



ASSESSING THE GAP BETWEEN LAWS ENACTED AND PRACTICE OF TECHNOLOGY TRANSFER IN GHANA'S OIL AND GAS INDUSTRY

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Overview

Technological advancement continues to be the driving force for innovation and productivity across various industries and it plays a major role in the economic growth and development of a nation.

The importance of technology transfer is underscored by the United Nations Educational, Scientific and Cultural Organization (UNESCO), when it observed that most challenges in development and underdevelopment for developing countries are linked to Technology Transfer.

Technology transfer remains one of the valuable options available to companies to build know-how and to improve business performance and can be procured within or across national boundaries.

Law and Policy on Technology Transfer in Ghana

ACTS/REGULATIONS/POLICIES/GUIDELINES ON TECHNOLOGY TRANSFER (TT) IN GHANA

1. The Ghana Investment Promotion Centre (GIPC) Act, 2013 (Act 865)

The primary institution tasked with overseeing Technology Transfer and its registration is the **Ghana Investment Promotion Center (GIPC)** established under Act 865.

It is responsible for enhancing transparent and responsive environment for investment and the development of the Ghanaian economy through investment and to encourage, promote and facilitate investment in Ghana.

As part of its functions the GIPC is mandated in accordance to register and keep records of all Technology Transfer Agreements (TTAs) in Ghana.

What is a TT Agreement?

A TTA in Ghana is an agreement entered into by two entities wherein a foreign firm/enterprise transfers its technology, expertise, know-how or facilities to an entity inside Ghana for a term of not less than 18 months and not more than 10 years, and may take the following forms:

- Assignment, sale and licensing of all forms Industrial Property Rights;
- Provision of Technical Services/Assistance;
- Transfer of Know-How; or
- Provision of Management Services.

All TTAs are required to be registered with the GIPC, be governed by Ghanaian law and may be renewed with the approval of the Centre and the regulator of the relevant sector.

The requirement to register Technology Transfer Agreements is applicable to all companies/institutions in Ghana irrespective of their sector of operation and all Technology Transfer Agreements must comply with the Ghana Investment Promotion Centre Act 2013 (Act 865).

2. Technology Transfer Regulations, 1992 (L.I. 1547)

Technology Transfer Regulations, 1992 (LI1547) – provides detailed guidelines on the registration of all Technology Transfer Agreements in Ghana.

In order to avoid exorbitant fees paid to a Transferor of technology, **L.I. 1547** has provided a threshold of fees to be payable where fees are charged for the transfer.

Key provisions of the Regulations:

- Services to be provided must be fully described and should not be freely and easily available in Ghana.
- There should be attached a training schedule to the application for the training of local staff by the Transferor.
- The governing law must be Ghanaian law.
- The initial duration of the Agreement must be any period between 18 months and 10 years.
- Renewal applications must be for a period between 18 months and 5 years. There is no limit on how many times a TTA may be renewed.

3. Ghana National Petroleum Corporation (GNPC) Act 1983 (PNDC Law 64)

The main object of the GNPC is to undertake the exploration, development, production and disposal of petroleum.

In achieving this and its other objectives, Section 2(2) of PNDC Law 64 stipulates that the GNPC should **obtain the effective transfer to Ghana of appropriate technology relating to petroleum operations and ensure the training of citizens of Ghana and the development of national capabilities** in all aspects of petroleum operations amongst others.

4. The Petroleum (Local Content and Local Participation) Regulations, 2013 L.I.2204

Local Content Plan – L.I. 2204 applies to local content within the petroleum industry. All contractors, subcontractors, licensees, the GNPC or other allied entities carrying out a petroleum activity shall ensure that local content is a component of the petroleum activities which they engage in.

National Policy on Technology Transfer – The **Petroleum Commission** in consultation with the **National Development Planning Commission**, relevant ministries, departments and agencies identified by the commission are required to develop and publish the **National Policy on Technology Transfer** with respect to the petroleum industry.

Local Content Plan must include but not be limited to:

- Initiatives or programmes to be pursued;
- Implementation strategy and timelines;
- Expenditure to be incurred.
- In the case of a JV company
 - i. The roles and responsibilities of the foreign and local partner in the JV; and
 - ii. Strategy for the transfer of technology and skills to the indigenous Ghanaian company; and

NOTE: The Indigenous Ghanaian Company in the JV company in submitting its Annual Local Content Plan should outline the skills and know-how obtained from the JV post incorporation.

As part of the **Local Content Plan**, a Technology Transfer Programme should be carried out, Technology Transfer Sub-Plan submitted, support and facilitation of technology transfer to indigenous Ghanaian company and a technology transfer report submitted.

The **Local Content Plan** must align with the National Policy on Technology Transfer and Guidelines.

5. Petroleum (Exploration and Production) Act, 2016 (Act 919)

- Under Act 919, where a discovery is declared to be commercial, the contractor must submit for approval a Development and Operation Plan for the petroleum field to the Minister for Energy and Petroleum.
- The plan is expected to include a description of a development and operation programme which must detail a local content plan; an employment and recruitment programme and a **Technology Transfer Plan**, among others. The Development and Operation Plan will not be approved by the Minister unless these plans and programmes have been approved by the Commission.
- To promote Technology Transfer as a key aspect of the petroleum upstream sector, Section 64 of Act 919 provides:

“For the purposes of **technology transfer**, the Commission shall encourage and facilitate the formation of joint ventures, partnership and the development of licensing agreements amongst indigenous Ghanaian companies, foreign contractors and service or supply companies interested in the petroleum industry where applicable.”

6. Petroleum (Exploration and Production) (General) Regulations, 2018 (LI 2359)

This regulation provides for the procedures and conditions for the grant of a petroleum agreement including qualification requirements, terms and conditions for open and competitive tendering procedures and direct negotiations.

In the evaluation for bids and criteria for petroleum agreements, some of the requirements include the methodology and plan for transfer of knowledge and skills. The effect of this is that, the presence of a plan for transfer of knowledge and skills is a necessary criterion which should be submitted alongside the bids.

7. Petroleum Commission Act, 2011 (Act 821)

Act 821 establishes the Petroleum Commission for the regulation and management of the utilization of petroleum resources and other related purposes. The Commission as part of its duties is expected to promote local content and local participation in petroleum activities as prescribed in the applicable law to strengthen national development. To this end, Act 821 requires the Commission to establish a Local Content Committee to deal with the local content and local participation programme.

This Committee was set up in 2014 with its membership comprising members of the Petroleum Commission Board, representatives from Parliament, National Development Planning Commission (NDPC), civil society or academia, Tema Shipyard and Dry-dock, Association of Ghana Industries (AGI) and Ghana Oil and Gas Service Providers Association (GOGSPA). The Committee is chaired by the CEO of the Commission.

OTHER LAWS WITH REFERENCE TO TECHNOLOGY TRANSFER

1. Minerals and Mining (Local Content and Local Participation) Regulations, 2020, LI 2431.

Regulation 1 of the L.I. provides that its purpose is to:

Develop local capacities in the mining industry value chain through education, skills transfer and expertise development, transfer of technology and know-how and research and development programmes.

- The Minerals Commission is required to issue guidelines that include minimum standards, facilities, personnel and technology for training in the mining industry.
- These guidelines have not been issued at the time of this presentation.

Energy Commission (Local Content and Local Participation) (Electricity Supply Industry) Regulations, 2017 (L.I. 2354).

The Energy Commission in its bid to develop local capacity in the electricity supply industry has made it mandatory for entities who intend to engage in the sector to submit a Technology Transfer plan in the manner provided for in the **L.I. 2354**. The relevant provisions as provided under **L.I 2354** are as follows:

- **Regulation 45—Technology Transfer Programme**
- **Regulation 46—Submission of Technology Transfer Sub-Plan**
- **Regulation 47—Support for Technology Transfer**
- **Regulation 48—Technology Transfer Report**

SOME POLICY AND GUIDELINES

1. GNPC Model Petroleum Agreement of Ghana, 2000

This document serves as a standard agreement that parties to Petroleum Agreement must adopt or tailor their contract to suit for the purposes of ensuring effective development and implementation of upstream Local Content in Ghana.

Article 21.4 of the Model Agreement enjoins the Contractor to regularly provide to GNPC, information and data relating to worldwide Petroleum science and technology, Petroleum economics and engineering available to Contractor, and also assist GNPC personnel in every way to acquire knowledge and skills in all aspects of the Petroleum industry.

The Model agreement also enforces Regulation 5 of L.I 1547 by requiring the Contractor, if so requested by GNPC, to provide opportunities for a mutually agreed number of personnel nominated by GNPC to be seconded for on-the-job training or attachment in all phases of its Petroleum Operations under a mutually agreed secondment contract. Such secondment contract shall include continuing education and short industry courses mutually identified as beneficial to the secondee.

2. National Science, Technology and Innovation Policy (2017 – 2020)

This policy recognizes the inadequate commitment towards the training of larger numbers of scientists, engineers and technologists to sustain the national scientific capability, thereby making matters worse with respect to industrial development in Ghana.

The policy document lined up programmes and activities geared towards accelerating technology transfer and innovations, strengthening the development and extension of technologies and innovations that form the basis for sustainable use of natural resources and enhancing local participation in the Science, Technology and Innovation associated with the exploration and exploitation of Ghana's oil and gas resources.

It also sought to facilitate research and ensure prevention or control of pollution of the environment and support research in the exploration and sustainable exploitation of mineral resources.

There is however uncertainty in respect of the implementation or update on the policy since it elapsed in 2020.

3. Joint Venture (“JV”) Guidelines in the Upstream Industry

The Guidelines for the Formation of Joint Venture Companies in the Upstream Petroleum Industry of Ghana, 2016 was issued by the Petroleum Commission of Ghana pursuant to Regulation 43(1) of the Petroleum (Local Content and Local Participation) Regulations, 2013 (L.I. 2204) to guide upstream petroleum industry players on the formation and structuring of joint venture companies and also to enhance local content and local participation in the upstream petroleum industry.

Regulation 25(1) of L.I 2204 enjoins a contractor, subcontractor, licensee or other allied entity to support and facilitate technology transfer as regards the formation of joint ventures, partnering of licensing agreements between indigenous Ghanaian companies or citizens and foreign contractors and service companies or supply companies.

To see to its implementation, the Commission has adopted as a guiding principle of operating a joint venture in Ghana that joint venture companies are required to prepare and submit to Petroleum Commission for approval, a detailed plan for the transfer of technology and know-how to the indigenous Ghanaian company. The policy rationale behind this principle is to increase local content and participation through the empowerment of indigenous persons.

Impact of the laws on Technology Transfer in Ghana's Oil and Gas Industry

GIPC Act 865 and Technology Transfer Regulations L.I. 1547

- Under Act 865, registration of TTAs is mandatory. Upon receipt of a TTA, the GIPC shall review the TTA, monitor and ensure compliance with the terms and conditions of the TTA.
- Subject to the Foreign Exchange Act, 2006 (Act 723), an enterprise is guaranteed unconditional transferability in freely convertible currency of fees and charges in respect of a TTA registered under the GIPC Act.
- Any transfer of fees by a company in Ghana under unregistered TTAs is constitutes an offence under Act 865.
- Additionally, the GIPC in consultation with the appropriate agency may:
 - a. suspend the registration of the enterprise;
 - b. cancel the registration of the enterprise;
 - c. order payment or part-payment of agency of fees, taxes, duties and other charges relating to benefits granted to the enterprise;
 - d. revoke some or all of the incentives granted to the enterprise;
 - e. advise the Bank of Ghana to suspend any remittance including transfer of capital, profits and dividends from or by that enterprise; or
 - f. take any other action that the Board considers appropriate.

Petroleum (Local Content and Local Participation) Regulations, 2013 (L.I 2204)

National Policy on Technology Transfer (NPTT)

- The PC is mandated to work together with the National Development Planning Commission (NDPC), relevant Ministries, Departments and Agencies that it identifies to develop the national policy on technology transfer for the petroleum industry. This is still being drafted.
- Industry players must support and carry out a programme in accordance with the NPTT in order to promote technology transfer in the Ghanaian petroleum industry.

Technology Transfer Sub-Plan (TTSP)

- Any TTSP must include a programme of planned initiatives aimed at promoting the effective transfer of technologies to a Ghanaian indigenous company or citizen.

Support for technology transfer to indigenous Ghanaian companies

- Industry players must support and facilitate technology transfer in respect of forming joint ventures, partnering licensing agreements between indigenous Ghanaian companies or citizens and foreign contractors and service companies or supply companies.
- The Minister for Energy is required to consult with relevant Government agencies to propose fiscal incentives to assist foreign companies and indigenous Ghanaian companies which establish factories and production units in the country.

Technology Transfer Report

- Industry players must submit a technology transfer report annually to the PC stating the technology transfer initiatives being pursued and the current results in relation to the Technology Transfer Sub-Plan.

Petroleum (Exploration and Production) Act, 2016 (Act 919)

- The Petroleum Commission must encourage and facilitate the formation of joint ventures, partnership and the development of licensing agreements amongst indigenous Ghanaian companies, foreign contractors and service or supply companies.
- Provision of loans from the Local Content Fund to small and medium scale enterprises to support participation in petroleum activities.

SURVEY ON LOCAL CONTENT PROGRESS

- The African Centre for Economic Transformation conducted a survey in 2015 on “*Local Content and Value Addition Provisions and Response to Progress Made to Date*”.
- This survey was based specifically on the requirement for oil companies to prepare and implement plans for the transfer of technology as captured in Regulation 4(7) of L.I 2204. The report stated that it is currently too early to tell the extent of the progress made due to the young nature of the industry.
- Though the survey did not reveal the extent of the progress made on the preparation and implementation of plans for the transfer of technology, it noted that some Ghanaians were receiving some skills training from International Oil Companies at Takoradi Technical University and the Kwame Nkrumah University of Science and Technology.

Local Content Fund

The Public Interest and Accountability Committee (PIAC) in its 2020 semi-annual Report indicated that:

- As at June 2020, a Local Content Fund Secretariat had been established and resourced at the Petroleum Commission.
- A draft Local Content Fund Operational Guidelines had been developed and was under review.
- Receivables based on approved contract sums by the PC to the Local Content Fund raked up to US\$ 4.5million.

Identification of the Gaps that Exist in the laws

a. Lack of a Cohesive National Policy on Technology Transfer

L.I 2204 charges the Petroleum Commission to formulate the national policy on technology transfer with respect to the petroleum industry and publish the national policy in the Gazette and a newspaper of national circulation, to be done in consultation with the National Development Planning Commission, relevant Ministries, Departments and Agencies identified by the Commission. It is reported that this policy remains in draft.

The absence of the national plan on technology presents a challenge because there is no comprehensive document determining the policy course and objective, resulting in a lack of collective policy goals and a fragmented approach to the implementation of technology transfer structures.

Additionally, owing to the absence of a central guiding policy that caters to the varying participants in the upstream sector, foreign companies, in a bid to remain compliant, create their own yardstick in transferring technology to indigenous Ghanaian companies. This does not bode well for uniform implementation and progress assessment.

b. Local Content Report- Lack of a Tailored Reporting System

The current system for companies to report on their Local Content and Local Participation Status comprises the submission of completed form to be filled by participants operating in the upstream sector in general. The Form is not tailored to suit the various types of companies which participate in the sector. This may ultimately result in some companies not being able to provide the applicable information required to make an accurate evaluation and assessment of their compliance with Technology Transfer requirements.

c. Local Capabilities

- Regulation 1 of L.I 2204 makes it clear that one of the objectives of the L.I is to develop local capabilities, including education, skills, and development; active research; and development portfolios within the manufacturing and services of local companies.
- Developing local content and effective technology transfer in the petroleum sector ought to be based on existing manufacturing, fabrication, and service capabilities.
- Local policies must encourage foreign firms to collaborate with local companies and indigenes by supporting foundational training in technical skills and knowledge.

d. Target 2020

- According to L.I 2204, the government seeks to achieve at least 80% local participation in all aspects of the petroleum value chain by 2020. This expectation is, however, considered unfeasible.
- According to Olsen (2013), no country has ever achieved 90 per cent local content in the history of petroleum production. The highest ever achieved is 74 per cent by Norway in 1994. This, therefore, raises questions about the workability of the local content legislation and whether the targets are feasible, in the first instance.

PETROLEUM (LOCAL CONTENT AND LOCAL PARTICIPATION) REGULATIONS, 2013 (L.I. 2204) & PETROLEUM COMMISSION ACT, 2011 (ACT 821)

e. Financial Restraints of Indigenous Ghanaian Companies

- LI2204 imposes the requirement for the formation of a joint venture company between non-indigenous Ghanaian companies and Indigenous Ghanaian companies. Based on the guidelines, this entails Incorporation, joint control, sharing profit and losses of the company, and contribution of skills, manpower etc. from parties. The oil and gas industry is capital intensive and this implies that the indigenous Ghanaian company must have some financial foundation in order to effectively participate in the joint venture set up. This places some restraints on indigenous Ghanaian companies due to the lack of financial capacity, and places the Ghanaian indigenous company on an unequal footing on various levels.

a. Revision of thresholds is yet to be made.

- In 1992, the Technology Transfer Regulation, 1992 (L.I 1547) was passed, and set the initial thresholds for fees and charges regarding Technology Transfer Agreements. Current day revision is required.
- These thresholds have been in force for 29 years without any review. This may seem problematic because it is outdated and will not reflect current trends, especially in the technological sector, which evolves at a fast pace.
- Regulation 18 of L.I 1547 however, sought to provide a solution for this issue by providing an avenue for a request for fees of a higher value than the upper levels specified in regulations 14, 15, 16 and 17 subject to GIPC's approval.
- This solution is inadequate as it is subject to negotiation of fees solely at the discretion of GIPC which may create an unnecessary hurdle and delay for the parties seeking to register a technology transfer agreement.

b. Reluctance of foreign companies to comply with GIPC requirements in respect of TTAs- This is sometimes manifested as delays in submission of TTAs for registration.

Enforcement of Technology Transfer Requirements

- Due to the nature of technology transfer wherein the transferor is a foreign entity, some technology transfer agreements are drafted in conformity with foreign laws and not our local laws as contained in Act 865 and L.I 1547.
- The effect of this is that, these agreements do not meet the registration requirements and therefore unacceptable for registration. This leads to the use of unregistered technology transfer agreements by some transferors.

RECOMMENDATIONS

- Mature and modernized legislation on Technology Transfer across sectors and a specialized agency focused on Technology Transfer, addressing contemporary aspects such as sharing intellectual property rights between parties to the TTA.
- Establishment of a coherent national policy on technology transfer.
- Recognition of Technology Transfer policies at all levels of the Government in order to foster a collaborative effort.
- Assessment of Technology Transfer Programmes and Policies to measure competence against global standards.
- Financial support to the Ghana National Petroleum Corporation (GNPC), Petroleum Commission, Ghana Investment Promotion Centre (GIPC) to enable them fulfil their respective mandates in collaborative efforts to invest in research & development and training for human resources and regulators.
- Streamline the registration process to avoid complex and lengthy bureaucracy that deters the registration and compliance.
- Creation and Implementation of incentives to attract technology transfer and promote indigenous technological improvement.
- Support Capacity building at all levels in the country's national, technical and vocational institutions; training in accordance with international standards, internships, education and sensitization on acceptable models of technology transfer for Ghana.

THANK YOU

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