conform to the 8 conventions including prohibiting forced labour, child labour etc.

Agriculture and forestry operations may attract large numbers of short term workers, some or many of whom may be children who are vulnerable to exploitation. They may be hired directly or by sub-contractors.

The Ministry of Employment and Labour Relations is devoted to averting child labour in Ghana. Child labour is defined as work that deprives minors aged between 5-17years³⁰ of their livelihood and has the potential to affect their physical and mental development.

Ghana introduced the Children Act 1998 (Act 560) which sets a minimum age for employment at 17. Furthermore, in 2000, Ghana ratified the ILO Worst Forms of Child Labour Convention. Ghana also recently introduced the Ghana National Action Plan on the Elimination of Child Labour 2017-2020.

Businesses can be directly or indirectly linked to labour exploitation. A company's own operations may involve using child or migrant labour or it may contribute labour exploitation through its value chains. Therefore, preventing labour exploitation (including child and migrant labour) requires a business to examine not only its own operations, but also its value chains and relationships.

Multinational companies are increasingly examining their supply chains for any child labour practices. If banks' agriculture and forestry sector clients are found to be exploiting or supporting exploitation of labour, those clients risk substantial financial losses from e.g. inability to pay loan due to cancellation of large orders.

³⁰ <https://new-ndpc-static.s3.amazonaws.com/CACHES/PUBLICATIONS/2016/04/16/CHHILDREN+ACT.pdf>

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Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure clients or their labour supply agencies, comply with the latest ILO requirements on working hours, pay, overtime, prohibition on child labour (for further details please refer to the Child Labour section of this document).
- Provide a code of conduct in a language accessible by migrant workers and sub-contractors.
- Banks should develop their own guides on the risk management practices to ensure compliance by clients.
- Ensure compliance with relevant laws pertaining to Labour. This includes;
 - *Labour Act 2003 (Act 651)*
 - *Children's Act 1998 (Act 560)*
 - *Human Trafficking Act 2005 (Act 694)*
- Assess labour exploitation risks in operations, including checking workers' ages, identifying hazardous work.
- Use leverage with companies throughout value chains and in business relationships to push them to prevent and mitigate labour exploitation. Leverage can be applied through commercial relationships, in collaboration with business peers, and through multi-stakeholder collaboration.
- Engage various non-business stakeholders in addressing labour exploitation. Communicate and cooperate with government bodies. Engage local communities to identify and address root causes of labour exploitation. Other stakeholders include employers' and workers' organisations, trade unions, and civil society organisations.

Fires and Explosions

Fire is also an integral part of land use and livelihood systems, with the majority of rural people slash and-burn techniques to prepare land for agriculture to meet food and energy needs.

Wildfires on the other hand, are one of the major threats to land forest integrity, and have also resulted in GDP losses due to loss of exportable timber and land degradation. In natural forests, the opening of the forest canopy by selective logging usually results in the growth of ground level vegetation which has a higher risk of ignition. In some cases, prescribed burns may be used as a land management technique to reduce the presence of wood fuel (e.g. slash) and decrease wildfire risk.

Other forms of fire threats that affect agriculture in Ghana includes traditional preparation of palm wine which uses heat, hunters who use fire to smoke out game animals in forested areas, storage of dry agricultural products or inputs, such as grains, compost and fertilisers, may also create a fire and dust explosion hazard.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Develop a fire risk monitoring system and a formal fire management and response plan, including the necessary resources and training for workers.
- Store all chemical inputs in appropriate facilities, away from machinery, fuels or heat sources. Store fertilisers and pesticides separately (agriculture).
- Control risk of grain dust explosions by controlling dust and reducing sources of ignition. This may require implementation of a process of regular cleaning of work areas and maintenance of any equipment that generates grain dust (agriculture).
- Continuous awareness creation on fire risk among external neighbours.
- Equip all forestry operations with adequate fire suppression equipment that meets internationally-recognised specifications (e.g. fire beaters, portable water pumps and knapsack sprayers) (forestry).
- Regularly remove high-hazard wood fuel accumulations (e.g. thinning and prescribed burns). Time these to avoid forest fire seasons (forestry).
- Establish a network of fire breaks of cleared land or areas of less flammable materials to slow the progress of wildfires and provide access for fire-fighters (forestry).

- Establish a surveillance system for early detection and rapid response.

Occupational Health and Public Safety

Physical operational hazards for agricultural employees include slips, trips and falls; ergonomic injuries due to manual handling or repetitive movements; use of sharp and moving objects; entrapment in restricted spaces; inhalation of dust, which can cause respiratory problems and reduce visibility; and over-exposure to noise, vibration and extreme weather conditions. In crop production, common accidents include becoming wrapped around rotating shafts, falls from or being run over by vehicles or trailers and being hit by flying objects ejected from machines working the land. Forestry operations can expose workers to injury from falling trees or loose branches and chainsaws or machetes.

In livestock production, injury from the livestock animals (e.g. trampling, biting and kicking) can be severe, and workers may be exposed to disease-carrying insects, e.g. mosquitoes and ticks, from the live animals, organic fertiliser and animal carcasses.

Biological hazards can also be an issue in agriculture and forestry, and could take the form of contact with venomous animals, e.g. stinging insects, spiders and snakes, and contact with certain wild mammals e.g. wild pigs. Furthermore, threshing, handling, and storage of grain can generate dust, which may contain particles of fungi and bacteria.

Other occupational health and public safety risks (covered in separate sections) are: fire and explosions; chemical hazards; and air emissions.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that all equipment is properly maintained and has the necessary safety devices.
- Provide on-site first aid equipment and provide designated employees with first aid training.
- Provide all employees with emergency evacuation procedures training.

- Install mechanical lifting aides where possible and have employees rotate work tasks to reduce repetitive activities.
- Store only dry grain (and dry, well-cured forages and hay) to reduce microorganism growth (agriculture).
- Implement dust exposure limits (e.g. a limit of 10 milligrams per cubic meter for inhalable particles without the need for Respiratory Protective Equipment) (agriculture).
- Encourage workers to practice proper hydration (companies may need to make drinking water available).
- Ensure field workers take enough breaks and provided shaded areas for those breaks.
- Implement measures to reduce dust generation, such as not overgrazing livestock on pastureland, and use local air extraction devices at dust-generating equipment (agriculture).
- Erect caution signage and sighting records so workers know areas where there are dangerous to avoid accidents.
- Install fencing and other exclusion methods for larger animals and use armed guards/spotters to protect workers (agriculture).
- Design pens and gates such that livestock can move without the need for farm workers to enter pens (agriculture).
- Train employees in correct livestock care, to reduce the incidence of bites and kicks (agriculture).
- Provide employees with (and require them to use) appropriate personal protective clothing, such as a long-sleeved shirt, long trousers, hats, gloves, and safety boots. In general, consider avoiding or minimising risks and exploring PPE options, only when risks cannot be avoided.
- Banks should develop their own guides on the risk management practices to ensure compliance by clients.

Waste Management and Waste Water

Agriculture and forestry activities need sufficient water and in turn exert impacts on nearby water supplies. As water resources have been depleted in Ghana, proper water management and wastewater treatment are needed to address water scarcity and sustain productivity of the agriculture and forestry sectors.

Crop cultivation requires an abundant water supply, and livestock rearing is also water-intensive. Currently the irrigation system in Ghana is not properly managed, which poses risks to crop yields, especially during dry seasons or in the face of extreme weather events. Water consumption for livestock can be in competition with community and industrial needs, which may even lead to water shortages at times. Furthermore, contamination of water from organic waste (such as organic fertiliser or animal waste) or improper use of pesticides and fertilisers can lead to problems such as eutrophication (excessive growth of plant life frequently due to run-off from the land) and negative impacts on the health of local communities.

Both upstream and downstream forestry activities exert impacts on water quality and quantity. Chemicals released during forest harvesting, such as lubricants and fuels, can contaminate water and pollute downstream aquatic ecosystems. Large-scale harvesting activities can also alter local and regional hydrological regimes both by drawing down on nearby water sources and by increasing potential for water and chemical run off.

Wastewater generated from downstream activities, including board production and paper manufacturing, contains various hazardous chemicals. These impacts pose severe risks to the environment and local communities.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Prevent releases and leaching of chemicals to ground and surface waters. Avoid over-irrigation during crop cultivation, and contain log ponds and runoff from log yards with impermeable surfaces in forestry activities;
- Evaluate water supply and efficiency measures (e.g. recycling, reuse and storage)

to reduce impacts on surrounding resources and community supplies;

- Install wastewater/effluent monitoring, collection and treatment facilities (agriculture);
- Develop an irrigation plan according to the requirements of crops and local water availability, and implement water conservation and 'rain harvesting' techniques for irrigation (agriculture);
- Banks should develop their own guides on the risk management practices to ensure compliance by clients;
- Use models to assess the impact of forest plantation and harvesting on hydrology and local climate, and modify forestry activities accordingly (forestry);
- Develop systems to collect and recycle waste water as well as discharges, from excess water from cleaning equipment, rinsing pesticides and mixing operations and monitor contaminant concentrations of discharge to ensure compliance with relevant regulations (forestry);
- Remove solids and chemicals in wastewater to ensure compliance with relevant regulations (forestry);
- Compliance with EPA effluent discharge guidelines;
- Institute appropriate buffer distances to ensure compliance with riparian buffer zone policy.

Chemical Management (agriculture only)

In Ghana, Traditional cultivation practices that exhaust soil nutrients are still widely used. Because of this, many crops in Ghana, including cocoa, the main export crop, have received little fertiliser and can be nutrient deficient thereby leading to reduced yields.

Use of chemical fertilisers can improve soil and crop nutrients, however the use of such chemicals involves risks, especially if fertilisers are overused. Crop and livestock farming can involve the use of several types of chemicals such as pesticides and disinfectants. Over application of pesticides, herbicides and insecticides can lead to pest resistance, thereby increasing reliance on these pesticides and on the doses required. Also, over application can also eliminate useful non-target species there by

disrupting natural ecosystem balance and possibly biodiversity. Moreover, toxic pesticides are potential pollutants that may cause harm to ecosystems and human health. Accidental exposure may result in burns, inflammation of the skin, allergic reactions or respiratory difficulties if inhaled. The misapplication of pesticides can damage neighbouring crops, habitats and residential areas through spray drift.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Implement Integrated Pesticide Management and Integrated Nutrient Management techniques to reduce over-application;
- Practice climate-smart agriculture techniques that maximise soil nutrients while maintain soil health;
- Implement precautions to prevent spray drift, including using the right spray equipment and techniques, especially in areas where children might be present.
- Record all hazardous chemical materials on site in an inventory with Materials Safety Data Sheets available;
- Ensure all areas where chemicals are stored and mixed are organised, secure and dry. Conduct regular inspections to ensure chemicals are being stored correctly and there are no leaks;
- Provide employees with (and require them to use) appropriate personal protective equipment (PPE);
- All spent containers should be disposed of responsibly using a licenced waste disposal company;
- Encourage the application of organic fertilizer as a favourable choice.
- Ensure compliance to EPA guidelines on pesticides control.

Deforestation and Climate Change

Total forest cover in Ghana has decreased from 32.7% of total land area in 1990 to 21.7% in 2010³¹. The majority of this has been caused by agricultural expansion

³¹ <https://thereddesk.org/countries/ghana>

(especially of cocoa), forestry and mining. More than 80% of agricultural expansion in Ghana between 1980 and 2000³² contributed to deforestation or forest degradation. Illegal logging has also contributed to deforestation in Ghana - in 2002, there were 3.7 million cubic meters' worth of logs extracted which represents about four times the annual allowable harvest³³. Land conversion for the creation of cattle pastures is also an issue.

Deforestation causes a variety of issues including loss of biodiversity due to habitat destruction, disruption of the water cycle, soil erosion, and decreased absorption of greenhouse gases, which contributes to climate change.

Climate change can also have substantial negative impacts on agriculture and forestry³⁴. These impacts are likely to be most detrimental to agriculture, including particularly to the cocoa industry. Farmers are likely to experience decreases in their yields due to excessive dry season temperatures and uncertain precipitation, which can lead to seed mortality, drought and flooding stress and instances of pests and diseases.

Forests act as an important carbon sink. Loss of forest cover can lead to a diminished capability of the forest in absorbing and storing carbon from the atmosphere and potentially contribute towards climate variability.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Where possible, implement agricultural practices to increase the productivity of existing land, rather than engaging in conversion of forests (agriculture).
- Before converting forests for agricultural production, survey the area using a competent third party specialist to identify habitat types and assess their biodiversity value (agriculture).

³² <http://www.fao.org/docrep/013/al513E/al513E.pdf>

³³ Gibbs, H.K., Ruesch, A.S., Achard, F., Clayton, M.K., Holmgren, P., Ramankutty, N. & Foley, J.A. (2010) Tropical forests were the primary sources of new agricultural land in the 1980s and 1990s. *Proceedings of the National Academy of Sciences USA*, 107, 16732–16737

³⁴

http://www.gh.undp.org/content/dam/ghana/docs/Doc/Susdev/LECBP_National%20GHG%20Inventory%20%20Mannual_revised_v2.pdf

- If land conversion of forest is necessary, expand into a consolidated patch, rather than in a fragmentary pattern, as this reduces impacts on biodiversity and carbon (agriculture);
- Consider which elements of climate smart agriculture can be applied. These include increasing productivity of crops in less climate-vulnerable areas and developing techniques to protect vulnerable crops (such as planting shade trees in particularly hot areas or building barriers to flooding in low-lying areas) (agriculture);
- Adopt techniques used by farmers that operate in areas with particularly high temperatures (agriculture);
- Ensure sustainable rates of timber harvesting, based on scientific understanding of the regeneration success and growth rates of forests, reserving adequate numbers of trees for regeneration purposes (forestry);
- Develop a long-term harvest plan that ensures that forestry operations are restricted to as small an area as possible (forestry);
- Banks shall further develop their own guide to ensure compliance with risk management by clients.

Land Tenure

Although land rights in Ghana can be formally registered under the legal system, land administration tends to be weak and in practice most rights are undocumented. This means that insecure tenure, conflicts over land, and multiple allocations of the same piece of land to different parties by traditional authorities are common occurrences in Ghana.

In rural areas, issues related to insecure land tenure may reduce the level of commercial investment and also impact smallholder farmers' productivity and investment in their land. Farmers often will not invest in soil conservation measures when title to the land is not secure, because the benefits of the investment are not guaranteed to accrue to them. Insecurity can also deter farmers from leaving plots fallow to restore soil nutrients due to the risk of 'unused' plots being reallocated to other community members. Poor land tenure security therefore often acts as a barrier to sustainable practices. This also mean that land cannot often be used as collateral for loans from banks.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Carry out a thorough due diligence process at the registration stage of land acquisition, in line with internationally recognised guidelines. Ensure that land acquisition proposals are registered with the relevant authority.
- Directly involve local stakeholders in the negotiation of all contracts and agreements.
- Work with clients to explore existing tools and acceptable practice within the sector to develop leases, rent payments and drive transparency by considering model lease agreements (MLA) developed under the Ghana Commercial Agriculture Project (GCAP³⁵) which seeks to make lease arrangements more robust, thus minimising issues.
- Hold “good faith” consultations with local stakeholders before initiating any project.
- Provide fair rates of compensation in any situations of change in land ownership. In the case that any stakeholders are resettled, ensure that a resettlement action plan (RAP) is put in place and adhered to.
- Take measures to protect the sustainable use of land, fisheries and forests and acknowledge that these have social, cultural, spiritual, economic, environmental and political value to indigenous peoples and other communities with customary tenure systems.
- Provide for and cooperate in non-judicial mechanisms to provide remedy to potential land tenure issues, including effective operational-level grievance mechanisms. In situations of conflict, ensure that tenure problems are addressed in ways that contribute to gender equality and support durable solutions for those affected.
- Banks shall further develop their own guide to ensure compliance with risk management by clients.

Community Engagement

³⁵ <https://gcap.org.gh/wp-content/uploads/2017/04/Model-Commercial-Agriculture-Lease-Agreement-2.pdf>

Agriculture and forestry activities can have both positive and negative impact on local communities. For example, these industries can bring jobs to more remote communities but they can also cause harm or inconvenience to local communities. More specifically, if not managed properly, practices in the agriculture and forestry sectors, such as burning of crops, weeds or trees and using pesticides and other chemicals can lead to negative health impacts for communities. For instance; pesticides can contaminate downstream water source of communities. Abstraction of raw water for irrigation purposes if not controlled could also deprive downstream communities of water.

Other practices such as the use of organic fertilisers or loud equipment, while not necessarily dangerous, can inconvenience and frustrate local communities. It is important that companies manage their relationships with local communities in order to avoid negative impacts on reputation.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Identify the range of stakeholders that may be interested in client's actions and consider how best external combinations might facilitate dialogue with the relevant stakeholders.
- Develop a robust Stakeholder Engagement Plan that is scaled to the project risks and impacts and development stage, and is tailored to the characteristics and cultural preferences of the stakeholders.
- Avoid application of pesticides in ways that will allow them to spread beyond the intended location (e.g. avoid application on windy or rainy days, avoid aerial application and application in areas close to water resources). Ensure that personnel are aware of and trained in these practices.
- Develop a system to warn local communities if they could be at risk of exposure to pesticides and chemicals.
- Ensure implementation of a grievance mechanism in order to address community complaints. The Grievance Mechanism should be scaled to the risks and adverse impacts of the project and have Affected Communities as its primary user.

- Develop an evacuation plan for local communities in the event that they become threatened by forest fires (forestry).
- Engage communities in developmental projects and programmes, and develop a framework for disclosure of relevant project information to help stakeholders to better understand the risks and opportunities of the project.
- Banks shall develop their own guides to ensure compliance.

Soil, Erosion and Degradation

Soil erosion occurs naturally by wind and water processes. Agriculture and forestry may exacerbate this natural erosion by exposing soil. These impacts are particularly relevant to Ghana as, according to the Minister of Environment, Science, Technology and Innovation, 65% of the nation's land is prone to soil erosion.

Forest harvesting activities, agriculture and road construction can physically impact soil through compaction (from heavy machinery), rutting, displacement and erosion. Once built, road surfaces may allow water to flow without restriction. Soil may be chemically affected by changes in the pH level, salinity and nutrient balance through misuse or insufficient mineral fertilisers. Other causes include the failure to recycle nutrients contained in crop residues, excessive use of poor-quality water and over-use of nitrogen fertilisers. Soil may also be biologically affected by changes to nutrient cycling and micro flora and micro fauna populations. Overgrazing of livestock can also deplete soil nutrients and damage soil structure.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Time harvest operations to avoid wet seasons.
- Use harvesting machinery that minimises soil disturbances.
- Avoid excessive mechanical site preparation prior to replanting/seeding as this removes soil moisture and the surface protective soil layer.
- Practise direct seeding and planting to minimise damage to soil structure, conserve soil organic matter and reduce erosion.
- Replenish soil organic matter by recycling crop residues, compost and organic

fertilisers and incorporate nitrogen-fixing legume crop plants and cover crops in the cropping cycle (agriculture).

- Practise erosion control management in sloping areas (e.g. terracing, intercropping with trees and grass barriers) (agriculture).
- Grow crops that are suited to the local climate and soil conditions and adopt good agronomic practices to optimize crop productivity (agriculture).
- Assess soil pH periodically and correct levels as required. Also, carry out periodic soil analysis to detect changes in soil structure, chemistry, fertility and nutrients (agriculture).
- Use Integrated Pesticide Management and Integrated Nutrient Management techniques to reduce over-application (agriculture).
- Use rotational grazing systems based on seasonal and local ecosystem resilience (agriculture).
- Use livestock trails to minimise soil trampling and erosion of riparian areas (agriculture).
- Re-establish forest cover as soon as possible after clear felling, for example, temporary mulch or slash can be used to protect soils and provide nutrients and shelter for seedlings (forestry).
- Avoid clearing large forest blocks (over 50 hectares) to reduce the contiguous land area exposed to wind and rain (forestry).
- Maximise use of existing roads, rather than building new ones. If building new roads is necessary, plan for future road uses at the design stages, i.e. long-term use beyond forestry activities (forestry).
- Locate roads on soil with good drainage capability and construct drains (e.g. ditches and cross drains) at appropriate intervals to drain water away from the road surface (forestry).
- Design road networks in advance to minimise road length and density. Also, minimise road widths as much as possible (forestry).

Air Emissions

Atmospheric emissions from agriculture are mostly from the combustion of by-products or the operation of mechanised equipment. The impacts of these pollutants

depend on the local context, such as the proximity to communities, as well as on the type of emissions and their concentrations. Crop production produces a number of different greenhouse gases. Carbon dioxide (CO₂) is released through land conversion to agricultural land and use of on-farm fuel. Nitrogen oxides (NO_x) emissions result both from the production of fertiliser and its use.

In livestock farming, dust and particulate emissions can arise from processes such as livestock housing, milk drying, refrigeration and effluent treatment. When inhaled, such emissions can lead to respiratory difficulties and can also be a nuisance to local communities. Furthermore, cattle, goats and sheep (which account for approximately 62% of Ghana's domestic livestock production) produce methane which is a powerful greenhouse gas. Poultry production (which accounts for 21% of domestic livestock production) emits ammonia.

The forestry sector does not typically produce substantial point source air emissions. However, deforestation, which can be associated with the forestry sector, is a substantial contributor to climate change (for more details please see the Deforestation section of this document). Furthermore, the forestry sector can also contribute to air emissions through the operation of heavy mechanical equipment.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Avoid open burning as a substitute for waste disposal, land preparation, weed control or post-harvest treatments. Where burning is unavoidable, schedule it according to weather conditions to minimise impacts.
- Where feasible, use renewable energy to power equipment such as irrigation pumps.
- Monitor and minimize ammonia emissions resulting from use of nitrogen fertiliser and organic fertiliser, for example by incorporating fertiliser at planting and using abated nitrogen fertilisers (agriculture).
- In order to reduce airborne dust, establish cover crops where possible, retain residues and reduce tilling activities (agriculture).
- Establish natural wind barriers, e.g. hedgerows and shrubs, to intercept airborne

particulate matter and droplets which may contain contaminants (agriculture).

- Locate facilities in areas that will avoid receptors that are sensitive to air emissions, e.g. away from schools, residents and hospitals (agriculture).
- Modify the diets of livestock to reduce their methane production and control the temperature and humidity of organic fertiliser storage (agriculture).
- Ensure sustainable rates of timber harvesting, based on scientific understanding of the regeneration success and growth rates of forests, reserving adequate numbers of trees for carbon sequestration purposes (forestry).
- Banks should develop their own guide to ensure compliance with risk management by clients

Waste Management

The more dangerous wastes associated with agriculture and forestry tend to be those associated with pesticides or fuels used in heavy machinery and large vehicles. If these wastes are not disposed of appropriately, they can contaminate local land and water resources and have adverse health impacts on workers and local residents. Additionally, while decomposition of organic wastes can deliver benefits to soil from a nutrient management perspective, natural decomposition can also retain pests and other diseases and therefore should be monitored.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Implement systems to ensure that any waste (empty) containers, chemicals and vehicle oils or lubricants are disposed of safely
- Banks should develop their own guide to ensure compliance by staff
- Monitor for (pests and diseases) the disposal of organic wastes through composting or other means of natural decomposition
- Implement systems to ensure other waste types (poly pots, feed bags, saw dusts etc.) are disposed of safely.

Noise Nuisance

Agriculture and forestry equipment can produce high levels of noise, which can have impacts on workers and on local communities. This equipment includes that used for planting and harvesting crops, for felling trees and for transporting goods, other equipment and personnel.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Provide all workers with additional personal protective equipment (PPE) where they are exposed to heightened noise and vibration.
- Implement management practices that rotate workers across activities in order to reduce cumulative exposure.
- Where possible, enclose noisy equipment to protect residents and/or the public from noise.
- Avoid operations in the evenings after 6pm within communities or put in place adequate noise control measures should such be unavoidable.
- Banks should develop their own guide to ensure compliance with risk management by clients

Road Construction and Transportation

Vehicles used in the transport of workers, equipment, crops and lumber can pose health and safety risks to workers and nearby residents and can also cause nuisance for nearby residents. Often, the types of vehicles used in the agriculture and forestry sector are those used to carry heavy loads, and are therefore larger and more difficult to manoeuvre than standard road vehicles. This can increase the likelihood of accidents which may harm workers or nearby residents. Vehicles may also require particular types of maintenance to ensure that they can be used safely for a number of years. Furthermore, these vehicles can slow down traffic and can be noisy which may cause a nuisance for local populations

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Provide all workers with sufficient training in the operation of any vehicles.
- Install GPS tracking systems in vehicles to monitor speeds, time spent on the road and driving techniques. Promote and reward safe, driving habits.
- Install noise mitigation devices in vehicles when possible.
- Monitor and maintain roads regularly.
- Ensure that culverts and drains are provided to facilitate and direct runoffs.
- Avoid transportation activities at peak traffic times. Where possible only undertake transportation when members of local communities will be off the roads.
- Ensure constructed road alignments observe gradient limits and contours.
- Comply with the riparian buffer zone policy when constructing roads.
- Restricting travelling time to when less vehicles plough the road.

Key E&S Opportunities

There are also a variety of opportunities for the agriculture and forestry sector clients to deliver positive E&S impacts which can benefit their financial bottom lines and engender good will.

In turn, these benefits to agriculture and forestry sector clients can also lead to benefits to banks in the form of:

- **Increased revenue and profitability from working with clients that have strong, sustainable financial positions;**
- **Increased business opportunities for work with new clients that arise as a result of working in strong sustainable, affluent communities; and**
- **Improved reputation from working with clients who effectively manage E&S issues.**

In order to benefit from these opportunities, banks must first encourage their agriculture and forestry sector clients to pursue the opportunities specific to their sector, which are detailed below.

Opportunities that may improve a client's profitability include but are not necessarily limited to:

- Boosting irrigation systems can lead to farming all year round especially during dry seasons where there is little or no rainfall.
- Investing in alternative energy solutions, including wind power and irrigation with solar pumps, can allow a farmer to reduce energy costs and increase profitability.
- Purchasing up-to-date and more efficient farming equipment, including tractors, harvesters, grain separators, etc. can result in improved energy efficiency and lower maintenance costs.
- Saving carbon by applying production methods which decrease deforestation can lead to a monetisation of these savings, in the form of payments for ecosystem services (and specifically Reduced Emissions from Deforestation and Forest Degradation (REDD+))³⁶
- Applying the right type of fertilizers suitable for the soil will reduce soil deterioration and boost yields. These fertilisers can be applied using drone technologies to minimise and accurately apply both fertilisers and pesticides and identify water stress³⁷.
- Installing rain harvesting and water recycling facilities can decrease the costs of sourcing freshwater and improve effluent quality especially if treated for re-use or disposal.
- Utilising agricultural waste to generate bio energy and/or biogas, use digesters to convert agricultural waste into methane (which could be a source of heat and/or electricity) and organic fertilizer to boost soil quality (avoiding use of expensive inorganic fertilizers).
- Adopting organic farming is likely to increase profitability as products can be sold at a premium.
- Local sourcing can considerably reduce import costs and provide some tax

³⁶ The Government of Ghana is in negotiations with the Forest Carbon Partnership Facility (made up of major donor countries) to enter into a contract for the country to reduce its forestry emissions. Once signed, the contract will award Ghana tens of millions of dollars for reductions in deforestation. Ghana is working closely with major companies, for example in the Cocoa sector, who have committed to working with the Government and reducing their deforestation rates.

³⁷ <https://agricinghana.com/2017/05/10/drone-technology-for-agriculture-in-ghana/>

incentives.

Opportunities that may strengthen communities and lead to improved reputation:

- Improving community infrastructure such as roads can decrease amount of time spent on transportation, improving productivity as well as community development.
- Providing community training on health and safety can prepare local community and employees in the event of an emergency.
- Providing community training on sustainable agriculture, investments, and other agricultural financing schemes to increase agricultural production and improve local economic development.
- While engaging with local communities, align initiatives with those that address key sustainable development needs of the communities, such as access to fresh water, electricity, health care and education.
- Mobilising 'out grower' schemes with communities to create shared value and brand recognition.

Due Diligence Questions for Clients

Below is a non-exhaustive list of due diligence questions designed to help you to assess the extent of E&S risk associated with a particular transaction and the ability of company management to manage these risks. Any concerns or potential gaps should be fully assessed by a technical sector specialist.

- Do you have a board member or senior manager responsible addressing E&S issues?
- Do you provide E&S awareness training to employees?
- Does your company have any links between E&S performance and executive compensation?
- Has adequate budget been allocated to management of the E&S risks identified?
- Have you incurred any environmentally and socially related fines in the last 5 years?
- Do you have Environmental Monitoring and Assessment Reports approved by the EPA?
- Have you registered any land acquisitions with the appropriate authorities?
- Have you had an environmental and social impact assessment, if so how did you perform, if not then why not?
- Do you track your emissions? Do you have any emissions reductions targets or plans?
- Do you have a plan for the management of dangerous/toxic substances?
- Have you implemented Integrated Pesticide Management and Integrated Nutrient Management techniques?
- How do you source fresh water?
- Do you have an occupational health and safety management system?
- Do you offer health and safety training to workers?
- Do you have emergency response procedures in place in the case of any accidents?
- Do you monitor track and monitor health and safety incidents?
- How many members of the local community do you employ? Have you or will you contract any migrant labour?
- Do you have a Code of Labour Practice and does it address issues associated with child labour?
- Are you in compliance with Ghana's Children's Act, Labour Act 2003, and Human

Trafficking Act?

- Are you aware of and do you operate in accordance with the 'Protect, Respect and Remedy' Framework in the United Nations Guiding Principles on Business and Human Rights?
- Are you aligned with the Voluntary Principles for Security and Human Rights?
- Do you have policies and procedures in place to control/limit worker and community noise and chemical exposure?
- Have you had any local community opposition?
- Do you devote resources to community investment?
- Do you have policies and procedures in place to control/limit noise or other nuisance exposure?
- Do you have a system in place to respond to community grievances?
- Have or will your operations result in disturbance to any cultural heritage site or other cultural resources?

Key Performance Indicators

Below is a non-exhaustive list of Key Performance Indicators (KPIs) that clients should report on, in order for banks to monitor E&S performance on a pre-determined basis.

- Documented evidence of permits around E & S practices
- Reduction in the use of/prevention of child labour in corporate operations.
- Reduction in the use of/prevention of child labour in value chains
- Number of fires and explosions
- Number of incidents
- Number of injuries
- Number of fatalities
- Number of near misses
- Water use
- Level of biochemical oxygen demand (BOD), chemical oxygen demand (COD), pH, total suspended solids (TSS), total nitrogen and phosphorous in on-site and off-site water supplies and waste water
- Number of chemical spills
- Number of injuries and fatalities due to chemical exposure

- Soil nutrients
- Use of fertiliser, pesticide, herbicide and insecticide
- Hectares of land converted for agricultural operations
- pH level, salinity and nutrient balance of soil
- Green House Gas emissions
- Release of Sulphur oxides (SO_x), Nitrogen oxides (NO_x), and volatile organic compounds (VOCs)
- Use of GMOs and GM products

Sources for Additional Information

For further reading banks may find resources from the following organisations useful:

- IFC Environmental, Health and Safety Industry Sector Guidelines (http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/)
- EBRD Sub-sectoral Environmental and Social Guidelines (<http://www.ebrd.com/who-we-are/our-values/environmental-emanual-toolkit.html>)
- Ghana Environmental Protection Agency (EPA) (<http://www.epa.gov.gh/epa/>)
- Ministry of Environment, Science, Technology and Innovation (<http://mesti.gov.gh>)
- Ministry of Food and Agriculture (<http://mofa.gov.gh/site/>)
- Forestry Commission (www.fcghana.org)
- Ministry of Land and Natural Resources (www.mlnr.gov.gh)

Manufacturing



Manufacturing in Ghana

Manufacturing is an important component in Ghana's economy. Manufacturing subsectors in Ghana include agro-processing, cement, breweries, mineral ore processing and textiles. Other industries include fast moving consumer goods (FMCG), apparel, chemicals, pharmaceuticals and the processing of wood and metal products. The manufacturing sector provides products and services to the Ghanaian economy and the West African sub-region.

The Ministry of Trade & Industry (MoTI) and the Ghana Investment Promotion Centre are the lead policy advisors to Government on trade, industrial and private sector development.

Regulations in the sector

Key legislation relating to manufacturing industries in Ghana includes:

- Companies Act, 1963 (Act 179),
- Labour Act 2003 (Act 651) to protect employee interests
- Ghana Investment Promotion Centre Act 2013 (Act 865)
- Free Zone Act 1995 (Act 503) (which regulates the management, production and exportation of goods and services from Ghana)

The Ministry of Trade and Industry continues to enhance industrialisation, attract foreign direct investments and create jobs.

One major policy measure being employed for the achievement of accelerated and sustainable growth is the Ghana Trade and Investment Gateway Programme (GHATIG), which seeks to promote foreign direct investment and to establish Ghana as a major manufacturing, value adding, financial and commercial centre in West Africa.

Laws applicable to business operations in Ghana are based on a framework of legislation pertaining to business activity copyrights, patents, trademarks, disputes and labour relations.

Transforming manufacturing in Ghana

The Government of Ghana has identified the need for a radical transformation of the manufacturing sector to boost economic growth and reduce the trade deficit of Ghana. The manufacturing sector has been in decline over the last couple of years³⁸ Some factors that have negatively affected the sector include:

- High cost of capital;
- Very limited access to medium and long term financing;
- High cost of electricity;
- Unreliable power supply;

³⁸ <https://www.pwc.com/gh/en/assets/pdf/budget-highlights-2017.pdf>

- Unreliable land tenure and corresponding limited access to land for industrial activity; and
- Weak logistic and infrastructure support for industry development.

Promoting cleaner production – The Akoben Programme

To promote sound environmental compliance in the manufacturing sectors in Ghana, the Environmental Protection Agency developed a performance rating initiative as part of its mandate to enforce the National Environmental Policy. Under the Akoben Programme³⁹, the environmental performance of manufacturing operations is assessed under a five rating scheme. The ratings are disclosed to the public and media annually. The main objective is to hold companies accountable on their commitments to protect the environment.⁴⁰

³⁹<http://www.epa.gov.gh/epa/projects/akoben>

⁴⁰ Reference note not in document

Summary of Key E&S Issues

ESG Risk category key

- Environment – Affects the natural environment
- ▲ Health and safety – Affects the health and safety of employees
- Labour – Affects workplace conditions and treatment of employees
- ◆ Community – Affects the health and safety, livelihoods and environment of the community and wider public

Note:

Key risk ordering based on significance of the potential financial impact to the company in question. It is important to recognize that manufacturing is very broad in nature and the order of significance can vary accordingly.

| Key risks | Manufacturing |
|----------------------------------|---------------|
| Occupational health and safety | ▲ ■ |
| Labour rights | ■ ◆ |
| Hazardous materials | ● ◆ ▲ |
| Air emissions | ● ◆ ▲ |
| Waste management | ● ◆ |
| Energy consumption | ● |
| Community engagement | ■ ◆ |
| Fire and explosion | ● ◆ ▲ ■ |
| Water management and waste water | ● ◆ |
| Transportation | ● ◆ ▲ |
| Noise and vibration | ● ◆ ▲ ■ |
| Product labelling | ▲ ◆ |
| Product safety | ● ◆ ▲ |

It is recommended that banks adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimise. Where residual impacts remain, compensate/offset risks and impacts to workers, affected communities, and the environment. Avoiding a risk is generally the best mitigation measure in E&S.

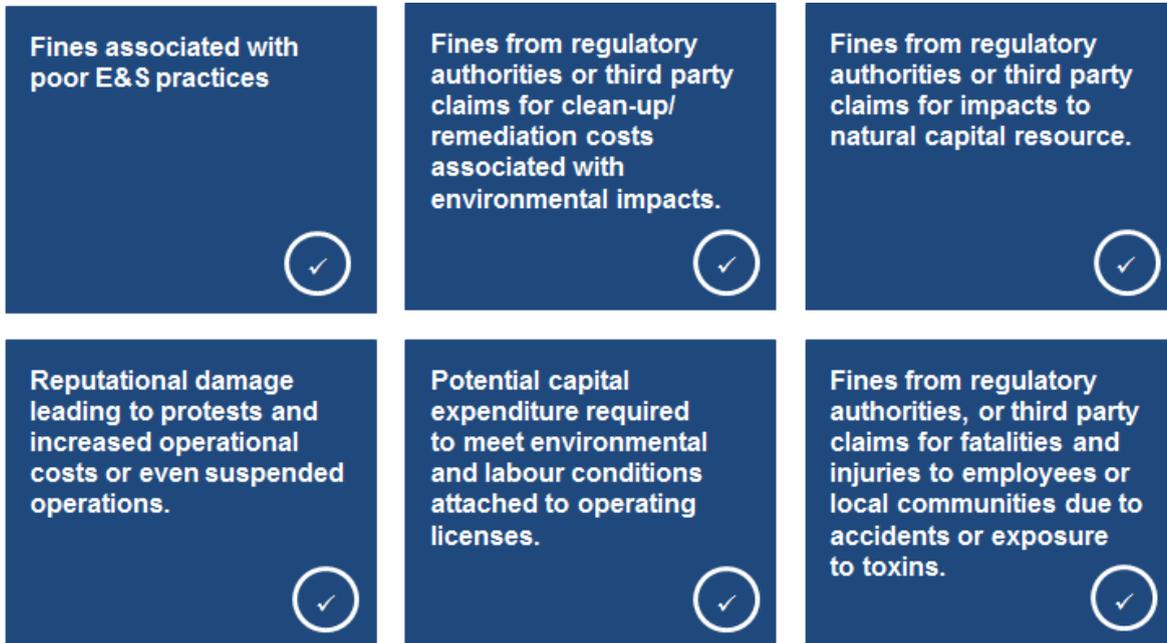
Anticipate and avoid risks during project planning

Where anticipating or avoiding is not possible, minimise risk

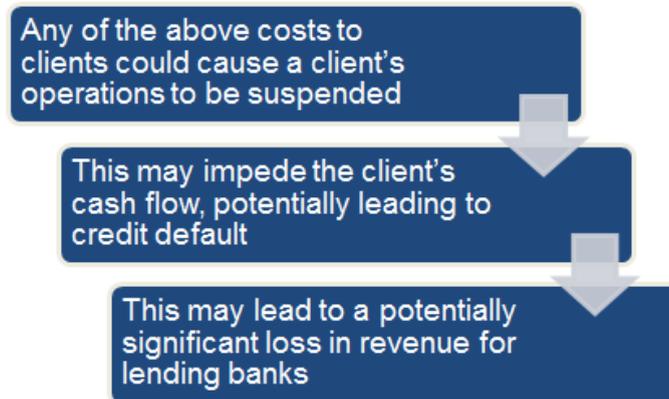
Where residual impacts remain, compensate/offset for risk and impacts

Potential Costs Associated with Key E&S Issues

Potential costs to bank's clients associated with key E&S issues



Potential costs to banks' credit portfolios associated with key E&S issues



In order to protect themselves, banks should include in loan documentation, environmental and social conditions precedent, warranties, covenants and/or outline events of default. Please see the Guidance Note associated with Principle 1 for further details.

Analysis of Key Issues

Occupational health and safety

Given the wide scope of activities within the manufacturing sector, there is a broad array of occupational health and safety hazards that pose a heightened risk to workers, especially with regards to dermal and respiratory health.

These risks include:

- **Physical hazards:** Bodily injury can result from being exposed to heat, ergonomic stress through the operation of machinery, moving equipment (including moving machinery in the textile industry or conveyers in the agro processing industry) and the general workplace if work is conducted at height, in confined spaces or in slippery conditions
- **Chemical exposure/ hazards:** Manufacturing of products can use a variety of different chemicals including different types of acids. For instance, the textiles company in Ghana can produce Volatile Organic Compounds (VOC) in processes like fabric cleaning, and use chromium, a serious allergenic, during the dyeing of textiles. VOCs can be highly toxic depending on the specific compound, with some being carcinogenic. The cement industry can also use chromium in the production of cement. The pharmaceutical sector uses many types of chemicals in production activities, including toxic compounds. Chemicals are also used for preparatory activities such as cleaning in the agro-processing industry.
- **Heat:** The use of steam and heated fluids can lead to workers being exposed to extreme heat in the textiles industry. The use of kilns in the cement industry is also a source of heat exposure. Factories that deal with metal often require working in hot conditions - this can include foundries that make metal castings, steel mills and other metal smelting.
- **Pathogenic and biological hazards:** Workers may handle and manage pathogens in the pharmaceutical sector. Exposure to biological and microbiological risks is potentially prevalent in the agro and food-processing industry due to contact with food and beverages. These pose a risk to human health - workers can be exposed to disease and bacterial infection.

- **Radiation:** Workers can be exposed to radiation if radioactive materials are used in different equipment or processes. Particulate monitors in smelting can emit radiation, as do X-ray machines sometimes used in cement mixing and in the textiles industry for monitoring purposes. Radiological hazards are also present in the pharmaceutical industry and in the medical equipment manufacturing sector for sterilisation purposes.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate

- Ensure that clients develop a health and safety management system with a designated manager to ensure oversight of implementation of procedures. This could ideally be certified to a recognised standard such as OHSAS18001 or ISO45001.
- Use shifts and the rotation of workers across tasks to minimise chemical exposure, as well as reduce the time exposed to extremely hot or cold working conditions
- Ensure that only trained and approved personnel use hazardous materials in their working.
- Monitor areas where there is the risk of chemical exposure and provide ventilation in these areas.
- Undertake a Job Hazard Analysis of operations to assess the risk by task and then assign mitigation measures
- Operate any facilities which could cause exposure to radiation in accordance with recognized international safety guidelines including acceptable effective dose limits.
- Ensure that personal hygiene is maintained through a combination of education and sanitation measures.
- Ensure that storage facilities are locked and accessible only to trained and approved personnel.
- Monitor and report on accident and incident performance to identify potential trends and mitigate serious accidents/incidents.

- Where risks are unavoidable, provide personnel with appropriate personal protective equipment (PPE) and/or respiratory protective equipment (RPE) to include training on its use and maintenance. Ensure use of the provided PPE at all times.

Labour Rights

Labour regulation in Ghana stems from the Labour Act 2003 (Act 651). The Act consolidated all laws relating to labour, employers, trade unions and industrial relations, as well as establishing a National Labour Commission. It covers a broad array of topics such as employee security, sick leave, domestic and compensation, works and wages in Ghana. Moreover, Ghana has ratified all 8 of the International Labour Organisation (ILO) Fundamental Conventions which binds countries to conform to the 8 conventions including prohibiting forced labour, child labour etc.

Manufacturing can be a labour intensive industry depending on the subsector. This may lead to a large number of casual or short term workers in the manufacturing sector. Many of these workers may be migrants who tend to be particularly vulnerable to exploitation. Hiring of casual and short term workers may be direct but can also happen through labour agents or contractors. Use of labour agents or contractors can create a risk of labour rights violations if the agencies are not following labour best practices. Another risk can result from employing child labour. Child labour is defined as work that deprives minors aged between 5-17years⁴¹ of their livelihood and has the potential to affect their physical and mental development.

Ghana introduced the Children Act 1998 (Act 560) which sets a minimum age for employment at 17. Furthermore, in 2000, Ghana ratified the ILO Worst Forms of Child Labour Convention. Ghana also recently introduced the Ghana National Action Plan on the Elimination of Child Labour 2017-2020

⁴¹ https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:103231
<https://www.globallslaveryindex.org/country/ghana/>

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Examine companies and construction sites for the signs of forced labour and/or exploitative working conditions.
- Ensure that conditions for all workers meet the latest ILO requirements on working hours, pay, and overtime.
- Ensure that any contracted labour supply agencies adhere to all the latest ILO prohibitions on child labour.
- Provide a code of conduct in a language accessible by migrant workers and sub-contractors.
- Ensure compliance with relevant laws pertaining to Labour. This includes;
 - *Labour Act 2003 (Act 651)*
 - *Children's Act 1998 (Act 560)*
 - *Human Trafficking Act 2005 (Act 694)*

Hazardous Materials

There is potential for the release into the environment of hazardous materials across the various manufacturing industries that operate in Ghana. Please see the Occupational Health and Safety section above for details on worker safety and hazardous materials. Some of the hazardous materials used in manufacturing include, but are not limited to:

- Flammable and combustible fuels (e.g. petrol, diesel, waste oil)
- Lubricants
- Toxic sludge
- Process chemicals and dyes
- Paints and cleaning chemicals used during maintenance work
- Fire-resistant chemicals and suppressants
- Asbestos
- polychlorinated biphenyls (PCBs)

These materials can pose occupational hazards to workers. Moreover, if they are leaked into soils, surface or groundwater they may pose danger to the environment and members of the public.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Conduct chemical risk assessments in line with widely accepted international standards and methodologies such as Control of Substances Hazardous to Health (COSHH).
- Ensure that a record of all hazardous materials is maintained on site - such as a Material Safety Data Sheet (MSDS) for each hazardous substance used on site.
- Ensure that there is adequate provision for the containment of hazardous materials, including secondary containment to prevent the release of these materials to the environment.
- Practice material substitution where possible, replacing hazardous materials with materials that are not hazardous.
- Ensure that reactive/incompatible chemicals are stored together to prevent fire and explosions.
- Treat hazardous waste before it is disposed- for instance sterilise pharmaceutical waste.
- Monitor the production of hazardous waste, ensuring that it is not mixed with non-hazardous waste.
- Ensure that reputable vendors are used to dispose hazardous waste.
- Ensure compliance with regulations for instance the Environmental Protection Agency Act 1994 (Act 490)

Air Emissions

Different manufacturing processes across different industries can release several different types of air emissions. These can pose a hazard to workers, the public and the environment. Common air emissions include:

- *Volatile Organic Compounds (VOCs)* – Released by chemicals and one of the main contributors to smog and can lead to health problems in humans and wildlife.

- *Particulate Matter (PM)* – can be created by the crushing and handling of materials, as well as through various processes such as drying.
- *Odours* – can be created through the storage of solid waste and heating, as well as the fermentation of organic matter.
- *Exhaust gases* – process heating requirements can lead to exhaust gases being emitted.

The Environmental Protection Agency Act 1994 and Ghana Environmental Assessment Regulation 1999 require that activities likely to have an impact on the environment (including waste, emissions and other pollutants) must apply for an environmental permit to operate⁴²

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Put in place adequate protocols/systems to measure and control air emissions.
- Ensure that facilities are equipped with reliable air emissions detection systems.
- Ensure that plans are in place to minimize personnel exposure to any toxic air emissions.
- Ensure that storage equipment has been designed and is maintained to minimise any toxic emissions.
- Where odours are emitted, consider the location of sites and facilities with respect to neighbours.
- Consider the use of air filtration systems to reduce particulate matter in emissions.
- Reduce outdoor emissions through the use of fabric filters.
- In aluminium production, use fume capture to mitigate fluoride emissions and avoid using anodes that release tar and polycyclic aromatic hydrocarbons.
- Ensure that the terms of any issued permit are complied with.

Waste Management

Processes across the manufacturing sector may produce a variety of hazardous and non-hazardous wastes that may pose a risk to the environment and community health.

⁴² <http://www.epa.gov.gh/epa/regulations/permits-large-scale/>

Examples of hazardous waste used in Ghana include;

- Waste from Spent solvents, reactants and waste chemicals.
- Cyanides
- Spent pigments used for dyeing and inks used for printing.
- By-products from pyro metallurgical processes such as unused cryolite in aluminium smelting.
- Rocks and chemical-containing kiln dust.
- Fine metal particulates.
- Spent cathodes – These contain carbon as well as other types of material used for insulation.
- Red mud – Predominately iron oxide, which is a common product of aluminium production.

Examples of non-hazardous waste include;

- Organic waste.
- Cuttings of fabrics, threads and trimmings.
- The packaging used for manufactured products is often a source of waste as it is thrown out after purchase.

The Hazardous and Electronic waste control and management act 2016 makes provision for the use and disposal of chemical waste in Ghana. EPA advises on safe disposal of hazardous waste in Ghana.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Develop a Waste Management Plan which is predicated on the “reduce, reuse, recycle” principle.
- Ensure any non-hazardous waste is collected for recycling or disposed of at an approved sanitary landfill.
- Ensure any hazardous wastes are handled by specialised licensed providers (see Hazardous Materials section for further details).
- Ensure that organic materials are processed quickly.

- Use refrigeration and cooling systems during storage and transportation of organic materials.
- Use different materials if they minimise waste production.
- Spent cathodes can be re-used, for instance as a fuel source (aluminium production).
- Use filtration methods and dry stacking to control red mud (aluminium production).
- Carry out a strategic review of packaging including how it can be minimised, while ensuring product integrity and protection, and the packaging material used - for instance whether the packing is bio-degradable.

Energy Consumption

Several processes across the manufacturing sector can be energy intensive. This is the case for most manufacturing industries in Ghana. In textile production, heat intensive processes may be used in dyeing operations. In cement production, kilns can be a source of energy consumption, especially depending on the type of kiln employed.

In the agro and food-processing industries refrigeration is an essential part of the overall process as it keeps food fresh. It also represents one of the largest consumers of energy in these industries.

This can represent a cost to the business and affect the bottom line. Moreover, companies in Ghana rely significantly of fossil fuel based energy source which releases air pollutants, such as sulphur dioxide, and greenhouse gases, which contributes to climate change.

Ghana operates an Energy Standards and Labelling Programme to meet the minimum efficiency and performance standards approved by the Ghana Standards Board that ensure that only appliances that meet the minimum energy efficiency standards are allowed in the country. This is in accordance with the Energy Efficiency Standards and Labelling Regulation 2005 (LI 1815).

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Measure and monitor energy consumption, setting performance targets to understand which areas are consuming heavily and thus require action to reduce energy use.
- Undertake a systematic analysis and evaluation of the potential for energy efficiency improvements, with a particular focus on the demand side.
- Ensure the use the most energy efficient options available in the industry.

Community Engagement

The Manufacturing sector can bring both positive and negative impacts to nearby communities. While potentially a source of employment and income, manufacturing activities can also cause harm, nuisance and inconvenience.

For example, chemicals, toxic substances, dust and air emissions from manufacturing activities may pollute the surrounding air and water, which may lead to adverse health effects for nearby populations. Manufacturing plants can also create noise that may be a nuisance to nearby residential populations.

Furthermore, manufacturing often requires the transport of both raw materials and finished products to and from the manufacturing facilities. This can cause large amounts of traffic which may cause a nuisance and lead to a higher risk of vehicle accidents than would have otherwise existed.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Attempt to minimise disruption to neighbouring communities during operations.
- Build public trust through public engagement with community stakeholders.
- Ensure implementation of a grievance system in order to address community complaints.
- Develop a system to warn local communities if they are at risk of exposure to harmful chemicals or toxic substances.
- Develop an evacuation plan for the local community in the event that it becomes threatened by harmful chemicals or toxic substances.

Fire and Explosion

Fire and explosions pose a risk of injury or fatality. They may arise during the handling of solvents and chemical reactions in the pharmaceutical industry. The handling of hot liquid metal may also lead to fire and explosions. Dust can also be highly explosive, especially if it is suspended in air. An example of this is flour, used in the food processing industry. Flour is particularly ignitable as it is predominately made up of starch, which can catch fire easily.

The Ghana National Fire Service Act 1997 (Act 537) provided the regulation for the management of undesirable fire and explosion in the sector. This is guided by the Fire Precaution (Premises) Regulations 2003, LI 1724 which makes it obligatory for certain premises to have fire certificates to meet fire safety standards.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure there is a Fire Emergency Plan approved by the Fire Service, with signage of exit routes, and indication of assembly point.
- Ensure that appropriate emergency procedures are in place in the event of an accident. This includes establishing suitable communications with the appropriate local emergency authorities.
- Ensure chemical reactions at risk of fire and explosion have been controlled through process safety engineering and control.
- Ensure the use of licensed electricians for electrical wiring and installations.
- Ensure the use of appropriate fire extinguishers e.g. different fire, extinguishers for fire from gas and fire related to chemicals etc.
- Ensure the installation of a pressurized water system include onsite water storage, pump and hose system for fire incident response.
- Ensure that potentially combustible materials and liquids are separated from other products that could lead to ignition.
- Provide water run-off lagoons that can be used in the event of a fire. Water used in fire-fighting can become contaminated, but will run off into these lagoons, thus avoiding the potential contamination of local water courses.

- Ensure there are regular on-site drills, at least twice a year to monitor response times and undertake corrective measures, if required.

Water Management and Waste Water

Water is used in several different wet operations in manufacturing. These can include cooling, cleaning, and finishing operations. Wastewater can also be created by storm water runoff.

Wastewater can have a high biological oxygen demand and chemical oxygen demand, as well as contain organic waste, solvents and other sediment. This means that, if mixed with local water courses, the oxygen available in the water could decrease, thus killing fish and other aquatic organisms and vegetation.

Given the wide scope of potential contamination, wastewater treatment will need to be specific to the manufacturing process in question.

Ghana's Environmental Sanitation Policy (revised 2010) mandates the metropolitan, municipal and district assemblies (MMDAs) the responsibility of "ensuring the availability of facilities for handling and disposal of domestic, commercial and industrial wastewaters.

The management of water resource is regulated by the Water Resources Commission Act 1996 (Act 522).

The Environmental Protection Agency Act 1994 (Act 490) and the Environmental Assessment Regulation 1999 require that activities likely to have an impact on the environment (including waste, discharges and other pollutants) must apply for an environmental permit to operate⁴³. The EPA has strict quality guidelines for the discharge of waste water into natural water bodies⁴⁴. These guidelines must be followed by all entities.

Risk Management

⁴³ <http://www.epa.gov.gh/epa/regulations/permits-large-scale/>

⁴⁴ See EPA's Sector Specific Effluent Quality Guidelines for Discharges into Natural Water bodies.

Bank clients should implement the following sample risk management practices: Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Implement policies aimed at reducing fresh water use including:
 - Rainwater harvesting.
 - Finding secondary uses for waste water, such as cleaning.
 - Installing and maintaining adequate leakage control systems.
- Compare water targets with actual performance, to identify areas in which there is excessive water use.
- Practice the pre-treatment of wastewater, by installing adequate waste water treatment systems.
- Explore the use of equipment or processes that consume less water.
- Ensure on-site treatment of waste water before disposal into surrounding water bodies.
- Use condensation and separation processes to recover used solids.
- Substitute wet operations with dry operations where possible, such as magnetic separation for the cleaning of raw materials.
- Install equipment to accurately record the concentrations of contaminant in wastewater prior to discharge. Ensure that this equipment is regularly inspected.
- Ensure that the terms of any issued permit are complied with at all times.

Transportation

Manufacturing activities can typically bring traffic to areas of operation. This is because materials are transported to the manufacturing site and finished products plus waste products are transported away. In particular, heavy goods vehicles may be used to transport machinery and large quantities of raw materials, products or wastes.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that only licenced and well trained employees are involved in the use of heavy goods vehicles and the transport of dangerous goods.
- Consider traffic management approaches including identifying potential risks, implementing speed restrictions and avoiding times when roads are likely to be busiest.
- Ensure that all vehicles are equipped with appropriate safety measures in order to decrease the likelihood and/or intensity of catastrophic impacts in the event of an accident.
- Install GPS monitoring equipment to monitor the behaviour of drivers with respect to safe driving. Reward good performance and penalise poor performance.
- Fleet control management for loading and offloading.
- Consider different modes of transport where possible (e.g. rail, which will not contribute to road congestion and is more environmentally friendly).

Noise and Vibration

Manufacturing activities can generate high levels of noise and vibration. This may be because of the mechanical equipment employed, transport used, and any supporting utility functions such as system ventilation and energy use. This is potentially a public nuisance, especially if activity takes place during the evening or night.

Heightened noise and vibration can affect nearby exposed local communities and members of the public, workers and local wildlife.

The EPA has set guidelines for the Noise and must be assessed as part of the Environmental Assessment Regulation (1999) during the development of an Environmental Impact Assessment.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Provide workers with protective hearing equipment to minimise their exposure to heightened levels of noise (and ensure the use thereof).
- Monitor noise levels to establish ambient and operational levels, to help manage them.
- Consult with local communities to ensure that activities that represent the greatest disturbance are carried out at times, which minimise disruption e.g. drilling or loading at night times.
- When selecting equipment to use, consider operational levels as part of the procurement decision.
- Install silencing or muffling equipment on machinery where possible.
- Consider impact of vibration to workers and the surrounding communities.
- Educate workers about the harmful effects of excessive exposure to vibration.
- Consider automatic noise monitors especially if close to residential communities.

Product Labelling

General labelling rules for food, drugs and other goods stem from the Ghana Standards Authority⁴⁵ and the Food and Drug Authority. It provides the procedure in labelling products used in Ghana. Failure to conform with these rules mean that products may not enter the market place.

This is guided by the Ghana Standards Act 1973 (NRCD 173)

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that product labelling standards are adhered to, including all relevant information including but not limited to:
 - The name of the product.
 - List of ingredients.
 - Date of manufacture and expiry date.
 - If any special storage conditions are required.
 - The name and address of the producer.

⁴⁵ <http://extwprlegs1.fao.org/docs/pdf/gha17279.pdf>

Key E&S Opportunities

There are also a variety of opportunities for the manufacturing sector clients to deliver positive E&S impacts which can benefit their financial bottom lines and engender good will.

In turn, these benefits to the manufacturing sector clients can also lead to benefits to banks in the form of:

- Increased revenue and profitability from working with clients that have strong, sustainable financial positions;
- Increased business opportunities for work with new clients that arise as a result of working in strong sustainable, affluent communities; and
- Improved reputation from working with clients who effectively manage E&S issues.

In order to benefit from these opportunities, banks must first encourage their manufacturing sector clients to pursue the opportunities specific to their sector, which are detailed below.

Opportunities that may improve a client's profitability include but are not necessarily limited to:

- Effectively monitoring operations will help track performance and identify opportunities for increased resource efficiency. These opportunities may include upgrading older machinery or retrofitting equipment to improve energy, water and resource efficiency.
- Reducing dependence on expensive or hazardous materials by exploring alternative, cost-effective and more sustainable materials, where possible.
- Developing innovative new sustainable products that generate additional and potentially more sustainable revenue streams.
- Implementing requisite health and safety and wellbeing practices to reduce the likelihood of accidents and help make the workforce more productive. In some cases, decreased accidents may also lead to lower insurance premiums
- Installing renewable energy such as solar panels and wind turbines to reduce energy consumption and therefore operational costs. In some cases, where there

is a surplus of energy produced, businesses can sell electricity they generate back to the electricity grid.

Opportunities that may strengthen communities and lead to improved reputation:

- Investing in local community small business start-ups that are working to design innovative and/or environmental friendly products. If commercially successful, these start-ups may be incorporated into a company's business operations at a later date.
- Introducing biodegradable packaging and advertising on packaging that it is biodegradable.
- Advertising to consumers products for which inputs have been sustainably sourced.
- Supporting community investments that align with corporate goals and strategies. This may include investments in building the skills of community youth through training or may include providing basic infrastructure such as roads, waste disposal systems and water if a plant is built in an area lacking these.
- Ensuring products are safe and do not cause any harm to the community or the environment.
- Where possible, using rail or shipping instead of road vehicles and thereby reducing road traffic, congestion and air emissions.

Due Diligence Questions for Clients

Below is a non-exhaustive list of due diligence questions designed to help you to assess the extent of E&S risk associated with a particular transaction and the ability of company management to manage these risks. Any concerns or potential gaps should be fully assessed by a technical sector specialist

- Do you have a board member or senior manager responsible for addressing E&S issues?
- Do you provide E&S awareness training to employees?
- Does your company have any links between E&S performance and executive compensation?
- Has adequate budget been allocated to management of the E&S risks identified?
- Have you incurred any environmentally and socially related fines in the last 5 years?

- Do you have Environmental Monitoring and Assessment Reports approved by the EPA?
- Have you had an environmental and social impact assessment, if so how did you perform, if not then why not?
- Do you have an energy efficiency policy or programme?
- Do you track your emissions? Do you have any emissions reductions targets or plans?
- What types of waste do you produce? How do you dispose of this waste? Do you follow the “prevent, avoid, reduce, reuse, recycle, treat, dispose” waste management hierarchy? Are your waste storage and disposal areas appropriately licensed or permitted?
- Do you have a permit to operate from the EPA?
- Do you have any instances of permit noncompliance?
- Do you have recognized certifications of your management system e.g. ISO 14001 (environmental management) and/or OHSAS 18001/ISO 45001 (health and safety management)?
- Do you offer health and safety training to workers?
- Do you have emergency response procedures in place in the case of any accidents/incidents?
- Do you monitor track and monitor health and safety incidents?
- Do you have a biosafety framework in place (for pharmaceutical companies)?
- Have you had any recent product recalls?
- Have or will your operations result in disturbance to any cultural heritage site or other cultural resources?
- Have or will your operations result in resettlement, displacement or exploitation of any communities (including potential negative health impacts)? If so, how many people will be affected? Do you have plans in place to address any associated risks?
- Have or will potentially affected communities be adequately informed of any risks?
- Have you had any local community opposition?
- Do you devote resources to community investment?
- Do you have policies and procedures in place to control/limit noise or other nuisance exposure?

- Do you have a system in place to respond to community grievances?
- How many members of the local community do you employ? Have you or will you contract any migrant labour?
- Are you in compliance with Ghana's Labour Act, 2003?
- Are you aligned with the Voluntary Principles for Security and Human Rights?

Key Performance Indicators

Below is a non-exhaustive list of Key Performance Indicators (KPIs) that clients should report on, in order for banks to monitor E&S performance on a pre-determined basis.

- Number of incidents
- Number of injuries
- Number of fatalities
- Number of near misses
- Cases of local community opposition and complaints
- Release of hazardous waste
- Tonnes of waste to landfill
- Number of fires and explosions
- Cases of employee opposition.
- Number of permit non-compliances
- Energy consumed
- Percent of energy consumed from renewable resources
- Number of human rights incidents
- Release of sulphur oxides (SO_x), nitrogen oxides (NO_x) and volatile organic compounds (VOCs)
- Water consumption
- Wastewater discharge
- Number of product recalls
- Number of incidents of release of genetically modified organisms

Sources for Additional Information

For further reading banks may find resources from the following organisations useful:

- IFC Environmental, Health and Safety Industry Sector Guidelines (http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/)
- EBRD Sub-sectoral Environmental and Social Guidelines (<http://www.ebrd.com/who-we-are/our-values/environmental-emanualtoolkit.html>)
- Ghana Environmental Protection Agency (EPA) (<http://www.epa.gov.gh/epa/>)
- Ministry of Trade and Industry (<http://www.moti.gov.gh/>)
- Ghana Investment Promotion Centre (<http://www.gipcghana.com/invest-inghana.html>)
- Ghana Free Zone Board (<http://www.gfzb.gov.gh/>)
- Private Enterprise Federation (<http://www.pef.org.gh/index.php/en/>)
- Association of Ghana Industries (<http://www.agighana.org/>)
- Akoben report (<http://www.infomine.com/library/publications/docs/sekvi2011.pdf>)
- Sustainable Manufacturing toolkit (<http://www.oecd.org/innovation/green/toolkit/48704993.pdf>)
- Ministry of Finance Budget Statement and Economic Policy

Oil & Gas, and Mining



Oil & Gas, and Mining in Ghana

Oil & Gas Industry in Ghana

The oil & gas industry in Ghana encompasses both upstream and downstream activities.

The majority of upstream drilling activities are currently conducted offshore from the Deepwater Tano Block, the West Cape Three Points and the Jubilee Field. Exploration activities are on-going in other offshore areas. In addition to these offshore activities, some upstream activities are also undertaken onshore in the Keta Basin and Voltaian Basin.

Downstream refining is largely undertaken onshore by Ghana's only petroleum refinery, Tema Oil Refinery. Refined oil products are then distributed to retail sites throughout the country.

Regulations in the sector

The Ministry of Energy is the governing entity that oversees the exploration, development, processing, transportation and utilization of Petroleum resources in Ghana. It is guided by agencies such as the National Petroleum Authority, which regulates and monitors the petroleum downstream industry, and Petroleum Commission which also regulates and manages all activities in the Upstream Petroleum industry.

Regulations in this sector includes the Petroleum Income Tax PNDC Law 188, Oil & Gas Insurance Placement for the Upstream Sector, Ghana National Petroleum Corporation Law 1983, Ghana Model Petroleum Agreement, Local Content & Local Participation Regulations LI 2204, Petroleum Commission Fees and Charges, Petroleum (Exploration & Production) Act, 2016 [Act 919], Petroleum Exploration and Production (Measurement Regulations) Guidelines, Petroleum Measurement Regulations, and the Petroleum Income Tax PNDC 188.

The Ghana Environmental Protection Agency serves as an environmental regulator with oversight of the oil & gas industry in Ghana. This is guided by the Environmental

Protection Act 1994 (Act 490) and the Environmental Assessment Regulations 1999 as amended in 2002 (LI 1652) and the Fees and Charges (Amendment) Instrument 2015 (LI 2228).

Upstream activities

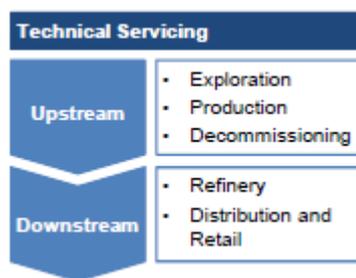
Exploration: Seismic surveys use sound waves to identify subsurface oil & gas reserves. Exploration wells are then drilled where these surveys have demonstrated a likely site for oil & gas in order to gather more information about the reserve (e.g. possible amount and quality of product).

Production: In the case of offshore drilling, an offshore platform or floating vessel is installed. A variety of different types of offshore platforms exist, but in Ghana the majority of operations use floating production storage and offloading (FPSO) vessels, which are quick to set up and can be moved to new locations as required.

Not all onshore areas are oil sands e.g. The Keta Basin extends to onshore areas in the Keta Delta.

Decommissioning: Wells are plugged and downhole equipment is removed. Facilities are treated to remove contaminants and physical structures are removed.

Technical Servicing



Midstream activities

These includes processing, storing and transportation of oil and gas. The Energy Commission oversees the midstream activities in Ghana. These include the transportation of Gas in pipelines to onshore gas processing facilities, where gas is converted into Methane, Propane, Butane and Condensate. Methane is then

transported via pipeline to power plants. LPG is transported via bulk road transportation (BRVs) for industrial use. Condensate is export for LNG, as well as for Bunkering.

Downstream activities

Onshore refining involves separation and processing of crude oil into finished petroleum products. In Ghana, the Tema Oil Refinery executes the process of distillation of the various components of crude oil followed by conversion of some of these components through a range of cracking, coking, reforming and alkylation processes. The finished products are then stored in bulk storage tanks until they are distributed to retail fuelling facilities, generally via road tankers, where they are typically stored underground.

Technical servicing activities

Upstream and downstream activities require technical support to assist with logistics, procurement of supplies and other business maintenance activities. A large number of contractors are required to support oil & gas operations.

Mining Industry in Ghana

Ghana is a major producer of various minerals, including bauxite, manganese, diamonds and gold. The Mining industry accounts for 4.2% of the country's GDP and minerals make up 37% of total exports (Ghana Statistical Service, 2016). Of which, gold is the most significant, comprising approximately 95% of nonfuel mineral revenue in Ghana. In fact, Ghana is the largest producer of gold in Africa after South Africa.

Based on estimates from the Ghana Chamber of Mines, at the end of 2016, total direct employment by the industry stood at 11,628.

Regulations in the sector

The Ministry of Lands and Natural Resources oversees all aspects of Ghana's mineral sector and is responsible for granting mining and exploration licenses. Within the Ministry, the Minerals Commission is the regulatory body for the mining industry. The overall legislative framework for the mining sector in Ghana is provided by the Minerals and Mining Act of 2006 (Act 703) which was reiterated in 2012 into Minerals and Mining (General) Regulations, 2012 (LI 2173) and amended by the Minerals and Mining Act 2015 (Act 900).

Under the Law, various regulations have been passed to facilitate the regulation of mining in Ghana. The Minerals and Mining (Support Services) Regulations 2012 (LI 2174) makes provision for providing support services in the mining sector including support for small scale mining.

The Minerals and Mining (Compensation and Resettlement) Regulations, 2012 (LI 2175) provides procedure for claiming for compensations and resettlement of displaced inhabitants.

The Minerals and Mining (Licensing) Regulations, 2012 (LI 2176) provides guidelines for all transactions relating to mineral rights including transfers and mortgage.

The Minerals and Mining (Explosives) Regulations 2012 (LI 2177) makes provision for all aspects of dealing with explosives in Ghana including application, operations, permits, licensing, manufacture, transport and storage of explosives. And the Minerals and Mining (Health, Safety and Technical) Regulations (LI 2182) provides for the functions of the inspection directorate, and guidelines for inspection and investigations of mining activities in Ghana.

Other legislation that affects mining and mineral exploration in Ghana includes the Minerals Commission Law of 1986 (PNDC Law 154), the Investment Promotion Act, 1994 (Act 478), the Minerals (Royalties) Regulations, 1987 (LI 1349). It is also guided by Ghana's Mining and Environmental Guidelines

The Ghana Environmental Protection Agency serves as an environmental regulator with oversight of the mining industry in Ghana. It is guided by the Environmental Protection Agency Act, 1994 (Act 490) and the Environmental Assessment Regulations, 1999 and as amended, 2002.

These guidelines guide the life-cycle of a mining activity from prefeasibility, exploration through operation to decommissioning and post decommissioning.

Mining process

Mining involves the extraction of materials from the ground. Mining methods vary depending on the type of material being mined and the location of the mine. Gold accounts for the majority of mining activity in Ghana. There are four separate methods for mining gold, namely placer mining, hard rock mining, by-product mining and processing gold ore. Each category has a unique method of extracting the gold from the surrounding material.

In placer mining, the gold is retrieved by metal detecting, panning, cradling, sluicing and dredging. Placer mining is the most common gold mining category for amateur gold hunters and uses gravity and water to separate the dense gold from the other materials that surround it. Placer deposits, such as streambeds where people can pan for gold, are not the typical locations used by commercial gold mining companies.

Hard rock mining is the process of using open pits (if the gold is close to the surface) or underground mining tunnels (if the gold is located farther underground) to retrieve the gold from the rock. This method of mining is responsible for recovering most of the world's gold supply. This method of mining is also used to extract a number of other materials from the ground. Open pit mining involves clearing the area of topsoil and vegetation, digging through ground rock to the mineral seam, using explosives to break up ore and transporting the ore in trucks to a processing plant. Underground mining involves creating a tunnel to reach underground material, removing ore using a combination of drilling and blasting, and transporting the material to the surface using a combination of vehicles and conveyor belts.

By-product mining is related to hard rock mining in that open pit or underground mining tunnels are used. Gold is a secondary asset in by-product mining. The main purpose of the mining operation is the recovery of copper, sand, gravel or other products but significant quantities of gold exist to make by-product mining a profitable venture.

The final category of gold mining is the processing of gold ore. This method is becoming less popular, because it often does not result in high yields of gold and has high environmental impact and costs of the operation. The gold ore is finely crushed rock or earth containing trace amounts of gold which are extracted using a chemical process. Cyanide is the most commonly used chemical for this process.

Summary of Key E&S Issues

ESG Risk category key

- Environment – Affects the natural environment
- ▲ Health and safety – Affects the health and safety of employees
- Labour – Affects workplace conditions and treatment of employees
- ◆ Community – Affects the health and safety, livelihoods and environment of the community and wider public

Note:

Key risk ordering based on significance of the potential financial impact to the company in question. O&G assessment is based on offshore extraction but also considers the impacts of distribution on land.

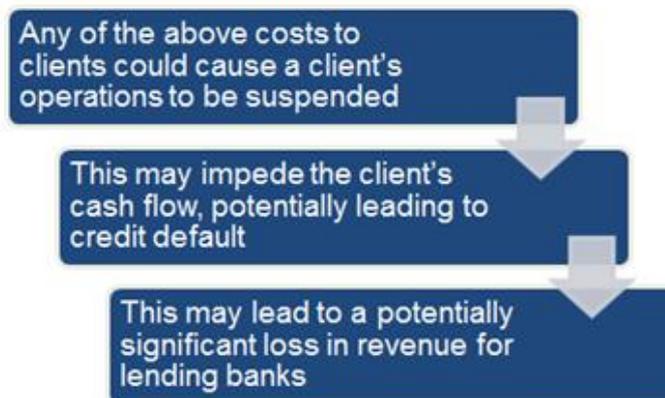
| Key risks | Oil & gas | Mining |
|-------------------------------------------|-----------|---------|
| Fire and explosion | ● ▲ ◆ | ● ▲ ◆ |
| Soil and surface water contamination | ● ▲ ◆ | ● ▲ ◆ |
| Acid Mine Drainage (AMD) and leachate | | ● ◆ |
| Decommissioning and rehabilitation | ● ▲ ◆ | ● ▲ ◆ |
| Occupational health and safety | ▲ ■ | ▲ ■ |
| Naturally occurring radioactive materials | ▲ | ▲ |
| Security | ▲ ■ ◆ | ▲ ■ ◆ |
| Water management and waste water | ● ▲ ◆ | ● ▲ ◆ |
| Hazardous materials | ● ▲ ◆ | ● ▲ ◆ |
| Community displacement and resettlement | ◆ | ◆ |
| Air emissions | ● ▲ | ● ▲ ◆ |
| Habitat loss and biodiversity | ● ◆ | ● ◆ |
| Distribution and transport | ● ▲ ◆ | ● ▲ ◆ |
| Geotechnical stability | | ● ▲ ◆ |
| Labour rights | ■ ◆ | ■ ◆ |
| Waste management | ● ▲ | ● ▲ |
| Noise and vibration | ● ▲ ■ | ● ▲ ■ ◆ |
| Financial dependency | | ■ ◆ |
| Visual impact | ● ◆ | ● ◆ |
| Worker accommodation | ▲ ■ | ▲ ■ |

Potential Costs Associated with Key E&S Issues

Potential costs to banks' clients associated with key E&S issues



Potential costs to banks' credit portfolios associated with key E&S issues



In order to protect themselves, banks should include in loan documentation, environmental and social conditions precedent, warranties, covenants and/or outline events of default. Please see the Guidance Note associated with Principle 1 for further details.

Analysis of Key E&S Issues

Fire and Explosion

Major accidents from explosions, fires, and emissions of dangerous substances can lead to fatalities, injuries, and production downtimes. They can also lead to detrimental impacts to the surrounding environment and nearby infrastructure, which can negatively affect local populations.

Oil & Gas: Operations across the oil & gas supply chain involve transportation and storing large volumes of flammable fuels, which can be highly explosive unless appropriately managed. There are several high profile and well documented cases where extraction facilities, fuel terminals and retail stations have suffered catastrophic fires or explosions owing to ignition of fuels. For example, in 2015 a fire disaster at a petrol station in Accra claimed at least 150 lives.

Mining: Mining operations also store and use large quantities of explosives, which must be appropriately managed in order to avoid catastrophic impacts on the environment, employees and local populations.

Regulations in Ghana that prevent the exposure of fire accidents in the oil and gas and mining sector include the; The Minerals and Mining (Explosives) Regulations 2012, (LI 2176), The Fire Precaution (Premises) Regulations 2003, LI 1724, and the Ghana National Fire Service Act, 1997 ACT 537, The Minerals and Mining (Health, Safety and Technical) Regulations 2012, (LI 2182).

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that facilities are designed, constructed, and operated according to the latest local Ghanaian (and international, where appropriate) regulations for the prevention and control of fire and explosion hazards. For example, international best practice standards recognize guidance that is provided by the ISO 13702:2015 standard for petroleum and natural gas industries control and mitigation of fires

and explosions on offshore production installations (Oil & Gas) (ISO, 2015). For further resources see the final section of this document.

- Ensure that written procedures are in place and agreed with all facility operators.
- Ensure that equipment undergoes scheduled inspection and maintenance and meets international standards of operational performance in order to avoid failure.
- Ensure that appropriate emergency procedures are in place in the event of an accident. This includes establishing suitable communications with the appropriate local emergency authorities.
- Ensure compliance with regulations.
- Ensure periodic inspections and audits are taken place.
- Provide local emergency service offices with a list of possible flammable or explosive products stored on the premises.
- Consider setting up an onsite firefighting facility and specific staff who are designated and available to respond to any fire or explosion events. This may include an Offshore Support Vessel in the case of offshore Oil & Gas.
- Install flammable gas detection equipment in places where large quantities of highly flammable liquids are stored and vapour may be released.
- Ensure all staff have been trained and are sufficiently competent in the handling of any flammable and explosive materials.
- Ensure all staff have been trained on safety procedures in the case of an emergency.
- Ensure security of storage areas to prevent third parties tampering with any flammable or explosive materials.
- In the event of any flaring activities, consider making use of resources from the Global Gas Flaring Reduction Partnership (GGFR) in order to explore flaring reduction.
- Ensure local communities are appropriately briefed in advance before controlled blasting in mining.

Soil and Surface Water Contamination

Oil & Gas: In offshore drilling operations, leaks and spills can lead to oil & gas or other materials (such as substances present in drilling mud) contaminating the ocean. Marine contamination can also occur during the transfer of oil from an FPSO to an oil tanker. Contamination of soil and groundwater may arise due to the loss of products during onshore separating, refining, storage and land transfer operations. Potential areas where there is a high risk of contamination include areas used to load and unload product as well as “older” areas of the site where management practices and storage standards may not have been as good as modern day requirements.

Mining: The large amounts of water used in mine drainage, mine cooling and aqueous mineral extraction can lead to run off and contamination of nearby soil and surface water. Contaminants can range from rock and other debris to chemicals used in the extraction process. Chemicals are also generally used in the processing phase. These chemicals can also contaminate soil and surface water by up to 20%.

Regulations that prevent soil and surface water contamination include the Land planning and soil conservation Act 1953, Land Planning and Soil Conservation (Amendment) Act 1977, The EPA Act 1994 (Act 490), the Mining Act 2006 (Act, 703). Water Resource Act, 1996 (Act 522) and Water Use Regulations, 2001 (LI 1692) not properly contained and disposed of. Cyanide is most typically associated with the processing phase for gold, Ghana’s main mineral export, and therefore one of the most likely soil and surface water contaminant risks in Ghana.

Often times, contaminated water is captured by dams or structures in order to prevent run off. These are often referred to as tailing dams.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that wastewater treatment systems are installed, are operational and subject to regularly scheduled maintenance and cleaning.
- Ensure that storage tanks and equipment are maintained to a local Ghanaian standards or where appropriate an internationally recognized standards (such as ISO 16961:2015 and ISO 28300:2008).

- Consider availability of environmental impairment liability insurance.
- Ensure that the facility is regularly subject to soil and groundwater monitoring.
- Develop and implement an Oil Spill Response Plan (Oil & Gas).
- Provide employees and local communities with training in oil spill prevention, containment and response (Oil & Gas).
- Ensure spill response and containment equipment is installed (Oil & Gas).
- Re-inject produced water for enhance recovery
- Ensure regulations and best practice are followed during well abandonment to prevent leaks (Oil & Gas).
- Ensure the integrity of any tailings dams that are used to capture toxic waste water (Mining).
- Ensure gold processing operations comply with local Ghanaian principles and standards (or with the principles and standards of the voluntary International Cyanide Management Code where deemed appropriate) (Mining).
- Ensure equipment and procedures are in place for timely and effective response to any contamination of soil and groundwater following spills or losses (Mining).
- Ensure potential water quality issues that may arise at mine closure have been assessed during the mine development stage (Mining).
- Ensure compliance with the mining sector effluent guidelines for the discharges into natural (surface) water bodies.

Acid Mine Drainage (AMD) and Leachate (Mining only)

Acid Mine Drainage (AMD) poses risks at many mineral processing plants and metal mines, because metals such as gold, Ghana's main mineral export, are often found in rock with sulphide minerals. When the sulphides in the rock are excavated and processed, some of the sulphide minerals remain in the waste.

If this waste mixes with water and air, it can form sulphuric acid which can leach into the wider environment. While leaching, the acid can also dissolve metals and other contaminants in rock, becoming full of toxic heavy metals (including concentrations of cadmium, copper, lead, zinc, arsenic, etc.). If uncontrolled, the acid rock drainage may contaminate streams, rivers or groundwater.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Segregate Potentially Acid Generating (PAG) material/waste from other non-acid material/ waste for better management
 - Use acid base accounting to calculate the net acid- producing potential of acid sulphate in nearby soil and to analyse acid content in waste rock. Consider using ISO 14388:2014 as a guideline.
 - Provide waste dump drains to capture acidic water.
- Encapsulation of Passive Aerosol Generator.
- Regular water quality and rock monitoring.
- Develop a programme to minimize and control acid leachate production and run off. This programme may include any of the following points:
 - Use wetland systems (where possible) to prevent contaminated water from reaching water bodies in the wider environment.
 - Use lime treatment systems to neutralise acid.

Decommissioning and Rehabilitation

In order to avoid a variety of environmental and social risks, offshore wells and onshore mining sites must be decommissioned and abandoned at end of life, using safe and stable methods. Moreover, appropriate closure of oil & gas, and mineral processing plant sites is crucial to reduce ongoing risks to the environment and health and safety.

The Minerals and Mining (General) Regulations, 2012 (LI 2173) provides for guidance for decommissioning and reclamation.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Prepare a Closure and Decommissioning Plan before production commences. This is usually included in the Environmental Impact Assessment. The plan should include sufficient funding for its implementation, and ensure that:
 - Future health and safety in the local area is not compromised.
 - Biodiversity and natural capital is enhanced or at least not compromised.
 - Socio-economic impacts are beneficial or at least not detrimental to local communities.
- Update the plan during the operation of the offshore well, onshore mining site or onshore processing site.
- Ensure plans are submitted for post-closure monitoring of the site for no less than 2 years, to confirm desired environmental, health and safety and socio-economic outcomes.

Occupational Health and Safety

Oil & gas extraction and storage facilities and mining facilities are often located in areas where there is little or no access to emergency medical services.

Many of these facilities also pose heightened risks to personnel. Some of these risks include:

- Exposure to fire and explosion.
- Injuries and fatalities from operation of heavy equipment and machinery.
- Conditions associated with prolonged exposure to toxins.
- Dangers associated with boat and helicopter transport (Oil & Gas).

In accordance with the Labour Act 2003 (Act 651), it is obligatory for employers to ensure health, safety and welfare of persons at workplace by minimizing the causes of hazards inherent in the working environment. The Minerals and Mining (Health, Safety and Technical) Regulations, 2012 (LI 2182) also makes provision for safety operations and periodic inspections of facilities.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that an appropriate health and safety management system is in place, ideally independently certified to OHSAS18001 or ISO45001 standards.
- Ensure all personnel are trained in appropriate safety procedures and are provided with appropriate safety equipment.
- Adopt a programme of illness prevention through a combination of education and sanitation measures.
- Provide personnel with appropriate personal protective equipment (PPE).
- Train personnel in the proper use and maintenance of PPE.
- Ensure regular inspection and maintenance of all PPE.
- Develop specific safety procedures for helicopter and boat transport of personnel (Oil & Gas).

Naturally Occurring Radioactive Materials (NORMs)

By nature, extractives operations are at risk of disturbing NORMs, such as potassium, thorium and uranium, radon and radium, present in the Earth's crust. However, if these NORMs are not appropriately contained and disposed of, they can pose health and safety threats to exposed personnel or local populations

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, the following sample risk management procedures:

- Develop procedures for the management of NORMs.
- Provide adequate training to all those who could potentially be exposed or who are required to manage NORMs as part of their every day jobs
- Ensure that a Radiation Protection Supervisor and a Radiation Protection Advisor are appointed.
- Define and enforce an appropriate decontamination standard.
- Engage with the Ghana Atomic Energy Commission (GAEC) to organise a site visit to determine the level of exposure risk and suggest appropriate control measures.

Security

Oil & gas, and mining materials such as gold all have high values and are therefore targets for criminals. Facilities where these material are extracted, stored and refined, as well as routes by which they are transported, can therefore be at high risk of theft or piracy as well as violence towards workers. This is relevant in Ghana, which has received a corruption rating of 43 out of 100 (with 0 indicating “very corrupt” and 100 indicating “very clean”) from Transparency International, indicating a risk of theft and piracy.

Ghana is also a signatory to the Voluntary Principles on Security and Human Rights which guides extractive companies to maintain safety and security in their operational framework in a way that ensures the protection of human rights.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure staffing of sufficient security teams (e.g. security or Offshore Support Vessels stationed near offshore drill platforms at all times; mining sites and all refining and distribution facilities at all times) to discourage theft.
- Install motion sensitive cameras, up-to-date alarm system, remote and computer monitoring and other security equipment, particularly at storage centres.
- Where the use of private security is required, ensure that local security laws are respected and high levels of technical and professional proficiency, particularly with the local use of force and firearms is respected.
- Consider MOU (if feasible) to clarify the roles and responsibilities between project and security forces during any social conflict/dispute affecting the assets.
- Provide training for employees such that they are prepared to respond in a professional and proportionate manner in the event of a security breach.
- Ensure plans are in place to guard against potential financial losses from theft.
- Consult regularly with governments and local communities about the impact of their security measures on the local communities.
- Monitor the use of equipment and investigate properly situations in which equipment is used in an inappropriate manner.

- Ensure that equipment import and export comply with local laws to avoid litigation from local authorities.

Water Management and Waste Water

Extractive operations tend to require large amounts of fresh water and also create large amounts of wastewater. This is particularly relevant in Ghana which can be prone to water shortages during the drier times of year, typically November to April.

Oil & Gas: In offshore oil & gas operations, water is brought to the surface during exploration and production and is also used on the facility to cool engines and other equipment. This water needs to be managed, treated and disposed of safely in order not to pollute the surrounding marine environment and/or local populations. Other wastewater created by offshore oil & gas exploration and production include, sewage waters, storage displacement water, bilge water, and deck drainage water.

Oil from refining and retail operations can get caught in storm water and washed into local surface water networks, potentially causing disturbance to nearby ecosystems.

Mining: Mining also uses high volumes of water in mineral extraction and processing. The largest quantities of water tend to be used for dust suppression and for mineral processing. Withdrawal of groundwater may cause changes in the water table which could impact nearby companies, populations or wildlife. Moreover, once this water has been used, it must be managed and treated appropriately in order to avoid pollution of surrounding wildlife or populations. Mining activities can also expose large tract of lands to erosion where vegetation has been removed to facilitate mining. In regions with heavy rainfall, erosion may spread into local surface water networks.

The Water Resource Commissions Act of 1996 (Act 522), Water Use Regulations, 2001 (LI 1692) and EPA's Mining Sector Specific Effluent Quality Guidelines for discharges into natural surface water bodies guides the safe discharge, treatment and management of water and wastewater in Ghana.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Reduce costs associated with sourcing freshwater and disposing of waste water by developing a sustainable water supply management plan that incorporates both reuse and recycling.
- Find secondary uses for waste water, such as in cleaning.
- Minimize the quantity of water used in cleaning.
- Install equipment to capture and thus reduce any solid materials in wastewater streams.
- Install water treatment plants to treat waste water to meet guidelines values prior to discharge.
- Prevent mixing of clean water (for instance; rain water from contaminated water
- Install equipment to accurately record the concentrations of contaminant in wastewater prior to discharge to ensure they are below regulatory limits. Ensure that this equipment is regularly inspected and calibrated.
- Manage storm water carefully to minimise run-off.
- Use lagoons to capture and manage any run-off water used for fire-fighting.
- Avoid water-induced erosion of exposed ground surfaces.

Hazardous Materials

Oil & Gas: Oil & gas extraction, storage and distribution facilities typically host a broad range of hazardous materials such as:

- Flammable and combustible fuels (e.g. petrol, diesel)
- Lubricants
- Toxic sludge
- Production chemicals and dredging chemicals.
- Paints and cleaning chemicals used during maintenance work
- Fire-resistant chemicals and suppressants

In offshore extraction operations, the release of hazardous materials may contaminate the surrounding marine environment and wildlife. Processing facilities may also release hazardous materials that could contaminate the surrounding environment and negatively impact nearby wildlife and populations.

Mining: Mining typically uses heavy equipment which requires diesel-power as well as lubricating and hydraulic oils and other hazardous substances. Furthermore, a number of hazardous materials, including cyanide (in gold processing in particular), are used in mineral processing operations.

If these materials are leaked into soils, surface water, and groundwater they may pose risks to surrounding people and wildlife.

The Hazardous and Electronic Waste Control and Management Act 2016 (Act 917) provides for the control, management and disposal of hazardous waste, electrical and electronic waste and for related purposes. Hazardous Electronic and Other Waste (Clarification) Control and Management Regulations, 2016 (LI 2250) and also the International Cyanide Management Code (ICMC) guides hazardous waste in Ghana.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Avoid or eliminate risks where possible during planning and then resort to PPE where there are residual impacts.
- Provide personnel with appropriate personal protective equipment (PPE).
- Train personnel in the proper use and maintenance of PPE.
- Ensure regular inspection and maintenance of all PPE.
- Ensure that contact with hazardous materials is minimised or eliminated (where possible) through application of the hierarchy of hazard controls, which designates a hierarchy of risk-prevention steps and the order in which they should be undertaken.
- In mining, new TSFs are required to further line containment facilities with HDPE in addition to natural clay liners.
- Ensure that all hazardous materials storage has secondary containment to prevent the release of these materials to the environment are properly lined and also have sufficient bonding to prevent spillage.
- Substitution plan for the use of more environmentally friendly materials/chemicals
- Ensure that storage facilities are locked and accessible only to trained and

approved personnel.

- Ensure that all hazardous materials storage has secondary containment to prevent the release of these materials to the environment.
- Ensure that facilities are inspected regularly to track and minimize any leaks or spills.
- Ensure that procedures are in place in the event of a leak or spill.
- Ensure that a record of all hazardous materials is maintained onsite.
- Ensure that procedures are in place in the event of a leak or spill. That is, emergency response plans procedure.
- Material Safety and Data Sheet (MSDS) should always be available.

Community Displacement and Resettlement

Rural communities are often vulnerable to eviction when an onshore oil and gas and mining lease is granted, and at times evictions can occur without appropriate communication or compensation. Residents may potentially be exposed to health and safety risks associated with oil and gas and mining activities. Furthermore, there are likely to be socio-economic implications associated with environmental damage to the resources on which residents rely for agriculture or other traditional livelihoods. Displacement could also occur as a result of onshore exploration and production of oil and gas and mining.

Chapter 5 of 1992 Constitution title Fundamental Human Rights and Freedom protects the rights of displaced communities.

The Minerals and mining (Compensation and Resettlement), 2012 (LI 2175) provides guidance in resettling inhabitants and paying of compensations.

The Environmental Impact Assessment process and the resulting implemented conditions tends to serve as regulatory obligations on mining projects to protects the environment and communities.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Review socio-economic baseline conditions to assess any impacts potentially associated with mining operations.
- Assess opportunities for employment of members of the local community either directly in oil and gas and mining operations or in companies that supports these operations.
- Ensure implementation of a grievance system to handle community complaints.
- Ensure engagement with the local community and relevant stakeholders prior to any resettlement.
- Where resettlement takes place, quality of life should be maintained or improved. Fair compensation should also be provided for any lost assets or reduced economic opportunities and should consider gender equality issues/impacts.
- Ensure that all communication with local populations (including written communication) is undertaken in the local language.
- Institute strategies to reduce the incidence of speculative mining.
- Declare the active oil and gas and mining areas.
- Ensure there is adequate security provision to prevent pipeline vandalism.

Air Emissions

Oil & gas, and mining activities can result in the emission of the following:

- Carbon monoxide (CO) and dioxide (CO₂)
- Methane (CH₄)
- Sulphur dioxide (SO₂)
- Sulphur oxides (SO_x)
- Volatile organic compounds (VOCs)
- Oxides of nitrogen (NO_x)
- Particulate matter (PMs)

Emissions of these gases are harmful because they contribute to atmospheric carbon stocks which contribute to climate change (particularly from the greenhouse gases CO₂ and CH₄), because they can cause ground level acidification (SO₂ combines with water to create sulphuric acid) and because they can be toxic to human health (VOCs, CO, NO_x and PMs).

Oil & Gas: Air emissions from offshore oil & gas operations and onshore operations can be driven by the following:

- Emissions associated with electricity used for power and heat generation. The intensity of air emissions is often dependent on the composition of the fuel used.
- Fugitive emissions through equipment leaks (more likely to occur with older equipment).
- Combustion in mechanical or transport equipment including water vessels and helicopters in the case of offshore drilling.
- Flaring and venting (offshore).
- Degassing of drilling muds (offshore).
- For onshore activities, fugitive emissions from storage of fuel and gas.

Mining: Air emissions risks associated with mining include:

- Emissions associated with electricity used for power and heat generation. The intensity of air emissions is often dependent on the composition of the fuel used.
- Combustion in other mechanical or transport equipment.
- The gold leaching process may release hydrogen cyanide into the air.
- Particulate Matter from mining activities especially during the dry season to surrounding communities where applicable

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that power, heat generation and transportation operations use the least carbon intensive method available.
- Ensure that plans are in place to minimize personnel exposure to any toxic air emissions.
- Avoid gas flaring as much as possible. Gas should be transported onshore via a pipeline and used for power generation wherever possible. Consider making use of resources from the Global Gas Flaring Reduction Partnership (GGFR) in order to explore flaring reduction (Oil & Gas).

- Where flaring is unavoidable, estimate likely flaring volumes during commissioning and set minimisation targets. Track flaring against these targets (Oil & Gas).
- Ensure that infrastructure is well maintained and monitored. Develop plans to control fugitive emissions in the case of a leak (Oil & Gas).
- Ensure facilities are equipped with a reliable gas detection system (Oil & Gas).
- Ensure that storage equipment has been designed to reduce VOC emissions (Oil & Gas).
- Ensure that plans and equipment are in place to minimize the leaching of cyanide and inorganic compounds (Mining).
- Ensure the appropriate use of sprinklers to suppress particulate matter especially in the dry season (Mining).

Habitat Loss and Biodiversity

Oil & Gas: The following can impact marine ecosystems and wildlife:

- Release of drilling muds.
- Disposal of sewage and food waste.
- Spills of fuel or other hazardous materials.
- Light pollution surrounding operations.

These pollutants can have detrimental impacts on marine life and coastal ecosystems. Depending on the currents and extent of the pollution, protected areas could be affected across a coastal region.

Habitat loss and biodiversity could occur as a result of onshore operations and construction of processing plants.

Mining: The following can lead to alteration and degradation of surrounding habitats:

- Changes and/or degradation of the nearby hydrological regime (e.g. by changing the flow of rivers and/or changing the water table), through water use and waste water disposal. This can lead to impacts to the ecosystem, which may result in loss of vegetation, loss of biodiversity and desertification.
- Changes and/or degradation of land at extraction, mineral processing and waste dumping sites, which can lead to habitat loss and loss of biodiversity.
- Exposure of local populations to toxic materials used in extraction and processing operations.

The Schedule 5 of the Environmental Assessment Regulations (LI 1652) – list of environmentally sensitive areas guides to selecting sites for mining activities. Mining is also guided by even stricter requirement for mining in Production Forest reserve.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Minimise habitat alteration to the extent feasible, and protect and preserve critical habitats.
- Implement a Biodiversity Action Plan, including purchase of biodiversity offsets where possible and needed.
- Minimize land alteration for any onshore activities.
- Develop a rehabilitation plan that includes reintroduction of natural species (see rehabilitation section for further details).

Distribution and Transport

Transportation of dangerous goods such as fuels and explosives by road increases the risk of serious road traffic accidents. Accidents may cause fires, explosions and release of pollutants which can lead to destruction of property as well as fatalities and injuries. Moreover, increased vehicle movements in general can cause increased risk of accidents and increased risk of fatalities and injuries. Vehicle traffic may also result in congestion, air pollution and noise disturbance to nearby businesses and residents.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that only licenced and well trained employees are involved in the use of heavy goods vehicles and the transport of dangerous goods.
- Ensure that all vehicles are equipped with appropriate safety measures in order to decrease the likelihood and/or intensity of catastrophic impacts in the event of an accident.

- Avoid use of heavy plant on third class roads especially during the rainy season for onshore activities. Also consider sprinklers during the dry season to suppress particulate matter on third class
- Install GPS monitoring equipment to monitor the behaviour of drivers. Reward good performance and penalise poor performance.
- Consider different modes of transport (e.g. pipeline, rail, shipping)
- Ensure that vehicles are regularly maintained to minimise NOx and SOx emissions into the atmosphere, and where possible avoid idling of the engine to reduce unnecessary GHG emissions.

Geotechnical Stability (Mining only)

Most mining operations increase risks of landslides, rock falls, and/or land collapse. Mining operations located in areas of high seismic activity are particularly vulnerable to instability.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that all planning and design prioritises safety with respect to geotechnical stability.
- Monitor and manage structures during the lifecycle of mining operations to maintain the integrity of the site over time.
- Implement additional monitoring measures in active seismic
- Implement additional monitoring measures in areas exposed to extreme weather events.

Labour Rights

Oil & gas, and mining operations may attract large numbers of short term workers, some or many of whom may be foreign migrant workers who are vulnerable to exploitation. They may be hired directly or by sub-contractors.

The Labour Act 2003 (Act 651) regulates employment and labour issues in Ghana. It covers a broad array of topics such as employee security, sick leave, domestic and compensation, works and wages in Ghana.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure migrant workers, or their labour supply agencies, comply with the latest International Labour Organisation (ILO) requirements on working hours, pay, and overtime.
- Ensure they or their labour supply agencies include all of the latest ILO prohibitions on child labour into contracting agreements.
- As needed, provide appropriate worker accommodation which meets, at a minimum, the basic needs of workers, and adheres to local Ghanaian and international good practice (see Accommodation section for further details).
- Provide a code of conduct in a language accessible by migrant workers and sub-contractors.
- Ensure that labour standards are in line with local Ghanaian labour law and practices.
- Clearly outline contractual obligations between contractors and subcontractors to avoid dilution of responsibilities.

Waste Management

Across the extractives sector supply chains may produce a variety of hazardous and non-hazardous wastes –including, but not limited to:

- Waste oils
- Paraffin
- Waxes
- Hydraulic fluids

- Used batteries
- Waste chemicals
- Used filters
- Waste drilling fluids and drill cuttings
- Organic waste

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Develop an Integrated Waste Management Plan which outlines a strategy for eliminating, reducing and recycling all forms of wastes.
- Ensure non-hazardous waste is collected for recycling or disposed at an approved sanitary landfill.
- Ensure any hazardous wastes are handled by specialised licensed providers (see Hazardous Materials section for further details).
- Where possible, use chemicals with the lowest potential human health and environmental impacts.
- Consider using waste oil as a fuel for power generation

Noise and Vibration

Oil & gas: Noise and vibration associated with oil & gas extraction, processing and transportation may be generated by seismic surveys, construction, drilling and production, sea and air transportation, engines and power generation, flares and vents, pumps and compressors.

Mining: Noise and vibration is associated with many types of equipment used in mining operations including noise from excavation equipment, vehicle engines, loading and unloading of rock into steel dumpers, chutes and power generation as well as from blasting.

Noise and vibration can affect wildlife and any nearby residents or exposed members of the public. For example, it may deter the migration routes of marine life or birds in the case of offshore oil & gas operations. It may also have health and safety impacts on a company's workforce or any nearby populations. Noise and vibration may cause

injuries and accidents from impacts from fly rocks as well as affects the structural integrity of buildings.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure systems are implemented and maintained to monitor and control employee exposure to noise and vibration.
- Provide personnel with additional PPE in areas exposed to heightened noise and vibration.
- Where possible, enclose noisy equipment to protect residents and/or the public from noise.
- Adhere to a blasting schedule and prior warning systems.
- Avoid conducting seismic surveys during productive times of the year in fishing areas (offshore Oil & Gas).
- Alter the timing of blasts and other high noise activities to minimize disturbance (Mining).

Financial Dependency (Mining only)

Mining and mineral processing facilities are often developed in remote areas where workers and communities might not otherwise exist. Therefore, workers are often required to relocate in order to take employment in mining operations. In some cases, this will result in entire communities being built around a mine. However, this can cause such communities to be economically dependent on the existence and success of the mine, and they can be left disenfranchised if and when mining operations cease.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate

- Work with local authorities to develop plans to ensure that communities in remote areas have access to adequate services such as education and health care.
- Work with local authorities to develop plans that prioritize economic stability for

mine workers once the mine has been decommissioned.

Visual Impact

Oil & gas and mining operations can have negative visual impacts, particularly if tourism or recreation areas are nearby.

Mine infrastructure and facilities may cause negative visual impacts. For example, mining pits and waste rock dumps could cause visual impact.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Avoid clearing large tracts of land ahead of mining.
- Maintain buffer zones between recreational or residential areas mining operations or processing plants.
- Blend post mining landforms to mimic existing or natural topography or landforms.
- Improve unsightly landscapes by planting trees or other types of vegetation.
- Rehabilitate the unsightly landscapes that are most visible to local populations.
- Where possible, conceal the location of any mine or processing plant.

Worker Accommodation

Due to the nature of oil & gas, and mining operations, worker accommodation may be in remote and harsh locations. Accommodation will be provided for offshore oil & gas workers, normally on the platform or vessel. Similarly, temporary accommodation is often provided for mine workers in proximity to extraction and processing sites.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure accommodation is clean, safe and meets workers' basic needs
- Ensure accommodation complies Ghanaian legislation and meets international good practice standards (as specified by the World Health Organisation).

Key E&S Opportunities

There are also a variety of opportunities for oil & gas and mining sector clients to deliver positive E&S impacts which can benefit their financial bottom lines and engender good will.

In turn, these benefits to oil & gas and mining sector clients can also lead to benefits to banks in the form of:

- Increased revenue and profitability from working with clients that have strong, sustainable financial positions;
- Increased business opportunities for work with new clients that arise as a result of working in strong sustainable, affluent communities; and
- Improved reputation from working with clients who effectively manage E&S issues.

In order to benefit from these opportunities, banks must first encourage their oil & gas and mining sector clients to pursue the opportunities specific to their sector, which are detailed below:

Opportunities that may improve a client's profitability include but are not necessarily limited to:

- Capturing and selling natural gas that would otherwise be flared and lead to air emissions (potentially using resources available under the Global Gas Flaring Reduction Partnership) (Oil & Gas).
- Using drilling fluid recycling practices can diminish the cost and effort of both disposing of drilling mud and purchasing of new drilling fluid (Oil & Gas).
- Installing water recycling facilities that can decrease the costs of sourcing freshwater and safely disposing of waste water and also water treatment plants. This can also reduce impact on water supply.
- Following best health and safety and labour rights practices can enhance employee wellbeing and lead to a more productive workforce. This could include the use of new and emerging technologies such as virtual reality training and drones to remotely monitor and inspect assets.
- Using storage and transportation equipment that follows requisite standards can help control leaks and limit the unintentional loss of process inputs (e.g. liquid chemicals etc.) or outputs (e.g. refined oil).

- Using more up to date vehicles with higher fuel efficiency standards can lead to fuel savings, particularly when transporting heavy materials and/or equipment.
- Implementing requisite security procedures can reduce the likelihood of theft (particularly of valuable materials e.g. gold) and may in some cases also lead to lower insurance premiums.

Opportunities that may strengthen communities and lead to improved reputation include but are not necessarily limited to:

Providing training and equipment in order to prepare the local community in the event of an emergency (e.g. in the event of an explosion or a toxic leak).

- Providing a robust legacy recreational use plan as part of decommissioning and rehabilitation
- Working to ensure a smooth transition (e.g. post-mine closure) for any communities that are financially dependent on the company's operations (particularly relevant in the case of remote mining or onshore drilling areas).
- Ensuring that local communities directly benefit from oil & gas and mining activities, not just regional or central government/communities. This should be in line with the Sustainable Development Goals, such as access to fresh water, health care and education. Strategic engagement in developing a shared community development plan can contribute to long term local development of communities.
- Setting up a robust grievance mechanism that is accessible and transparent, scaled to the project impacts and considering cultural perceptions and values of affected communities.
- Where possible, using rail or shipping instead of road vehicles and thereby reducing road traffic, congestion and air emissions.
- Providing quality decommissioning and rehabilitation to sites, thereby providing a habitat for a variety of species, including marine species in the case of offshore drilling.

Due Diligence Questions for Clients

Below is a non-exhaustive list of due diligence questions designed to help you to assess the extent of E&S risk associated with a particular transaction and the ability of company management to manage these risks. Any concerns or potential gaps should be fully assessed by a technical sector specialist.

- Do you have a board member or senior manager responsible for addressing E&S issues?
- Do you provide E&S awareness training to employees? Is there relevant E&S expertise at the project level?
- Does your company have any links between E&S performance and executive compensation?
- Has adequate budget been allocated to management of the E&S risks identified?
- Have you incurred any environmentally and socially related fines in the last 5 years?
- Do you have Environmental Monitoring and Assessment Reports approved by the EPA?
- Have you had an environmental and social impact assessment, if so how did you perform, if not then why not?
- Do you have a permit to operate from the EPA?
- Do you have any instances of permit noncompliance?
- How much capital have you committed to pollution prevention and rehabilitation? How is this capital managed?
- How do you source fresh water?
- How do you dispose of or treat waste water? Do you have waste water treatment facility? Do you release any effluent discharges? If so, do these meet regulations?
- Do you track your emissions? Do you have any emissions reductions targets or plans?
- Do your facilities have regulated air emissions or are they located in a regulated air shed?
- Do you have any programs for flaring reduction?
- Do you have any programs for energy efficiency?
- What types of waste do you produce? How do you dispose of this waste? Do you follow the “prevent, avoid, reduce, reuse, recycle, treat, dispose” waste

management hierarchy? Are your waste storage and disposal areas appropriately licensed or permitted?

- Do you have recognized certifications of your management system e.g. ISO 14001 (environmental management) and/or OHSAS 18001/ISO 45001 (health and safety management)?
- Do you have a plan for the management of dangerous/toxic substances?
- Do you have an emergency response plan in the case of accidents? Are relevant HAZOPs, Emergency Preparedness & Response Plans in place?
- Do you provide training to employees so that they are prepared in the case of an accident?
- Do you monitor track and monitor health and safety incidents?
- What is your track record on incidents that have led to spills?
- Have or will your operations result in resettlement, displacement or exploitation of any communities? If so, how many people will be displaced? Do you have a resettlement plan?
- Have or will potentially affected communities be adequately informed and consulted on the project?
- Have or will your operations result in disturbance to any cultural heritage site or other cultural resources?
- Have you had any local community opposition?
- Do you devote resources to community investment?
- Do you have policies and procedures in place to control/limit noise or other nuisance exposure?
- Do you have a system in place to respond to community grievances?
- How many members of the local community do you employ? Have you or will you contract any migrant labour?
- Are you in compliance with Ghana's Labour Act, 2003?
- Are you aligned with the Voluntary Principles for Security and Human Rights?
- Do you adhere to the Extractives Industry Transparency Initiative?

Key Performance Indicators

Below is a non-exhaustive list of Key Performance Indicators (KPIs) that clients should report on, in order for banks to monitor E&S performance on a pre-determined basis.

- Release of SO_x, NO_x, VOCs
- Release of Hazardous Waste
- GHG emissions
- Embedded GHG content of oil reserves
- Freshwater withdrawal intensity
- Wastewater discharge
- Number of permit non-compliances
- Number of oil spill events
- Capital committed to pollution avoidance
- Capital committed to closure and reclamation/rehabilitation
- Capital committed to mitigation of unforeseen environmental costs
- Presence and performance on environmental impact assessment(s)
- Land area converted for operations
- Sustainability policies implemented at the operational level (not just the corporate level)
- Number of incidents
- Number of injuries
- Number of fatalities
- Number of near misses
- Cases of employee opposition
- Cases of local community opposition
- Expenditure on community investment
- Human rights incidents
- Adherence to Voluntary Principles for Security and Human Rights
- Fines incurred in the last 5 years

Sources for Additional Information

For further reading banks may find resources from the following organisations useful:

- IFC Environmental, Health and Safety Industry Sector Guidelines ([http://www.ifc.org/wps/wcm/connect/Topics_ExtContent/IFC_External_Corporate_Site/Sustainability -At-IFC/Policies-Standards/EHS-Guidelines/](http://www.ifc.org/wps/wcm/connect/Topics_ExtContent/IFC_External_Corporate_Site/Sustainability_-_At-IFC/Policies-Standards/EHS-Guidelines/))
- EBRD Sub-sectoral Environmental and Social Guidelines (<http://www.ebrd.com/who-we-are/our-values/environmental-emanual-toolkit.html>)
- Ghana Environmental Protection Agency (EPA) (<http://www.epa.gov.gh/epa/>)
- Ghanaian National Petroleum Corporation (GNPC) (<http://www.gnpcghana.com/>)
- American Petroleum Institute (API) (<http://www.api.org/>)
- Petroleum Industry Environmental Conservation Association (PIECA) (<http://www.ipieca.org/>)
- Global Gas Flaring and Reduction Partnership (GGFR) (http://www.worldbank.org/en/programs/gasflaringr_education)
- International Association of Oil and Gas Producers (IOGP) (<http://www.iogp.org/>)
- International Standards Organization (<http://www.snti.ru/cd/ISO13702.pdf>)
- Extractive Industries Transparency Initiative (EITI) (<https://eiti.org/>)

Power and Energy



Power and Energy in Ghana

The Power and Energy sector in Ghana is central to the supply of electricity to people and businesses around the country. Electricity is generated at various power plants around the country and then distributed to users via a power transmission network (also known as a grid) and a distribution network. Most of Ghana's total power is

generated by hydro and thermal power plants, comprising 42.7% and 57.1% respectively. Recent investments have meant that 0.04% of Ghana's energy in 2016 was generated through solar technology.

The power sector in Ghana is unbundled. This means that the various functions of power generation, transmission and distribution are performed by separate entities to ensure the quality of the power supply. These entities are headed by the Ministry of Energy.

The Electricity Company of Ghana distributes electricity mainly in the southern sector of the country while the Volta River Authority is responsible for the northern sector.

Regulations in the sector

The Energy Commission is the technical regulator of Ghana's electricity, natural gas and renewable energy industries, and the advisor to Government on energy matters. This was created by an act of parliament The Energy Commission Act 1997 (Act 541) The *Public Utilities* Regulatory Commission Act 1997 (Act 538) created the Public Utilities Regulatory Commission (PURC). This entity regulates the provision of utilities in Ghana. It covers all aspects of utility provision and ensures the fair provision of services to consumers. Given the unbundled structure of the power generation, transmission, and distribution sectors, different regulations apply to the different components of this sector. The National Energy Policy 2010 is the underlying policy guiding governmental actions and strategies in the power and energy sector.

The Energy Commission issues licences to the different bodies engaged in the supply of electricity. This serves to improve capacity and service delivery while holding operators to the terms of their licence. It is through this licensing system that capacity is added to the network. The Commission launched the National Electricity Grid Code in 2010. It lays out the technical standards and requirements for the electricity distribution network including its safe management and other relevant issues. Complementary to this is the National Electricity Distribution Code that sets out the minimum acceptable technical standards of the electricity distribution network, as well as other standards relating to the safe and reliable operation of the electricity distribution network.

For small scale solar solutions, the Energy Commission runs a rooftop solar programme where homes and small businesses can apply to receive a capital subsidy to cover the cost of photovoltaic (PV) panels. The aim of this is to lower the daily national peak load by 200MW. It provides an alternate source of electricity if there are problems with electricity supplied by the grid. An increasing number of Ghana's island communities are benefitting from the technology, where off grid solar-diesel hybrid systems provide access to electricity for the first time. It is not economically viable to connect these areas to the national grid, but the mini-grid solutions provide a reliable source of electricity that can be used for both personal and business activities, boosting island economies. The Renewable Energy Act 2011 (Act 832) is the energy-related legislation geared towards the encouragement of Ghana's drive to boost the renewable energy sector.

Finally, The Environmental Protection Agency Act 1994 (Act 490), allows the Ghana Environmental Protection Agency to request an Environmental Impact Assessment from any company undertaking a project, clearly setting out the impacts of the project on the environment. This could apply to power generation projects: for instance, this was the case for the construction of the Bui Hydroelectric Power Project.

Power Generation

Thermal Power Plants: Thermal power plants burn fuels to produce heat, which is turned into electrical energy through a variety of methods: a steam turbine, a combustion turbine, a combined cycle gas turbine (CCGT), an internal combustion engine or a cogeneration system. The majority of thermal power plants in Ghana burn oil or natural gas. In 2015, 44% of natural gas for power generation was supplied by Nigeria via the West African Gas Pipeline (WAGP), which was the first regional natural gas transmission system in sub-Saharan Africa. The remaining 56% came from the Atuabo processing plant, which is located in the Western Region of Ghana. Thermal power plants are usually connected to a grid for distribution, but smaller scale plants may be isolated from the national grid for specific purposes such as powering a factory.

Hydro Power Plants: Hydroelectric or 'hydro' power plants usually involve building a dam across a river to create a reservoir. Ghana's hydro power is supplied by the Kpong Dam, the Akosombo Dam and the Bui Dam. While hydro plants provide a more

reliable electricity supply than other renewables such as wind, they are vulnerable to natural factors such as levels of rainfall. Rainfall in Ghana can be unpredictable and in recent years, Ghana has received below average rainfall. As a result, the country's hydro power plants have not been able to operate at their predicted high capacity.

Solar Power Plants and other Renewable Energy: Photovoltaic (PV) panels, also known as solar panels, provide a renewable source of electricity. As stated above, solar comprises a tiny portion of energy generation in Ghana at present. However, this is likely to change as Ghana looks to solar as part of the solution in its struggle to meet growing electricity demand. Ghana is well poised to increase the amount of power generated through solar means, as the country is located very close to the equator and receives large amounts of sunlight. For example, Accra averages more than 150 hours of sunshine a month. The Navrongo Solar Power Plant is owned by the Volta River Authority (VRA) and first delivered electricity in 2013, with a modest capacity of 2.5 MW. The BXC Company solar plant came online in 2016 with a more significant 20MW capacity. In 2016, fifty-five provisional wholesale electricity supply licences and two construction permits were issued.

Other renewable energy proposals have been granted licenses as Ghana looks for a diverse range of solutions to meet the growing demand for electricity.

Power Transmission and Distribution

Power transmission in Ghana is managed by Ghana Grid Company Ltd. (GRIDCo), which operates the National Interconnected Transmission System (NITS). Ghana's transmission grid comprises more than 4,000km of high voltage transmission lines and 53 transformer/ switching stations and is interconnected with the electrical network of Côte d'Ivoire.

Two companies are involved in the distribution of electricity: The Northern Electricity Distribution Company (NEDCo) and the Electrical Company of Ghana (ECG). There is an extensive distribution network in Ghana, which serves approximately 72% of the total population. However, access to electricity in the three northern regions is only about 30%.

Transmission infrastructure has suffered from a lack of investment, which has led to some inefficiencies. In 2015 transmission losses as a percentage of gross transmission was at 3.8%, this represents a decline from previous years and the lowest level since 2010.

Off-grid electricity, in particular solar powered off-grid electricity, has the potential to become an important part of the supply in the future.

Growing Demand and the Stability of Electrical Supply for the Economy

In Ghana, electricity demand remains high, growing at 7% a year on average over the last ten years. The power sector is essential to economic growth but the World Bank has identified that lack of access to electricity is one of the most significant constraints to business in Ghana. This is illustrated by the fact that Ghana's 2007 power crisis led to the country losing 1.8% of its GDP.

Economic growth in Ghana continues to increase demand for electricity. Ghana has been increasing its installed capacity, especially in thermal power generation. To ensure security of supply in the future, Liquefied Natural Gas (LNG) and nuclear power could begin to play a larger role in the energy mix. Construction has started on a LNG terminal in Tema, which is expected to produce 3.4 million tonnes of LNG annually. Ghana has completed the first of the three phases of the International Atomic Energy Agency (IAEA) required milestones, which every country has to complete prior to developing a national infrastructure for nuclear power.

Summary of Key E&S Issues

ESG Risk category key

- Environment – Affects the natural environment
- ▲ Health and safety – Affects the health and safety of employees
- Labour – Affects workplace conditions and treatment of employees
- ◆ Community – Affects the health and safety, livelihoods and environment of the community and wider public

Note:

Key risk ordering based on significance of the potential financial impact to the company in question.

| Key risks | Power & Energy |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Fire and explosion | ● ▲ ◆ |
| Air emissions | ● ▲ ◆ |
| Electrical safety | ▲ ■ ◆ |
| Hazardous materials | ● ▲ ◆ |
| Occupational health and safety | ▲ |
| Soil and surface water contamination | ● ▲ ◆ |
| Habitat Loss and Biodiversity | ● ◆ |
| Electromagnetic fields (EMF) | ▲ ■ ◆ |
| Community engagement | ◆ |
| Labour rights | ■ |
| Visual impact | ● ◆ |
| Noise nuisance | ● ▲ ■ ◆ |
| Cultural heritage | ● ◆ |

It is recommended that banks adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimise. Where residual impacts remain, compensate/offset risks and impacts to workers, affected communities, and the environment. Avoiding a risk is generally the best mitigation measure in E&S.

Anticipate and avoid risks during project planning

Where anticipating or avoiding is not possible, minimise risk

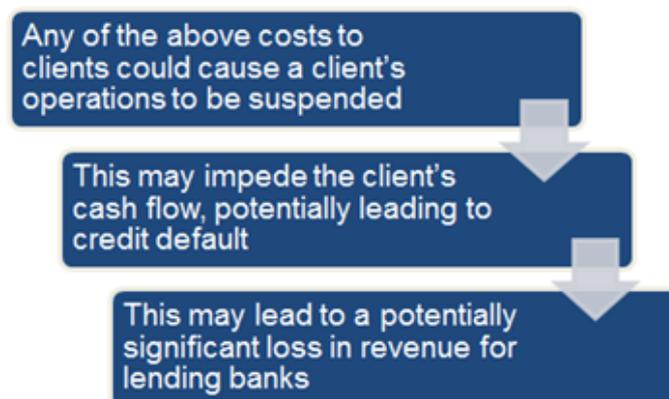
Where residual impacts remain, compensate/offset for risk and impacts

Potential Cost Associated with Key E & S Issues

Potential costs to banks' clients associated with key E & S issues



Potential costs to banks' credit portfolios associated with key E&S issues



In order to protect themselves, banks should include in loan documentation, environmental and social conditions precedent, warranties, covenants and/or outline events of default. Please see the Guidance Note associated with Principle 1 for further details.

Analysis of Key E&S Issues

Fire and Explosion

Many aspects of the power and energy sector can pose fire and explosion risks. As the majority of thermal power plants in Ghana burn oil or natural gas, these plants will store and burn large volumes of these fuels, which are highly flammable. Furthermore, trees and other vegetation can interfere with transmission lines which, depending on weather conditions can lead to forest fires if left unchecked. Major accidents from explosions, fires and forest fires can lead to fatalities, injuries, and production downtimes. They can also lead to detrimental impacts to the surrounding environment and nearby infrastructure which can negatively affect local populations.

The Ghana National Fire Service Act 1997 (Act 537) provided the regulation for the management of undesirable fire and explosion in the sector. This is guided by the Fire Precaution (Premises) Regulations 2003 (LI 1724) which makes it obligatory for certain premises to have fire certificates to meet fire safety standards.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that power generation facilities are designed, constructed, and operated according to the latest local Ghanaian regulations (and international standards, where appropriate) for the prevention and control of fire and explosion hazards.
- Monitor vegetation in power transmission corridors in order to minimize risk of fallen trees and other interference from vegetation.
- Ensure that equipment undergoes scheduled inspection and maintenance activities and meets international standards of operational performance in order to avoid failure.
- Ensure that appropriate emergency procedures are in place in the event of an accident. This includes establishing suitable communications with the appropriate local emergency authorities.
- Ensure all staff have been trained on safety procedures in the case of a fire or explosion emergency.

- Conduct hazard assessments in line with widely accepted international standards and methodologies such as the Hazardous Operations Analysis (HAZOP). Aspects of these assessments should include hazard identification, handling procedures and basic emergency procedures.

Air Emissions

Power and Energy generation has the potential to release the following as air emissions

- Carbon dioxide (CO₂) – a greenhouse gas that contributes to the acceleration of climate change.
- Nitrogen oxides (NO_x) – one of the main components of ground level ozone that can contribute to serious respiratory problems in humans and wildlife
- Carbon monoxide (CO) – prevents humans and wildlife from breathing oxygen and can lead to mortality
- Volatile organic compounds (VOCs) – one of the main contributors to smog and can lead to serious health problems in humans and wildlife.

Other, more toxic, substances such as heavy metals and halide compounds may also be released in smaller quantities. In Ghana, thermal power plants tend to burn natural gas, so are therefore less likely to emit sulphur dioxide (SO₂) and particulate matter (PM) than coal-fired plants. Health risks can occur from pollution arising from power generation activities and potential health risk caused by electromagnetic fields in electricity generation.

Air emissions are not a significant concern for hydropower plants and for power transmission and distribution.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

Adhere to all air emissions related conditions attached to any operating licences obtained these may include but many not be limited to the following:

- Ensure that any previously installed and new combustion systems are run as

cleanly and efficiently as possible.

- Ensure that storage equipment has been designed and is maintained to minimise any toxic air emissions.
- Ensure facilities are equipped with reliable air emissions detection systems.
- Ensure that plans are in place to minimise personnel exposure to any toxic air emissions.
- Ensure that plans are in place to minimise community and wildlife exposure to toxic air emissions.

Ensure compliance with all regulations for instance EPA and WHO guidelines on Air Emissions pertaining to Particulate Matter (PM), Ozone (O₃), Nitrous dioxide (NO₂) and Sulphur dioxide (SO₂)

- Periodic air quality monitoring and management including Air Quality Management Plan which is required by the Environmental Protection Agency

Electrical Safety

Power transmission and distribution lines inherently represent a large occupational hazard in terms of electrical safety as they are designed to carry massive quantities of electrical energy. Workers may be exposed to live power lines during construction and maintenance, which can be a major health and safety hazard. There are also electrical hazards for workers at thermal power plants due to the presence of energised electrical equipment (with live electrical currents) and live power lines.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- In both thermal power plants and power transmission networks, ensure that the deactivation and proper grounding of live power equipment and distribution lines takes place according to applicable legislation
- Install hazard lights and high voltage sensors inside electrical equipment enclosures
- Workers should have specialised electrical safety training that includes hazard awareness, safe work procedures and first aid. This means they should be able to

understand minimum approach distances, make proper use of safety equipment and procedures as well as distinguish live parts from other elements of the electrical system.

- Only trained and certified workers should work on power transmission and distribution lines where they are dealing with energised equipment
- Workers not dealing directly with power transmission lines should adhere to local legislation relating to minimum approach distances.

Hazardous Materials

The power generation sector is associated with a host of hazardous materials including insulating oils and gases. In particular, these include: Polychlorinated Biphenyls (PCB) and Sulphur Hexafluoride (SF6). PCBs are especially toxic and are, in particular, carcinogenic. SF6 has been shown to be a substantial contributor to climate change. Thermal power plants can typically host a broad range of additional hazardous materials that are stored at combustion facilities including: treatment chemicals and large quantities of coal or oil (in Ghana oil is more likely than coal, as most thermal power plants in Ghana are capable of burning both oil and natural gas).

Electrical transmission poles, when made from wood, are typically treated with preservatives to protect against rot and various bacteria and fungi. Commonly used preservatives such as creosote are being limited in some countries due to their potentially toxic nature. Pesticides are also widely used in and around transmission sites and may pose a risk to biodiversity and human health if not managed or used correctly.

If they are working in older facilities, workers may also be exposed to asbestos. This is less likely to be the case in Ghana as asbestos is typically found in insulation used in colder climates. However, given that asbestos has also been used in the past for its fire prevention qualities, it may still pose a risk in facilities in the power and energy sector in Ghana.

The Hazardous and Electronic Waste Control and Management Act 2016 (Act 917) provides for the control of management and disposal of hazardous waste, electrical and electronic waste.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate

- Conduct chemical risk assessments in line with widely accepted international standards and methodologies such as Control of Substances Hazardous to Health (COSHH).
- Ensure that there is adequate provision of secondary containment (e.g. double walled storage tanks) for the containing of hazardous materials should they leak.
- Replace existing transformers that still use PCBs and safely dispose of them
- Evaluate the use of alternative materials such as concrete in the construction of transmission poles to avoid the requirement of chemical treatment
- Inspect any materials that have the potential to contain asbestos and take measures to prevent airborne particles.
- Only allow trained personnel in well-lit and ventilated areas to undertake the mixing and transfer of pesticides
- Provide personnel with appropriate personal protective equipment (PPE) and with training for its use and maintenance.

Occupational Health and Safety

Work in the power and energy sector can present various types of health and safety risks, in addition to the fire, explosion, electricity and hazardous materials risks referenced in previous pages.

In electrical power transmission, personnel work on high structures during all phases of a project (including both construction and maintenance) and are at risk of serious personal injury if they fall. Workers in thermal and hydro power plants may also need to work at height as part of construction and maintenance of the plants, which also presents similar risks of injury.

There is also the potential for serious injury from working in confined spaces. During the operation of a thermal power plant workers may be required to work in confined spaces such as cooling water towers. The dangers of working in confined spaces include overexposure to toxic gases and dust, oxygen deficiency and exposure to excessive heat. These can lead to negative health impacts for workers including (but not limited to) respiratory conditions, skin conditions, disorientation and asphyxiation. The dangers of confined spaces are compounded by the difficulty inherent in attempting rescue operations.

In accordance with the Labour Act 2003 (Act 651), it is obligatory for employers to ensure health, safety and welfare of persons at workplace by minimizing the causes of hazards inherent in the working environment.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Put in place a health and safety management system that is independently certified to a recognised standard (such as OHSAS 18001).
- Provide personnel with appropriate personal protective equipment (PPE) and/or respiratory protective equipment (RPE) to include training on its use and maintenance.
- Ensure that fall prevention and protection measures are in place whenever personnel are at risk of falling more than two metres (into water, or onto the ground or machinery)
- Install fall prevention infrastructure including guard rails and devices including lifelines and harnesses
- Test the composition of air in confined spaces and take necessary measures to ensure personnel are not exposed to harmful toxins.
- Ensure areas adjoining confined spaces provide room for emergency and rescue operations to take place should the need arise.
- Implement recovery plans and procedures should a worker have to enter a confined space.

- Ensure that adequate safety precautions exist including lifelines and safety watch workers outside the confined space.

Soil and Surface Water Contamination

Thermal power generation in Ghana involves the storage and use of oil on site at large combustion plants. Any fuel storage tank leaks or rainwater runoff has the potential to contaminate the soil and groundwater. Moreover, large amounts of water are consumed by thermal power plants in cooling. This coolant is often returned to the environment at a higher temperature, decreasing the oxygen supply, which can have detrimental impacts to the local ecosystem.

Hydro power installations may cause surface water contamination through spilled oils or chemicals. This can occur during both construction and operation of the installation. Furthermore, during operation, turbines may cause sediment to build up in the lake above the plant before being discharged into the river below.

Finally, pesticides used around transmission assets can leach into soil and surface water which may cause negative impacts to biodiversity or human health.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that wastewater treatment systems are installed, operational and subject to regularly scheduled maintenance and cleaning. Ensure that any water used in cooling is returned to the environment at an appropriate temperature
- Ensure that oil storage tanks at thermal power plants are maintained to local Ghanaian standards or, where appropriate, internationally recognized standards (such as ISO 16961:2015 and ISO 28300:2008).
- Consider the availability of environmental impairment liability insurance that covers the liability and in some cases the clean-up costs associated with pollution of land. This will require the client to prove (at its own cost) that the land is not already contaminated before cover can be provided
- Ensure that any power plant has an up to date and detailed map of its different wastewater streams and their treatment.

- Develop an Oil Spill Response Plan which includes training of personnel and local communities in spill prevention and response.
- Estimate and record the extent of oil spills by comparing the amount of oil spilled against the amount of oil collected through clean-up efforts
- Ensure that the facility is regularly subject to soil and groundwater monitoring. This should include comparison of tested water and/or soil samples against relevant contaminated site regulations. In the absence of national standards, recognised criteria for evaluation should be used such as the USEPA Region 3 Risk Based Concentrations.

Habitat Loss and Biodiversity

Cooling facilities at thermal power plants may discharge water with elevated temperature and chemical contaminants. This may lead to damage to aquatic ecosystems. Moreover, as explained previously, thermal power plants can release a variety of air pollutants, such as Nitrogen oxides (NO_x) and Sulphuric oxides (SO_x) that may have a negative impact on plant life and animal life. Dams and hydroelectric power stations can affect the movement of fish as they affect water levels and flow.

Transmission and distribution infrastructure pose a potentially fatal risk to avian and bat life through collision. Furthermore, the construction of lines and associated access roads may result in the disruption of watercourses and wetlands if vegetation must be cut back to enable this construction. If construction activities lead to erosion, storm water runoff may increase the turbidity of surface watercourses.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Thermal power plants should seek to minimise and control environmental impacts associated with water discharge
- Hydropower plants should guarantee minimum water flow and river levels to ensure marine life is safeguard

- Install technologies such as barrier nets or mesh screens to prevent harm to fish species
- During construction of transmission infrastructure, avoid critical habitats and mitigation corridors
- Minimise the clearing of vegetation during construction of infrastructure
- Retrofit existing transmission infrastructure by installing destructive perch deterrents.

Electromagnetic fields (EMF)

Electromagnetic fields are invisible lines of force that are emitted by any electrical device. Both electric and magnetic fields decrease with distance from the source but as voltage increases so does the strength of the electromagnetic field. This means that high voltage transmission lines can produce especially strong electromagnetic fields.

The scientific community and the public both hold some concern over the potential risks associated with human exposure to electromagnetic fields. However, a recent review of existing scientific literature by the World Health Organization concluded that there is currently no evidence of health consequences associated with exposure to electromagnetic fields. Nevertheless, scientific knowledge is always evolving and some limited concern for negative impacts not yet discovered is perhaps warranted.

Moreover, the idea that transmission lines pose a health risk has taken hold in the public consciousness in a way that creates potential reputational risks to companies that do not work to minimise public exposure to transmission lines.

Electromagnetic fields can also pose an occupational risk to workers in thermal power plants. This is because they work in proximity to power generators and high voltage electrical equipment.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Identify potential exposure levels in the workplace through the use of personal monitors. This should include surveys of exposure levels in new projects.
- Implement action plans to address exposure levels that exceed reference occupational exposure levels developed by international organisations such as the International Commission on Non-Ionizing Radiation
- Put in place occupational procedures such as work rotation to minimise exposure time, and increasing the distance between worker and source if possible or the use of shielding materials if not.
- Workers should be trained in the identification of electromagnetic field hazards and sources.
- Minimise public exposure by installing lines away from residential or highly frequented areas.
- Shield transmission lines from the public through the use of natural barriers, specific metal alloys, burying transmission lines or increasing the height of transmission towers.

Community Engagement

The power and Energy sector can have both positive and negative impacts on local communities. It can bring jobs to communities but it can also cause harm or inconvenience to these same communities.

The construction of power plants and transmission systems can result in the displacement of communities or can lead to increases in noise, traffic and health risks for communities. For instance, the recent Bui Hydroelectric Dam involved the resettlement of 1,216 people. More specific information about the potential negative impacts on communities is also detailed in many of the other sections of this document.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- In the case that any community members need to be resettled, ensure that a resettlement action plan (RAP) is put in place and adhered to. This should include sufficient compensation to any members of the community who are resettled.
- Attempt to minimise disruption to neighbouring communities during operations.
- Build public trust through public engagement with community stakeholders.
- Ensure implementation of a grievance system in order to address community complaints.
- Develop a system to warn local communities if they are at risk of exposure to fire, explosion or toxic substances.
- Develop an evacuation plan for the local community in the event that it becomes threatened by fire, explosion or exposure to toxic substances.

Labour Rights

Ghana has ratified all 8 of the International Labour Organisation (ILO) Fundamental Conventions. Moreover, labour regulation in Ghana stems from the Labour Act 2003. The Act consolidated all laws relating to labour, employers, trade unions and industrial relations, as well as establishing a National Labour Commission.

The power and energy sector may attract short term workers who may be hired directly or by sub-contractors. It is important to ensure that all workers, and in particular those who might be more vulnerable to exploitation, are treated fairly.

The Labour Act 2003 (Act 651) regulates employment and labour issues in Ghana. It covers a broad array of topics such as employee security, sick leave, domestic and compensation, works and wages in Ghana.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure migrant workers, or their labour supply agencies, comply with the latest ILO requirements on working hours, pay, and overtime.
- Ensure they or their labour supply agencies include all of the latest ILO prohibitions on child labour in contracting agreements (for further details please refer to the Child Labour section of this document).
- Ensure compliance with the *Labour Act 2003 (Act 651)* including areas regarding:
 - Protection of employment
 - General conditions of employment
- As needed, provide appropriate worker accommodation which meets, at a minimum, the basic needs of workers, and adheres to local Ghanaian law or international good practice, whichever is the higher standard.
- Provide a code of conduct in a language accessible by migrant workers and sub-contractors.

Visual Amenity

Transmission and distribution facilities can cause visual disturbance as above ground high voltage pylons are highly visible. The presence of these transmission lines and towers as well as associated infrastructure and equipment can cause visual disturbances of varying severity depending on the characteristics of the land and area. These are likely to be undesirable to local residents, particularly in urban areas and in areas of natural beauty.

Power plants in themselves are large industrial installations and as such may be visible over a wide area, especially if they feature tall smokestacks or cooling towers. Renewable power generation can also have a negative visual impact. Dams, such as the Akosombo, can have an impact on visual amenity as they are large constructions in the middle of natural environments. Moreover, they can create large reservoirs like Lake Volta, which may cover other areas of natural beauty with water.

Although still nascent in Ghana, wind turbines can potentially have substantial impacts on visual amenity. This would be of particular concern if they were installed near residential or tourism sites.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- During planning phases for power generation and transmission infrastructure, ensure that sufficient consideration is given to the landscape and how changes to it could impact the nearby environment and local communities.
- Use existing transmission and distribution corridors rather than creating new ones.
- Bury transmission lines underground where possible, especially in dense residential or commercial areas.
- Locate high voltage transmission lines in less populated areas so as to minimise visibility to local populations.
- Conduct sufficient public consultation during the planning phases of new transmission and distributions lines if they will affect residential areas.
- For all new infrastructure projects, ensure that all potentially affected parties are given the opportunity to communicate their views to regulators and planners.
- Revegetate disturbed areas with native flora, helping to rehabilitate unsightly landscapes.
- Explore offshore wind sites as a first option if wind power grows in Ghana.

Noise Nuisance

The power and energy sectors can produce high levels of noise. Noise from power lines, transformers and power plants themselves can cause nuisance to local communities and workers. Moreover, noise generated from construction and maintenance activities in the power sector can also be disruptive.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Provide all workers with additional protective equipment (PPE) where they are exposed to heightened noise
- Where possible, enclose noisy equipment to protect residents and/or the public from noise.
- Avoid operations in the evening after 6pm within communities or put in place adequate noise control measure should such be unavoidable
- Implement management practice that rotate workers across activities in order to reduce cumulative exposure
- Banks should develop their own guide to ensure compliance with risk management by clients

Cultural Heritage

The IFC E&S Sustainability Performance Standard 8 recognises three types of cultural heritage:⁴⁶

- Tangible forms of cultural heritage, such as tangible moveable or immovable objects, property, sites, structures, or groups of structures, having archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values
- Unique natural features or tangible objects that embody cultural values, such as sacred groves, rocks, lakes, and waterfalls;
- Certain instances of intangible forms of culture that are proposed to be used for commercial purposes, such as cultural knowledge, innovations, and practices of communities embodying traditional lifestyles

Ghana has ratified seven UNESCO conventions for the protection of its cultural heritage and The Ghana Museums and Monuments Board (GMMB) is the legal custodian of Ghana's material cultural heritage. The GMMB has the power to designate national monuments, thereby giving them statutory protection⁴⁷.

⁴⁶https://www.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998895a12/IFC_Performance_Standards.pdf?MOD=AJPERES <http://www.ghanamuseums.org/functions-activities.php>

⁴⁷

https://www.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998895a12/IFC_Performance_Standards.pdf?MOD=AJPERES
<http://www.ghanamuseums.org/functions-activities.php>

Construction of power plants and transmission lines can potentially pose a threat to cultural heritage. This is particularly true in areas that stand in the path of proposed transmission corridors. Construction in the power and energy sector would be most likely to threaten tangible and natural cultural heritage.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Seek to minimise disruption to cultural heritage during planning, construction and operations of power generating plants and transmission corridors.
- In cases where power and energy sector construction and operation is deemed to put cultural heritage at risk, develop a management plan for the preservation of cultural heritage which includes:
 - Information gathering on the cultural heritage in question
 - Assessing the value and significance of this cultural heritage
 - Procedures for the protection of this cultural heritage

Key E&S Opportunities

There are also a variety of opportunities for power and energy sector clients to deliver positive E&S impacts which can benefit their financial bottom lines and engender good will.

In turn, these benefits to power and energy sector clients can also lead to benefits to banks in the form of:

- Increased revenue and profitability from working with clients that have strong, sustainable financial positions;
- Increased business opportunities for work with new clients that arise as a result of working in strong sustainable, affluent communities; and
- Improved reputation from working with clients who effectively manage E&S issues.

In order to benefit from these opportunities, banks must first encourage their power and energy sector clients to pursue the opportunities specific to their sector, which are detailed below.

Opportunities that may improve a client’s profitability include but are not necessarily limited to:

- Utilising more up-to-date tools and equipment for improved energy and resource efficiency, while also reducing the likelihood of accidents.
- Developing new innovative product lines (such as smart technology, solar panels, etc.) that address energy challenges. Banks have the opportunity to agree preferred credit lines with utility companies, who can then sell these innovative products with finance plans directly to their customers.
- Implementing requisite health and safety and security procedures to reduce the likelihood of accidents and may in some cases also lead to lower insurance premiums.
- Diversification of power sources towards renewable and/or clean energy technologies may generate long-term savings and decrease the carbon footprint of companies.
- Utilising drone technology to monitor and inspect power stations and power lines to prevent individuals being exposed to occupational health and safety risks.

Opportunities that may strengthen communities and lead to improved reputation:

- Creating awareness of renewable energy options could influence community knowledge and preference.
- Providing highly reliable systems and services to the electricity infrastructure market may positively impact brand.
- Providing solutions to energy challenges through collaborative actions with local communities may also positively impact brand.
- Providing resources for local communities in line with the Sustainable Development Goals, such as access to fresh water, health care and education, access to power in remote areas.

Due Diligence Questions for Clients

Below is a non-exhaustive list of due diligence questions designed to help you to assess the extent of E&S risk associated with a particular transaction and the ability of company management to manage these risks. Any concerns or potential gaps should be fully assessed by a technical sector specialist.

- Do you have a board member or senior manager responsible for addressing E&S issues?
- Do you provide E&S awareness training to employees?
- Does your company have any links between E&S performance and executive compensation?
- Has adequate budget been allocated to management of the E&S risks?
- Have you incurred any environmentally and socially related fines in the last 5 years?
- Do you have Environmental Monitoring and Assessment Reports approved by the EPA?
- Have you had an environmental and social impact assessment, if so how did you perform, if not then why not?
- Do you have an environmental impairment liability insurance policy?
- How do you source fresh water?
- How do you dispose of or treat waste water? Do you release any effluent discharges? If so, do these meet regulations?
- What types of waste do you produce? How do you dispose of this waste?
- Do you monitor and report on stack emissions and ambient air quality, and noise emissions?
- Do your facilities have regulated air emissions?
- Do you have any programmes for energy efficiency?
- Do you have a permit to operate from the EPA?
- Do you have any instances of permit noncompliance?
- Do you have recognized certifications of your management system e.g. ISO 14001 (environmental management) and/or OHSAS 18001/ISO 45001 (health and safety management)?
- Do you offer health and safety training to workers?
- Do you have emergency response procedures in place in the case of any accidents?

- Do you monitor and track record for health and safety incidents?
- Are you aligned with the Voluntary Principles for Security and Human Rights?
- Is your compliance with Ghana's Labour Act, 2003?
- Have you conducted hazard assessments in line with international standards and methodologies such as the Hazardous Operations Analysis (HAZOP)?
- Have or will your operations result in disturbance to any cultural heritage site or other cultural resources?
- Have or will your operations result in resettlement, displacement or exploitation of any communities (including potential negative health impacts)? If so, how many people will be affected? Do you have plans in place to address any associated risks?
- Have or will potentially affected communities be adequately informed of any risks?
- Have you had any local community opposition?
- Do you devote resources to community investment?
- Do you have policies and procedures in place to control/limit noise or other nuisance exposure?
- Do you have a system in place to respond to community grievances?
- How many members of the local community do you employ? Have you or will you contract any migrant labour?
- Are you in compliance with Ghana's Labour Act, 2003?
- Are you aligned with the Voluntary Principles for Security and Human Rights?

Key Performance Indicators

Below is a non-exhaustive list of Key Performance Indicators (KPIs) that clients should report on, in order for banks to monitor E&S performance on a pre-determined basis.

- Release of Sulphur oxides (SO_x), Nitrogen oxides (NO_x), Carbon monoxide (CO) and volatile organic compounds (VOCs)
- Greenhouse Gas emissions
- Capital committed to pollution avoidance
- Capital committed to mitigation of unforeseen environmental costs
- Presence and performance on environmental and social impact assessment(s)
- Number of fires and explosions

- Number of incidents
- Number of injuries
- Number of fatalities
- Number of near misses
- Cases of employee opposition
- Land area converted for operations
- Sustainability policies implemented at the operational level (not just the corporate level)
- Cases of local community opposition
- Expenditure on community investment
- Human rights incidents
- Adherence to Voluntary Principles for Security and Human Rights
- Fines incurred in the last 5 years

Sources for Additional Information

For further reading banks may find resources from the following organisations useful:

- IFC Environmental, Health and Safety Industry Sector Guidelines (http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/)
- IFC Performance Standards on Environmental and Social sustainability (https://www.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998_895a12/IFC_Performance_Standards.pdf?MOD=AJPERES)
- EBRD Sub-sectoral Environmental and Social Guidelines (<http://www.ebrd.com/who-we-are/our-values/environmentalemanual-toolkit.html>)
- Energy Commission Ghana (ECG) (<http://www.energycom.gov.gh/>)
- Ministry of Energy Ghana (MoE) (<http://www.energymin.gov.gh/>)
- Ghana Environmental Protection Agency (EPA) (<http://www.epa.gov.gh/epa/>)
- European Energy Forum (EEF) (<http://www.europeanenergyforum.eu/>)
- International Hydropower Association (IHA) (<https://www.hydropower.org/>)
- International Renewable Energy Agency (IRENA) (<http://www.irena.org/>)
- Ghana Grid Company (<http://www.gridcogh.com/>)
- Volta River Authority (<http://www.vra.com/>)
- Electricity Company of Ghana (<http://www.ecgonline.info/>)

Construction and Real Estate



Construction Industry in Ghana

The construction industry is recognized as a key element of the economy of Ghana. There is high demand for all types of construction such as highways, roads, hospitals, power plants, dams, housing, maintenance on existing infrastructure, etc. Ghana's construction and real estate industry has been thriving with a growth rate of 70% since 2010.

Real Estate Industry in Ghana

Ghana's real estate industry has grown since 2010. Nevertheless, it is still associated with a housing deficit of over 1.7 million homes⁴⁸. Growth has been particularly strong in urban areas. Urban areas in Ghana have been dominated by both over population and stagnation in the supply of low income affordable housing units. This supply and demand mismatch presents opportunities for real estate investors. The discovery of Oil in 2007 also led to a boom in investment in luxury estates. Real estate in Ghana has been mostly private sector led with occasional Government interventions to solve issues associated with low income affordable housing shortages.

Regulations in the Sector

The Ministry of Water Resources, Works and Housing (MWRWH) is responsible for housing infrastructure and the Ministry of Roads and Highways (MRH) directs civil infrastructure projects. Although many qualified engineers, technicians and architects lead construction projects in Ghana, there is no overarching regulatory body, and there are a few legal mandates or enforcement mechanisms currently in place for the industry.

Numerous stakeholders, including the Association of Building and Civil Engineering Contractors of Ghana, have insisted on the establishment of a dedicated regulatory body for the construction sector to ensure safety and increase professionalism in the industry.

Housing regulation in Ghana is fragmented in a number of statutes, which include:

⁴⁸ <http://www.africahomebuildingshow.com/?item=1018>

- The Town and Country Planning Ordinance 1945, (CAP 84)
- The Administration of Lands Act 1962 (Act 123)
- The State Lands Act 1962 (Act 125)
- Rent Act 1963 (Act 220)
- National Development Planning Commission Act 1994 (Act 479)
- National Planning Systems Act 1994 (Act 480)
- The National Building Regulations 1996 (LI 1630)
- Zoning Guidelines and Planning Standards (2011)

Current policies include:

- The National Urban Policy (2011)
- Land Use and Spatial Planning Bill (2011)
- National Housing Policy 2015
- National Policy on Public – Private Partnership (2011)

Green Building Initiative

Since 2015, the Ghana Green Building Council has reoriented the construction sector in Ghana towards sustainability through community planning and building efficiency. There are a growing number of model buildings that showcase green and efficient practices and techniques.

The Council are collaborating with the Ministry of Environment, Science, Technology and Innovation, Ministry of Local Government and Rural Development, Ministry of Water Resources, Works and Housing and other state agencies and departments.

Public Private Partnerships (PPPs)

Public-private partnerships are a key element in the development of Ghana's infrastructure, housing and commercial properties as it unlocks private sector investment opportunities enabled by the Government.

The National Policy on PPPs and its subsequent piece of legislation provides legal guidelines and enforcement mechanisms to support the policy. This policy framework helps clarify the roles and responsibilities of all parties involved in PPPs, greatly reducing the cost and time it takes to develop a property.

Summary of Key E & S Issues

ESG Risk category key

- Environment – Affects the natural environment
- ▲ Health and safety – Affects the health and safety of employees
- Labour – Affects workplace conditions and treatment of employees
- ◆ Community – Affects the health and safety, livelihoods and environment of the community and wider public

Note:

Key risk ordering based on significance of the potential financial impact to a company in the sector in question:

| Key risks | Construction & Real Estate |
|----------------------------------|----------------------------|
| Occupational health and safety | ▲ ■ |
| Waste management | ● ◆ |
| Community engagement | ■ ◆ |
| Biodiversity and ecosystems | ● |
| Hazardous materials | ● ▲ |
| Fire | ● ▲ ■ ◆ |
| Labour rights | ■ |
| Air emissions | ● ▲ ◆ |
| Soil erosion and degradation | ● ◆ |
| Security | ▲ |
| Noise and vibration | ● ▲ ■ ◆ |
| Transportation | ● ▲ ◆ |
| Water management and waste water | ● ◆ |
| Cultural heritage | ◆ |
| Visual impact | ● ◆ |

It is recommended that banks adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimise. Where residual impacts remain, compensate/offset risks and impacts to workers, affected communities, and the environment. Avoiding a risk is generally the best mitigation measure in E&S.

Anticipate and avoid risks during project planning

Where anticipating or avoiding is not possible, minimise risk

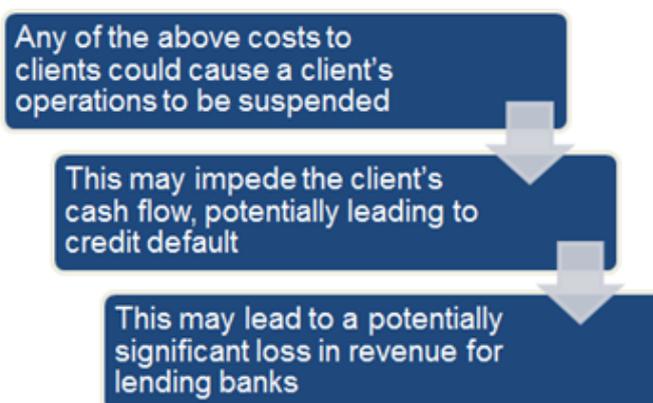
Where residual impacts remain, compensate/offset risk and impacts

Potential Costs Associated with Key E&S Issues

Potential costs to banks' clients associated with key E&S issues



Potential costs to banks' credit portfolios associated with key E&S issues



In order to protect themselves, banks should include in loan documentation, environmental and social conditions precedent, warranties, covenants and/or outline events of default. Please see the Guidance Note associated with Principle 1 for further details.

Analysis of Key E&S Issues

Occupational Health and Safety (OHS)

Work in the Construction and Real Estate sectors can present various types of health and safety hazards for workers

Construction is associated with heavy manual activity including heavy and/or repetitive lifting. This has the potential to cause serious injury. For example, lifting of heavy objects may cause musculoskeletal injuries. Injuries related to manual handling, as well as slips and trips are among the most common injuries on a construction site.

Construction sites are hazardous environments. Working at height, for instance on ladders or scaffolding, can result in serious injury. Excavations or demolitions may necessitate working in confined spaces - these spaces can lack oxygen which may pose a danger to workers, while their confined nature makes rescue difficult.

Construction typically involves the operation of heavy machinery - this naturally presents a danger to workers both operating the machinery and those working close to the machinery.

Finally, there is the potential for workers to be struck by objects. This is a particularly high risk during demolitions. Objects that may harm workers include but are not limited to raw materials and tools as well as waste materials from the operation of tools.

The Labour Act, 2003 (Act 651) advises on employment issues, industrial relations and occupational health and safety. This requires employers to provide safe, health conditions for workers as well as obligate every worker to use safety appliances fire-fighting equipment and protective equipment at place of work.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that an appropriate health and safety management system is in place, ideally independently certified to a recognised standard such as OHSAS18001 or ISO45001.
- Install fall prevention infrastructure including guard rails and devices including

lifelines and harnesses.

- Implement recovery plans and procedures should a worker have to enter a confined space.
- Ensure that OHS & EHS contractual obligations of contractors are clearly outlined to avoid ambiguity in interpretation and to avoid dilution of responsibility between contractor and subcontractors.
- Train workers in the proper lifting and handling of materials, including the placement of weight limits for individual exertion, and if such limits are exceeded the use of two people or lifts.
- Create specific discharge and drop zones for the movement of materials where possible, and control access to these sites during their operation.
- Control vehicle and machinery traffic through speed limits, designated and clearly marked route systems and audible reversing alarms.
- Where risks are unavoidable, provide personnel with appropriate personal protective equipment (PPE) and/or respiratory protective equipment (RPE) to include training on its use and maintenance. Ensure use of the provided PPE at all times.

Waste Management

Processes across the construction and real estate sector may produce a variety of waste material. These materials range from those created during excavation to excess raw materials post construction. These include, but are not necessarily limited to:

Fill materials such as soil post excavation, and rubble;

- Scrap wood and metals;
- Office, kitchen or dormitory waste as part of construction and real estate activities;
- Residual construction materials such as paints;
- Waste fuel and lubricants;
- Materials used for machinery upkeep such as oil and attendant filters and cloths;
and
- Electrical wiring.

The policy framework guiding the management of hazardous, solid and radioactive waste includes the Local Government Act 1994 (Act 462), Environmental Protection

Act 1994 (Act 490), the Pesticides Control and Management Act 1996 (Act 528) and the National Environmental Sanitation Policy of Ghana (1999) which provides guidance on the roles and responsibilities for sanitation in Ghana.

The Ministry of Sanitation and Water Resources works with the Metropolitan, Municipal and District Assemblies to manage sanitation in Ghana.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Develop a Waste Management Plan which is predicated on the “reduce, reuse, recycle” principle.
- Ensure non-hazardous waste is collected for reuse or recycling or disposed of at an approved licensed landfill.
- Ensure any hazardous wastes are handled by specialised licensed contractors (see Hazardous Materials section for further details).
- Consider procurement procedures that allow for the return – for value - of excess unused construction materials.
- Implement recycling plans for materials such as scrap wood or metals.

Community Engagement

The Construction and Real Estate sector can bring both positive and negative impacts to nearby communities. While potentially a source of employment and income, construction activities can also cause harm, nuisance and inconvenience.

For example, construction can be a source of dust and fumes, which may have negative health impacts on neighbouring communities. Furthermore, if access to building sites is not effectively monitored, then members of the community (particularly children) may be accidentally exposed to hazards similar to the occupational health and safety risks that workers face.

More specific information about the potential negative impacts on communities is also detailed in many of the other sections of this document, for instance in the Visual Amenity, Noise and Vibration, and Transportation sections.

It is important that Construction and Real Estate sector clients proactively, engage with the communities in which they operate in order to avoid reputational damage and community obstruction of operations (e.g. through protests, petitions etc.).

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Attempt to minimise disruption to neighbouring communities during operations (for example, by avoiding vehicle movements at peak traffic times).
- Build public trust through public engagement with community stakeholders.
- Ensure implementation of a grievance system in order to address community complaints.
- Restrict site access, with a focus on particularly high risk areas and activities, through fencing and clear signage

Biodiversity and Ecosystems

Ghana's National Biodiversity Strategy and Action Plan notes that, "the benefits of plant, animal, water resources and microbial biodiversity to the people of Ghana are enormous. These range from economic, social, religious and cultural, aesthetic and recreational to ecological and environmental".⁴⁹

Construction and real estate can potentially have detrimental impacts on biodiversity and ecosystems as activities in this sector represent land use change. Where new "greenfield" land is developed, there is the potential for vital habitats to be destroyed by the new buildings or other infrastructure. Moreover, construction can also lead to the release of pollutants as well as the production of waste and waste water (see Water Management and Waste Water section for further details). The release of these substances can also negatively impact nearby ecosystems.

All of these elements could result in the (at least) partial loss of biodiversity and ecosystems. The loss of ecosystems and habitats can be severe - for instance the red

⁴⁹ <https://www.cbd.int/doc/world/gh/gh-nbsap-v2-en.pdf>

colobus monkey is now extinct in Ghana due to habitat loss. Once damaged or destroyed, the recovery of biodiversity and ecosystems may be impossible. Damage to biodiversity and ecosystems represents a reputational risk, particularly if the damage receives substantial media coverage.

Some Ghanaian regulations could potentially be enacted in cases where construction and real estate companies have detrimental impacts on biodiversity and ecosystems. For example, the Wildlife Division of the Forestry Commission - a Ghanaian Government Agency mandated to protect and manage Ghana's wildlife resources - has the power to give land 'protected area' status.

The Ghana Forest and Wildlife Policy 2012 defines four types of areas: 'Strict Nature Reserve', 'National Park', 'Wildlife Sanctuary' and 'RAMSAR site', with varying restrictions on what land can be used for⁵⁰. Moreover, the Ghana Building Code 2012 states that "Various activities having impact on health, safety and the environment need to be identified with their likely effects and proposed preventative and corrective interventions, together with the concerned statutory obligations⁵¹. Finally, the Environmental Protection Agency has the power to request an Environmental Impact Assessment if it chooses to do so.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that the most recent legislation relating to land conversion is complied with, including acts such as Ghana Forest and Wildlife Policy 2012 and the Ghana Building Code 2012.
- Before converting land for buildings or real estate, survey the area to identify ecosystem types and assess their biodiversity value. Avoid construction in areas with high value, areas that comprise critical habitats for endangered species or areas that are important for wildlife breeding.
- Minimise habitat alteration (through, for instance, avoiding the clearing of

⁵⁰ www.clientearth.org/external-resources/ghana/forests-and-wildlife/2012-Forest-and-wildlife-policy-GHANA.pdf

⁵¹ <https://www.scribd.com/document/266325649/Ghana-Building-Code-Part-11>

vegetation) during construction to protect and preserve ecosystems.

- Consider implementing a Biodiversity Action Plan, including the purchase of biodiversity offsets where possible and necessary (e.g. from the Biodiversity Offset Business Scheme that is being piloted in Ghana).⁵²

Hazardous Materials

There is considerable scope for the release of hazardous materials across the lifecycle of construction and real estate sector activities. Some of the hazardous materials encountered in demolition and construction include, but are not limited to:

- Asbestos
- Cement
- Solvents
- Lead and silica dust
- Paints
- Petroleum based products such as lubricants, and
- Fuels

This range of potential hazards reflects the many phases of the construction from the demolition of buildings, preparation of sites, to building finishing. These materials can pose both occupational hazards to workers and the public. Moreover, if they are leaked into soils, surface or groundwater they may pose danger to the environment and members of the public.

The Hazardous and Electronic Waste Control and Management Act 2016 (Act 917) provides for the control of management and disposal of hazardous waste, electrical and electronic waste and for related purposes

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Provide personnel with appropriate personal protective equipment (PPE) and with

⁵² See for instance: <https://www.cbd.int/2011-2020/actions/218300>

training for its use and maintenance. Ensure the use of PPE provided.

- Inspect any materials that have the potential to contain asbestos and take measures to prevent airborne particles. Removal and disposal should only be undertaken by specialist licensed contractors.
- Ensure that a record of all hazardous materials is maintained on site, such as a Material Safety Data Sheet (MSDS) for each hazardous substance used on site.
- Ensure that there is adequate provision for the containment of hazardous materials.
- Ensure that facilities are inspected regularly to track and minimize any leaks or spills.

Fire

Fires in commercial and residential properties can lead to the destruction and loss of property, resources and lives. They can also lead to injuries or other negative health impacts to people and populations in or around the property at the time of fire.

In Ghana, one of the main causes of fire outbreak is from electrical issues, including improper use of electrical wiring and overloading of electrical appliances⁵³. Other causes of fire outbreak include accidents associated with cooking, lighting devices and cigarette smoking.

The Ghana National Fire Service Act, 1997 (Act 537) provided the regulation for the management of undesirable fire and explosion in the sector. This is guided by the Fire Precaution (Premises) Regulations 2003, LI 1724 which makes it obligatory for certain premises to have fire certificates to meet fire safety standards.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that a fire risk assessment has been undertaken by a suitably competent person to identify fire hazards and document mitigation measures.
- Ensure relevant electrical safety precautions are taken when constructing

⁵³ Anaglatey PB. Accra continues to record fire outbreaks. The Chronicle. 2013 Jul 302. and <https://www.sciencedirect.com/science/article/pii/S2093791116000226#bib15>

commercial or residential properties.

- Ensure inspections are undertaken according to the relevant legislation in Ghana.
- Ensure appropriate ventilation is installed near any cooking facilities.
- Instate rules to limit or ban smoking in and around commercial and residential rental properties.
- Install smoke and heat alarms in all properties and ensure that they are tested regularly.
- Provide fire safety and emergency information to all renting individuals and businesses.
- Ensure that appropriate emergency procedures are in place in the event of a fire. This includes establishing suitable communications with the appropriate local emergency authorities.
- Purchase insurance to protect against financial losses caused by fires.

Labour Rights

Ghana has ratified all 8 of the International Labour Organisation (ILO) Fundamental Conventions. Moreover, labour regulation in Ghana stems from the Labour Act 2003. The Act consolidated all laws relating to labour, employers, trade unions and industrial relations, as well as establishing a National Labour Commission.

As a labour intensive and project based industry, construction can attract a large number of casual or short term workers. Many of these workers may be migrants, who are particularly vulnerable to exploitation. Hiring may be direct but can also be through labour agents or contractors.

The Labour Act, 2003 regulates employment and labour issues in Ghana. It covers a broad array of topics such as employee security, sick leave, domestic and compensation, works and wages in Ghana.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Examine companies and construction sites for the signs of modern slavery listed above.

- Ensure that conditions for all workers meet the latest International Labour Organisation (ILO) requirements on working hours, pay, and overtime.
- Ensure that any contracted labour supply agencies adhere to all the latest ILO prohibitions on child labour.
- As needed, provide appropriate worker accommodation which meets, at a minimum, the basic needs of workers, and adheres to local Ghanaian and international good practice.
- Ensure compliance with the Labour Act, 2003 including areas regarding:
 - Protection of employment
 - General conditions of employment
- Provide a code of conduct in a language accessible by migrant workers and sub-contractors.

Air Emissions

Emissions to air can occur as a result of construction activities. These can represent a nuisance for local communities and are potentially hazardous.

Of particular prevalence is the emission of dust, which is generated by a variety of construction related activities and processes. These activities include demolition, excavation and the exposure of soil.

Moreover, other hazards include: emissions from activities such as welding, solvents used when painting, and substances (such as magnesium and limestone dusts) emitted from construction materials.

A secondary source of emissions comes from the operation of heavy machinery and vehicles, which include exhaust fumes and volatile organic compounds (VOCs). VOCs can be harmful to human health and the environment.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Carry out activities that work to suppress dust emissions including:
 - The use of covers
 - The use of control equipment such as bag houses and cyclones

- Increasing the moisture content of soil by hosing down exposed surfaces
- The cleaning of vehicles
- Ensure that plans are in place to minimize personnel exposure to any toxic air emissions.
- Ensure that storage equipment has been designed and is maintained to minimise any toxic air emissions.
- Ensure that any power, heat generation and transportation operations use the least carbon intensive method available.

Soil Erosion and Degradation

Many of the activities that fall within the scope of construction can cause or exacerbate the processes of soil erosion and degradation.

Construction processes such as site clearing, earth moving and excavation can lead to soil exposure to rain and wind. As wind and rain are the main drivers of soil erosion, this exposure means that soil is more vulnerable to erosion.

Soil erosion can lead to heightened sedimentation of surface drainage networks. This will reduce the quality of natural water systems thus harming any biological life which depends on these systems.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Minimise the clearing of vegetation, and re-vegetate where possible to create vegetated buffers.
- Use off-site sediment transport prevention mechanisms such as:
 - Settlement ponds
 - Silt fences and,
 - Water treatment
- Manage water runoff by ensuring that clean water is not:
 - Mixed with water containing a high degree of sediments.
 - Passed through solids, thus picking up sediment.
- Locate any access roads on soil with good drainage capability, taking into account the material of the road and its maintenance, and limit the gradients of the road to

reduce erosion caused by runoff.

- If construction is conducted in water bodies, ensure that disturbed sediment is prevented from entering streams.

Security

Construction sites can contain valuable machinery and types of material - such as copper wiring or pipes. This could make the sites targets for theft. For example, Vodafone in Ghana has reported that copper wiring is often a target for theft⁵⁴. These thefts can represent a cost to construction businesses, especially if the material is particularly valuable.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure plans are in place to insure against potential financial losses from theft.
- Implement security features such as:
 - Securing valuables
 - Restricting site access to authorised personnel only
 - Employing security guards.
- Install security features such as:
 - An alarm system
 - Motion sensitive cameras

Noise and Vibration

Construction activities can generate high levels of noise and vibration. Excavation, the operation of power tools such as pile drivers, operation of machinery and other general activity on a construction site can all contribute to noise and create vibration. This is potentially a public nuisance, especially if activity takes place during the evening or night.

⁵⁴ <http://ghananewsagency.org/human-interest/vodafone-hit-by-the-largest-cable-theft-at-madina-450-customers-affected--55453>

Heightened noise and vibration can affect nearby exposed local communities and members of the public, workers on the construction site and local wildlife.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Provide workers with protective hearing equipment to minimise their exposure to heightened levels of noise (and ensure the use thereof).
- Monitor noise levels to establish ambient and operational levels to help manage them.
- Consult with local communities to ensure that noises that represent the greatest disturbance are carried out at times which minimise disruption.
- When selecting equipment to use, consider operational noise levels as part of the procurement decision.
- Install silencing or muffling equipment on machinery where possible.

Transportation

Construction and real estates' activities can typically bring large amounts of additional traffic to the local area. This is particularly acute if the construction site is new. This is because materials are transported to the construction site, and in particular heavy goods vehicles may be used to transport machinery and large quantities of materials.

Vehicle traffic will lead to risk of injuries. It can also result in congestion, air pollution and noise disturbance to local communities and residents.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that only licenced and well trained employees are involved in the use of heavy goods vehicles and the transport of dangerous goods.
- Consider traffic management approaches including identifying potential risks, implementing speed restrictions and avoiding times when roads are likely to be busiest.
- Ensure that all vehicles are equipped with appropriate safety measures in order to

decrease the likelihood and/or intensity of catastrophic impacts in the event of an accident.

- Install GPS monitoring equipment to monitor the behaviour of drivers. Reward good performance and penalise poor performance.
- Consider different modes of transport where possible (e.g. rail).

Water Management and Waste Water

Construction activities can require both fresh water and in turn generate waste water. It is imperative that proper water management and waste water treatment are carried out to address water scarcity. Moreover, contaminated waste water can have negative impacts on human health and biodiversity if it leaches into the environment.

Construction can draw water from mains supply or via abstraction either from nearby rivers or ground water. Its uses include, but are not limited to, the cleaning of machinery and tools, dust suppression and other general site activities.

Waste water can also be discharged from construction sites. This can come from sanitation facilities and water used for various cleaning jobs

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Implement policies aimed at reducing fresh water use including:
 - Rainwater harvesting.
 - Finding secondary uses for waste water, such as cleaning.
 - Installing and maintaining adequate leakage control systems.
- Compare water usage targets with actual performance, to identify areas in which there is excessive water use.
- Ensure that drainage systems are functional to reduce releases to the environment.
- Use waste water settling tanks to separate water from sediment and silt before discharging water.

Cultural Heritage

The IFC E & S sustainability Performance Standard 8 recognises three types of cultural heritage⁵⁵

- Tangible forms of cultural heritage, such as tangible moveable or immovable objects, property, sites, structures, or groups of structures, having archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values
- Unique natural features or tangible objects that embody cultural values, such as sacred groves, rocks, lakes, and waterfalls;
- Certain instances of intangible forms of culture that are proposed to be used for commercial purposes, such as cultural knowledge, innovations, and practices of communities embodying traditional lifestyles.

Ghana has ratified seven UNESCO conventions for the protection of its cultural heritage and The Ghana Museums and Monuments Board (GMMB) is the legal custodian of Ghana's material cultural heritage. The GMMB has the power to designate national monuments, thereby giving them statutory protection⁵⁶.

Construction and real estate can potentially pose a threat to cultural heritage if building requires the demolition of tangible cultural monuments, or threatens intangible cultural heritage such as national parks. This may generate negative press coverage and ill will from members of the public.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- Ensure that construction complies with statutes relating to building and cultural heritage.
- Seek to minimise disruption to cultural heritage during the planning phase of construction operations.
- In cases where construction is deemed to put cultural heritage at risk, develop a

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https://www.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998895a12/IFC_Performance_Standards.pdf?MOD=AJPERES

⁵⁶ <http://www.ghanamuseums.org/functions-activities.php>

management plan for the preservation of cultural heritage which includes:

- Information gathering on the cultural heritage on question
- Assessing the significance of this cultural heritage
- Develop a 'chance find' procedure to outline steps that should be taken in the event that unexpected cultural heritage is identified during the construction project.

Visual Impact

Construction work can have negative visual impacts. The level of disturbance depends on the characteristics of the land and surrounding area (for instance if construction is in an area of natural beauty then the visual impact will be more severe) as well as the associated new infrastructure.

The National Building Regulations 1996, (LI 1630) contain provisions for areas of scenic attraction and landscape beauty to be earmarked for protection⁵⁷. Moreover, the Ghana Building Code 2012 states that "Various activities having impact on health, safety and the environment need to be identified with their likely effects and proposed preventative and corrective interventions, together with the concerned statutory obligations"⁵⁸.

Risk Management

Below is a non-exhaustive list of risk management practices that Bank clients should implement, where appropriate:

- During planning phases, ensure that sufficient consideration is given to the landscape and how changes to it could impact the nearby environment and local communities.
- For all new projects, ensure that all potentially affected parties are given the opportunity to communicate their views to regulators and planners.
- Revegetate disturbed areas with native flora, helping to rehabilitate unsightly landscapes.

⁵⁷ [http://www.townplanning.gov.gh/files/NATIONAL%20BUILDING%20REGULATIONS%201996,%20\(LI%201630\).pdf](http://www.townplanning.gov.gh/files/NATIONAL%20BUILDING%20REGULATIONS%201996,%20(LI%201630).pdf)

⁵⁸ <https://www.scribd.com/document/266325649/Ghana-Building-Code-Part-11>

Key E&S Opportunities

There are also a variety of opportunities for construction and real estate clients to deliver positive E&S impacts which can benefit their financial bottom lines and engender good will.

In turn, these benefits to construction and real estate sector clients can also lead to benefits to banks in the form of:

- Increased revenue and profitability from working with clients that have strong, sustainable financial positions;
- Increased business opportunities for work with new clients that arise as a result of working in strong sustainable, affluent communities; and
- Improved reputation from working with clients who effectively manage E&S issues.

In order to benefit from these opportunities, banks must first encourage their construction and real estate sector clients to pursue the opportunities specific to their sector, which are detailed below.

Opportunities that may improve a client's profitability include but are not necessarily limited to:

- Optimizing construction designs to maximise usage of purchased materials to avoid waste.
- Promoting the development of rent-to-own housing schemes to facilitate early access to housing properties for low income earners.
- Upgrading and transforming of existing housing stock into apartments to save on demolition and/or land conversion costs.
- Investing in rehabilitation of abandoned properties in rental housing units to save on demolition and/or land conversation costs.
- Investing in quality construction materials to save costs associated with poor quality materials (e.g. costs of fixing structural issues from use of poor quality materials)
- Adopting a robust talent management system, focused on recruiting and retaining the individuals who will add most value to businesses.
- Installing smart technology can improve on building efficiency and save operational costs.

Opportunities that may strengthen communities and lead to improved reputation:

- Constructing and making accessible affordable housing units to the low income earners.
- Providing spaces for active and passive recreation in neighbourhoods and communities.
- Consulting, training and involving communities and households to offer services in development, maintenance and monitoring of infrastructure projects in their localities.
- Encouraging the participation of women, youth, and the unemployed in community-based infrastructure development programmes using labour intensive methods where appropriate
- Climate proofing assets against flooding or avoiding construction in flood plains, integrating renewable energy and exploring the green code for buildings could increase resilience of assets and help improve the brands association with environmental consciousness and integrity.

Due Diligence Questions for Clients

Below is a non-exhaustive list of due diligence questions designed to help you to assess the extent of E&S risk associated with a particular transaction and the ability of company management to manage these risks. Any concerns or potential gaps should be fully assessed by a technical sector specialist.

- Do you have a board member or senior manager responsible for addressing E&S issues?
- Do you provide E&S awareness training to employees? Is there relevant E&S expertise at the project level?
- Does your company have any links between E&S performance and executive compensation?
- Has adequate budget been allocated to management of the E&S risks identified?
- Have you incurred any environmentally and socially related fines in the last 5 years?
- Do you have Environmental Monitoring and Assessment Reports approved by the EPA?
- Have you had an environmental and social impact assessment, if so how did you perform, if not then why not?
- Do you track your emissions? Do you have any emissions reductions targets or plans?
- Do you have a plan for the management of dangerous/toxic substances?
- What types of waste do you produce? How do you dispose of this waste? Do you follow the “prevent, avoid, reduce, reuse, recycle, treat, dispose” waste management hierarchy? Are your waste storage and disposal areas appropriately licensed or permitted?
- Do you have an occupational health and safety and environmental management systems? If so, are they certified to ISO 14001 (environmental management) and/or OHSAS 18001/ISO 45001 (health and safety management)?
- Are E&S related responsibilities and expectations clearly defined between main contractor and subcontractors?
- Have you registered any land acquisitions with the appropriate authorities?
- Do you offer health and safety training to workers?
- Do you have emergency response procedures in place in the case of any accidents?
- Do you monitor track and monitor health and safety incidents?

- Have or will your operations result in resettlement, displacement or exploitation of any communities? If so, how many people will be affected? Do you have a resettlement plan?
- Have or will potentially affected communities be adequately informed and consulted?
- Have or will your operations result in disturbance to any cultural heritage site or other cultural resources?
- Have you had any local community opposition?
- Do you devote resources to community investment?
- Do you have policies and procedures in place to control/limit noise or other nuisance exposure?
- Do you have a system in place to respond to community grievances?
- How many members of the local community do you employ? Have you or will you contract any migrant labour?
- Are you in compliance with Ghana's Labour Act, 2003?
- Are you aligned with the Voluntary Principles for Security and Human Rights?

Key Performance Indicators

Below is a non-exhaustive list of Key Performance Indicators (KPIs) that clients should report on, in order for banks to monitor E&S performance on a pre-determined basis.

- Release of dust and Particulate Matter emissions
- Presence and performance on environmental impact assessment(s)
- Energy consumption (Real estate only)
- Water consumption
- Number of incidents
- Number of injuries
- Number of fatalities
- Number of near misses
- Cases of employee opposition-Cases of local community opposition and complaints
- Number of fires and explosions
- Release of hazardous waste
- Human rights incidents
- Adherence to Voluntary Principles for Security and Human Rights

- Fines incurred in the last 5 years

Sources of Additional Information

For further reading banks may find resources from the following organisations useful:

- IFC Environmental, Health and Safety Industry Sector Guidelines (http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/)
- IFC Performance Standards on Environmental and Social Sustainability (https://www.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998895a12/IFC_Performance_Standards.pdf?MOD=AJPERES)
- EBRD Sub-sectoral Environmental and Social Guidelines (<http://www.ebrd.com/who-weare/our-values/environmental-emanual-toolkit.html>)
- Ministry of Water Resources, Works and Housing (<http://www.mwrwh.gov.gh/>)
- Ghana Real Estate Development Association (<http://www.gredaghana.org/>)
- Ghana Green Building Council (<http://www.ghgbc.org/>)
- <http://www.davidpublisher.com/Public/uploads/Contribute/551e55d3324b0.pdf>