



# Extractive Industries Audit Guideline

EXPOSURE DRAFT

OCTOBER 2022



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## List of abbreviations

AFROSAI-E	African Organisation of English-speaking Supreme Audit Institutions
CAM	Compliance Audit Manual
CGT	Capital gains tax
DTA	Double taxation agreements
EI	Extractive industries
EIA	Environmental impact assessment
EITI	Extractive Industries Transparency Initiative
FAM	Financial Audit Manual
GAAR	General anti-avoidance rule
GFI	Global Financial Integrity
GHG	Greenhouse gas
IEA	Information exchange agreements
IFFs	Illicit financial flows
IOC	International oil company
ISSAI	International Standards of Supreme Audit Institutions
MNE	Multinational entity
MSG	Multistakeholder steering group
NRGI	Natural Resource Governance Institute
OECD	Organisation for Economic Co-operation and Development
PAM	Performance Audit Manual
PSA/PSC	Production sharing agreement/contract
SAI	Supreme Audit Institution
SDG	Sustainable development goals
SOE	State-owned enterprise
TP	Transfer pricing

## 1. Purpose and use of the Extractive Industries Guideline

The mining sector has been identified by most countries globally including members countries of AFROSA-E as a potential catalyst for economic development, and there is a determined effort to develop the sector and to make it more attractive to investors.

Mining companies around the world are looking for growth opportunities and Africa, with its wealth of minerals, it has become a choice for many with over 1,800 mining projects in various stages of development or operation across the mother continent. Miners, investors and governments all strive to overcome a host of challenges to become successful in their endeavours. The issue of beneficial ownership transparency is at the heart of some of these challenges.

As AFROSAI-E, in mining, when we consider what success looks like to all stakeholders in the extractive industries especially our member SAIs and the citizens of their countries. It is our experience that Transparency and Accountability through the audits of the National Audit Office sets any mining project or operation up for a successful outcome.

The auditing of extractive industries (EI) has received increased attention in the past years, both within the INTOSAI community and in other international fora. Strong and effective Supreme Audit Institutions (SAIs) can contribute to better and more transparent oversight of extractive industries and help to ensure that governments manage natural resources in the best interest of the public. There are several initiatives<sup>1</sup> to strengthen SAIs' ability to fulfil this function.

This *Guideline on Audit Considerations for Extractive Industries* is AFROSAI-E's initiative and contribution that can assist the SAIs in the process of auditing the extractive industries and strengthen SAIs' ability to fulfil this function.

A country's natural resources, such as oil, gas, metals and minerals, belong to its citizens. Extraction of these resources can lead to economic growth and social development. However, poor governance of natural resources has often led to corruption and conflict. More transparency and public scrutiny of how wealth from a country's extractive sector is used and managed is necessary to ensure that natural resources benefit all.<sup>2</sup>

About 3.5 billion people live in countries rich in petroleum (oil and gas) or minerals. With good governance and transparent management, the revenues from EI can have an impact on reducing poverty and boosting shared prosperity, while respecting community needs and the environment.<sup>3</sup>

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<sup>1</sup> INTOSAI's Working Group on the Audit of Extractive Industries (WGEI) is an example of such initiative, ref. [wgei.org](http://wgei.org)

<sup>2</sup> Source: [eti.org](http://eti.org).

<sup>3</sup> Source: [Wordbank.org](http://Wordbank.org).

Before we can move on to the purpose of this guideline, it is important to have a common understanding of the meaning of the expression *extractive industries*.

**Definition of extractive industries:**<sup>4</sup> Any process that involves the extraction of non-renewable resources. The extractive industry consists of any operations that remove oil, gas, metals, minerals and aggregates from the earth and or sea. Three important features characterize these industries:

- Permission to extract/exploit a limited natural resource gives the opportunity to generate super profit (monopoly/oligopoly). Most countries adhere to the principles that limited natural resources belong to the Government/people and hence the lion's share of the generated super profit.
- Extraction of petroleum and minerals involves high costs, advanced technology and high risk
- The commodities extracted can be sold in a global market, thus creating a risk of tax evasion including the use of transfer pricing.

Because of these unusual characteristics, and the way petroleum and minerals differ from the extraction of other natural resources, they are the sole focus of this guideline. In addition, relevant international bodies such as the WGEI, World Bank, EITI and NRGi limit their definition of extractive industries to petroleum and minerals.

### 1.1. Purpose

In line with INTOSAI – P 12, SAIs need to be able to add value to society and make a difference in the lives of citizens by carrying out audits of the EI sector. To ensure that elected officials act in the best interests of the citizens they represent, governments and public sector entities need to be accountable for their stewardship over, and use of, public resources. SAIs strengthen accountability, transparency and integrity by independently auditing public sector operations and reporting on their findings.

Accountability and transparency are two important elements of good governance. Transparency is a powerful force that, when consistently applied, can help fight corruption, improve governance and promote accountability. The concept of accountability refers to the legal and reporting framework, organisational structure, strategy, procedures and actions to help ensure that the SAIs meet their legal obligations regarding their audit mandate and required reporting within their budget.

The purpose of this guideline is to assist SAIs mandated with auditing the public sector management of extractive industries with capacity building, understanding the sector, mapping the sector and conduct risk assessment along the AFROSAI-Es EI value chain.

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<sup>4</sup> This definition is in line with the definition from EITI, which states that extractive industries “usually refers to the oil, gas and mining industries”. Source: [eiti.org](http://eiti.org).

In terms of their mandate, SAIs are required to give assurance on the information reported, and audit the systems, processes and actual collections of revenue relating to natural resources. SAIs also play an important role in assuring the accountability of government institutions involved in regulating and monitoring EIs. These responsibilities require an understanding of concepts related to EI, country-specific environments and international good practices.

Extractive industries are important to government auditors because an endowment of natural resources can have a significant impact on a country and requires a great deal of regulation and a highly skilled bureaucracy to manage those regulations.

The main strategic objective of the guideline is to provide SAI auditors with the latest but relevant developments in the EI sector to enable SAI auditors to perform quality and impactful audits in the EI sector of their countries.

The guideline achieves this objective by providing background information, examples and illustrations relating to the public sector auditor's areas of interest in countries that have an extractive sector with significant profit sharing between government and private sector.

## **1.2. How SAI auditors should use this guideline**

Auditors should use this guideline depending on the nature and scope of the audit to be undertaken. The guideline, throughout its various chapters, assists the auditor to determine the nature of the audit to be undertaken. This is achieved by identifying and responding appropriately to identified risks. By using the templates in chapter 2, the auditor can document the risk assessment and responses sufficiently, both at the national and engagement levels. Depending on the subject matter and risk assessment, the EI audits may be conducted as performance audits, compliance audits or financial audits. In addition, considerations highlighted in chapter 3 of this guideline relating to EI should also be considered.

Most SAIs audit the financial statements of government entities annually. When such financial statements include revenue and/or expenditure relating to EI these amounts should be identified for audit. During the audit of financial statements, the provisions and templates of the Financial Audit Manual (FAM) should be followed. Likewise, should compliance audit or performance audit methodology be applied when relevant by following the audit steps (planning, executing and reporting) and templates provided in Compliance Audit Manual (CAM) and Performance Audit Manual (PAM).

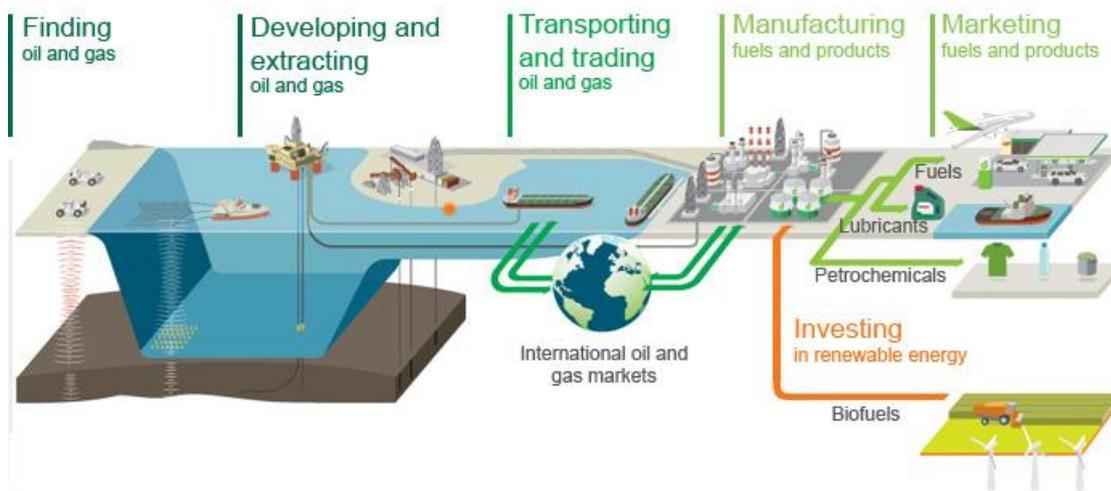
### 1.3. Background on the extractive industry sector

#### 1.3.1. Extractive industries

As mentioned earlier, extractive industries in the context of this guideline refer to the petroleum and mining sectors. The following paragraphs highlight key information on the sectors and the latest developments in Africa.

#### **Petroleum<sup>5</sup>**

Oil and natural gas are *hydrocarbons*, strings of carbon and hydrogen formed from organic material compressed over millions of years. Generally, oil and natural gas are referred together as **Petroleum**. They are often located together. If a reservoir (area underground) has only gas and no oil, it is called non-associated gas. If a reservoir contains both oil and gas, the gas it contains is called associated gas. What is extracted is not often a form of petroleum that can be used right away. For it to be the fuel that can go into a car or be converted into plastics, it must go through a process of refining. For the purpose of getting a basic understanding and selection of audit subject matters, let's look at the overall life cycle of petroleum.



**Figure 1: Petroleum process life cycle**

Upstream and downstream are different parts of the process of getting petroleum out of the ground and to the market. Upstream includes the exploration and extraction phases. Downstream includes refining, marketing, and end-use. Transportation between upstream and downstream is often referred to as midstream.

#### **Mining**

Mining is the extraction of minerals from the earth. Mining can either be large-scale, small-scale or artisanal. *Large-scale mining* is often undertaken by big corporations using sophisticated equipment and a huge labour force. The mining operations take place at large sites and continue until the mineral or

<sup>5</sup> *The Oil and Gas Industry*. NRG Reader. April 2021

metal is completely excavated. *Artisanal mining* refers to mining by individuals, groups, families or cooperatives with minimal or no mechanisation, often in the informal sector of the market. Artisanal and small-scale mining generates about 15% of the world’s nonfuel minerals, yet are major sources of income for about 100 million people globally.

Much audit focus has been concentrated on large-scale mining, yet statistics indicate that more people, globally and in Africa, are involved in artisanal mining. Artisanal mining faces various challenges due to mining in the informal sector with little or no mechanisation and minimal to no regulation. Large-scale mining is usually well organised and has potentially fewer risks compared to artisanal mining. **Annex 1** identifies areas in artisanal mining on which auditors can focus their audits depending on the risk assessment.

The mining process begins with the exploration and discovery of mineral deposits, and continues through ore extraction and processing to the closure and remediation of worked-out sites.



**Figure 2: The Mining Process Lifecycle<sup>6</sup>**

It is fundamental for auditors to understand the mining lifecycle and activities involved in each stage to identify areas where they can conduct audits that would lead to proper management of the mining sector in their respective countries.

### **1.3.2. Extractive Industries in Africa**

Africa alone holds around 30% of the world’s mineral reserves, 10% of the world’s oil reserves and 8% of the world’s natural gas reserves.<sup>7</sup> The EI sector therefore serves as a major source of revenue in many African countries, playing a crucial role in terms of economic, social and environmental aspects. Today, there are still undiscovered resources in the African region as well as a need to build the capacity of institutions to ensure that citizens benefit from the country’s natural resources.

<sup>6</sup> CAAF Guide to Auditing Mining Revenues and Financial Assurances for Site Remediation, July 2021

<sup>7</sup> World bank: <https://www.worldbank.org/en/topic/extractiveindustries/overview>



## **2. Public sector audit of extractive industries**

### **2.1. Introduction**

Audit of extractive Industries is not a particular type of audit, but the auditor is required to apply the ISSAIs and audit methodology according to the audit type that will carry out the EI audit. As mentioned previously these guidelines aim primarily to guide the auditor to conduct a risk assessment at a high level and assist the auditor to consider various audit considerations while conducting the risk assessment. The SAI mandate normally dictates the type of audits that should be performed, according to the SAI's mandate and provides at the same time a choice to some extent for the SAI management to make decisions on auditing specific areas and topics.

When the SAI has identified the risks along the EI value chain and identified which audit type will be responsible for performing a particular audit or subject matter, it should then be incorporated in the SAI's overall audit plan, both annual and long-term, e.g. 5 years-plan. The audit topics/subject matters should also be ranked according to the risk level and the significance for the citizens of the country. For example SAI Uganda has produced an Energy and Extractive Industries strategic plan 2016-2021(ongoing update) which includes the EI risk assessments, types of audits, timings and skills set required.

As per ISSAI 100.17, the public sector audit environment is one in which governments and other public sector entities exercise responsibility for the use of resources derived from taxation and other sources in the delivery of services to citizens and other recipients. These entities are accountable for their management and performance, and for the use of resources, both to those that provide the resources and to those, including citizens, who depend on the services delivered using those resources.

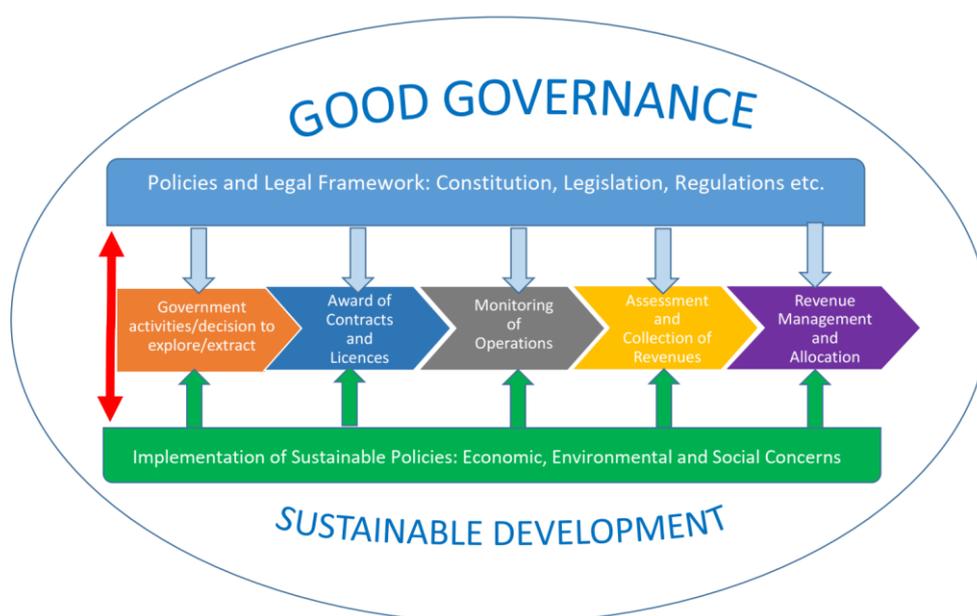
Most of the SAIs do conduct financial audits as per their SAI mandate and the main focus is on determining whether an entity's financial information is presented in accordance with the applicable financial reporting and regulatory framework. The SAIs are expected to apply financial audit methodology as per ISSAIs 2000-2999 as described in Financial Audit Manual (FAM) and the related working papers. If the SAI has identified risks in EI that need to be addressed through performance audit the focus should be on whether interventions, programmes and institutions are performing in accordance with the principles of economy, efficiency and effectiveness, and whether there is room for improvement. The performance audit methodology in Performance Audit Manual (PAM) and ISSAI 3000 should be applied in this regard. If the SAI has identified risks in EI that need to be addressed through compliance audit, the focus should be on whether a subject matter is in compliance with authorities identified as criteria. Compliance auditing is performed by assessing whether activities, financial transactions and information are, in all material respects, in compliance with the authorities

that govern the audited entity. Compliance Audit Methodology in CAM and ISSAI 4000 should be applied in this regard.

## 2.2. AFROSAI-E’s value chain model for extractive industries

SAIs form part of an overall legal and constitutional system within their respective countries, and are accountable to the parliament and the public. SAIs are also responsible for planning and conducting the scope of their audits and using proper methodologies and standards to ensure that they promote accountability and transparency over public activities, meet their legal mandate and fulfil their responsibilities in a complete and objective manner.<sup>10</sup>

For SAIs to efficiently and effectively audit the EI sector, auditors need to understand the concept of the EI value chain. AFROSAI-E has developed and updated the generic EI value chain to assist auditors in understanding and identifying potential risks in each step. AFROSAI-E’S EI value chain comprises seven steps, some of which are interrelated, as illustrated in figure 4.



**Figure 4: AFROSAI-E’S Generic Value Chain for the Extractive Industries**

### 2.2.1. Steps in the EI value chain

The following gives a short summary of the value chain:

1. Policies and Legal framework: The government needs to establish a hierarchy of laws, regulations and policies that shall govern the EI sector. There should be consistency between these sources of law, and they should cover all aspects of government activities in the extraction process.
2. Govt. activities/decisions to explore/extract: The legislative branch of government needs to make policy decisions on whether to open areas for exploration, based on recommendations by the

<sup>10</sup> ISSAI 20 Principles of transparency and accountability.

executive. There should be indications of possible reserves, environmental impact assessments are carried out and relevant government institutions are established. If the exploration indicates potential for substantial natural resources, then the government might decide to extract.

3. Award of contracts and licenses: The government needs to decide on a fiscal regime which shall regulate the extractive industries operations; use of contracts or law. Should there be competitive bidding between international petroleum/mining companies?
4. Monitoring of operations: After production has commenced, the government should monitor the companies' activities on several areas, including Health, Safety, Environment (HSE), production volume, work programme etc.
5. Assessment and collection of revenues: Government needs to effectively manage various sources of EI revenue. Revenue may be collected through various instruments such as royalties, taxes, bonuses, shareholding etc. Some of these instruments are susceptible to tax evasion, which needs to be tackled by competent revenue authorities.
6. Revenue management and allocation: After EI revenue has been collected, government needs to allocate them for different purposes. They could either be used for spending purposes in next year's budget, or be saved for future generations.
7. Implementation of sustainable policies: The extractive industries have the potential to also do harm. Therefore, government needs to make sure that the activities benefit local business and does not lead to environmental damages or non-sustainable overspending etc. The extractive industries should give benefits to society, which are greater than just the revenue generated by sale of commodities. Provisions should also be made for decommissioning, by ensuring that adequate resources are allocated for this purpose.

### **2.2.2. Good Governance**

"Governance" in the extractive industries is a term commonly used to refer to how public institutions and private companies conduct their affairs and manage resources.<sup>11</sup> It covers the process of decision-making as well as the processes by which decisions are implemented. Transparency and accountability are central to the concept of "Good Governance". Disclosure of information and transparent decision-making processes enable citizens and other stakeholders to scrutinise actions and hold governments and other stakeholders such as companies to account for their activities in the extractive industries sector. This section of the guidelines aims to give the auditor an insight into the principles and functions of good governance in the extractive industries as they are a fundamental consideration in audit risk assessment in conjunction with the nine principles of ISSAI 20: "Principles of transparency and accountability".

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<sup>11</sup> [www.icmm.com](http://www.icmm.com)

## The principles of good governance

These are five high-level principles developed by the Chatam House. Auditors may consider these when developing criteria, measures, and expectations that form the basis of the good governance guidelines in the EI sector:

- Clarity of goals, roles and responsibilities,
- Sustainable development for the benefit of current and future generations,
- Enablement to carry out the role assigned,
- Accountability of decision-making & performance, and
- Transparency and accuracy of information.

## Good Governance indicators

It is good for auditors to familiarise themselves with how much their countries score in terms of good governance indicators, this not only enhances their understanding of their countries but also where the focus should be in terms of improving scores. For the year 2020, AFROSAI-E member countries show increasing divergence in Overall Governance performance according to Ibrahim Index of African Governance (IIAG)<sup>12</sup>; The Corruption perception index (CPI) of Transparency International<sup>13</sup> and The Resource Governance Index country scores (RGI) and rankings. Table 1 lists the AFROSAI-E member countries' scores for these indices.

**Table 1: AFROSAI-E member countries scores for different governance indices**

Country	Score out of 100 (100 = best)		
	CP	IIAG	RGI
Angola	29	39.3	N.A.
Botswana	55	67.5	N.A.
Eritrea	22	17.1	N.A.
Ethiopia	39	34.8	N.A.
Gambia	37	57.1	N.A.
Ghana	43	69.7	78 (oil and gas)
			69 (mining)
Kenya	30	51.6	N.A.
Lesotho	38	55.9	N.A.
Liberia	29	54.9	N.A.
Malawi	35	47.5	N.A.

**IIAG:** Ibrahim Index of African Governance (2020)  
**RGI:** Resource Governance Index (2021)  
**CP:** Corruption Perception Index (2021)

<sup>12</sup><https://mo.ibrahim.foundation/sites/default/files/2020-11/2020-index-report.pdf>

<sup>13</sup> <https://resourcegovernance.org/analysis-tools/publications/2021-resource-governance>  
<https://www.transparency.org/en/cpi/2021>

Mauritius	54	77.8	N.A.
Mozambique	26	52.1	N.A.
Namibia	49	67	N.A.
Nigeria	24	43.6	53 Oil
Rwanda	53	44.5	N.A.
Seychelles	70	75.3	N.A.
Sierra Leone	34	56.8	N.A.
Somalia	13	23.1	N.A.
South Africa	44	67.2	N.A.
South Sudan	11	20.9	N.A.
Sudan	20	22.5	N.A.
Swaziland	32	31.2	N.A.
Tanzania	39	45.5	55 (oil and gas)
			58 (mining)
Uganda	27	46.8	49 (oil and gas)
			55 mining
Zambia	33	48.9	N.A.
Zimbabwe	23	36	N.A.

### 2.2.3. Sustainable Development

The activities and revenues from the EI sector as described in the EI value chain in figure 4, should lead to the sustainable development of the resource rich countries. Sustainable development means a holistic approach to our society, which considers not only the desire for economic development including local content, but also social inclusion and environmental sustainability.

Sustainable development meets the needs of the present without compromising the potential of future generations to meet their own needs. Sustainable development is about integrating the goals of high quality of life, health, and prosperity with social justice, and maintaining the earth's capacity to support life in all its diversity presently without compromising the potential of future generations.<sup>14</sup>

Security, accountability and good governance are of intrinsic value and are important in facilitating economic development in all countries. Research shows that resource wealth has a positive effect on growth in countries with good institutions, but a negative effect on those with poor institutions.<sup>15</sup>

The government institutions have a leading role to play in this regard. Some of the situations where government exercises this role is in crafting adequate and suitable legal framework, monitoring the

<sup>14</sup> <https://miningwithprinciples.com/>

<sup>15</sup> EU Working Paper: Natural Resources and State Fragility RSCAS 2010/36.

activities in the EI sector, ensuring that the correct amount of revenue is collected and allocated to activities that lead to sustainable development. This could be for example education, health, infrastructure development and protection of the environment.

The SAIs' role is to audit that the government through the ministries, the agencies and the state-owned companies are following-up on what is expected of them. The SAIs should have a holistic approach to auditing by mapping the EI sector, identifying the various role-players, assessing the risks along the value chain (especially focusing on the areas where the risk is high) and ensuring that they conduct relevant audits. By auditing the EI sector the SAIs can contribute to raising more awareness and conducting audits that will benefit the citizens of the natural resource-rich countries.

### 2.3. Conducting risk assessment along the EI value chain

A SAI may decide to focus audit attention by identifying audit subjects relating to EI. The audit subject may cover one or more of the seven elements of the EI value chain. To facilitate this type of approach, chapter three provides a holistic overview of each of the seven elements with explanations of typical issues, risks, controls and related audit programmes. Auditors should keep in mind that the seven elements described in chapter 3 form part of a single process. Auditors are then expected to respond to the risks through either financial, performance or compliance audits. The risk identification tool is covered in chapter 2.3.

**Note:** Generic risks and controls identified in this guideline should not under any circumstances be seen as complete. In each audit, the relevant legislative framework and contracts will determine additional or alternative controls which should be considered during the audit. The templates in this guidance are meant to be used as a starting point and they should be amended where necessary to suit the audit objectives and the audited environment.

The EI generic value chain is applied to map the EI sector and to assess risks along the value chain's steps as explained in chapter 3.

Risk is the probability that incidents may occur and affect the achievement of objectives negatively. INTOSAI-P 20, Principle 3 requires SAIs to communicate the scope of audit activities that they undertake under their mandate, based on their risk assessment and planning processes. Risk assessment in the EI sector involves a systematic process of evaluating country-specific potential risks for each step in the EI value chain. The risks are identified from an audit perspective, as SAIs are eventually expected to identify audits that need to be performed to respond to the identified risks.

The identification of key players is an essential part of the risk assessment process, as it ignites the process of identifying potential auditees where the auditor has the jurisdiction to perform risk-based

audits in line with the ISSAIs. The identification of key players includes the following corroborative questions:

- o Who are the key players in the sector?
- o How are they involved in the sector?
- o When are their roles required?
- o What are their risks in the sector?
- o What are their key financial interactions/transactions?

Template 1 (in the annexures) may assist the auditor in both mapping the EI sector in the country and initial identification of the risks.

**KEY:**

**Risk factor/indicator:** A condition, attribute, characteristic that increases the likelihood of a risk, for instance, lack of transparency in awarding contracts.

**Risk:** A fact that incidents may occur and affect achievement of objectives negatively, for instance, in the risk factor identified above, one of the risks can be the possibility of licences being granted to speculators.

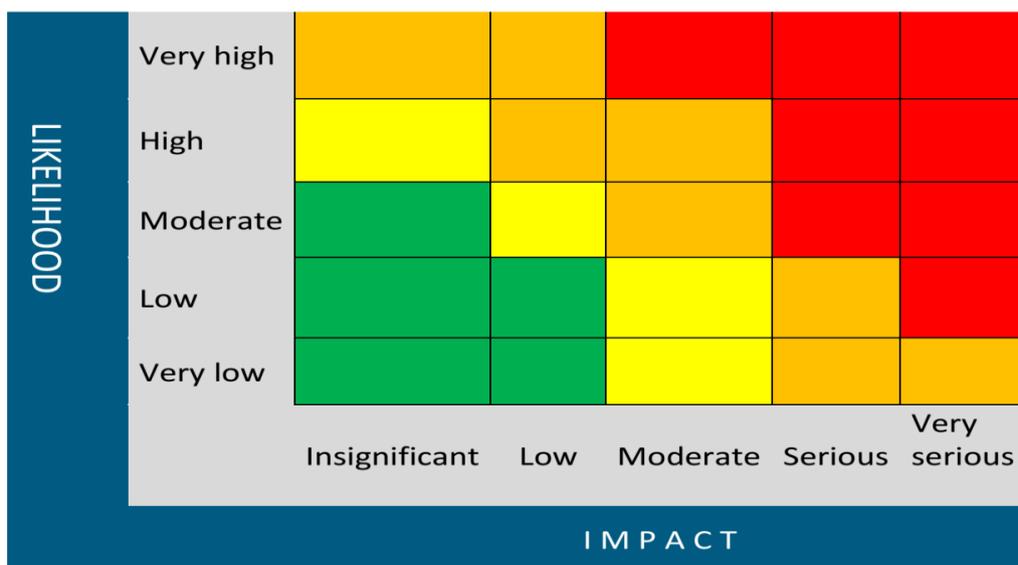
### 2.3.1 Risk mapping

After identifying risks using the risk assessment matrix above, auditors are required to prioritise the risks to focus on areas that have high risks. This is because a SAI might not have the time and resources to respond to all the risks at once. A risk chart is used to assess the likelihood and impact of identified risks and prioritise the risks that are significant, placing the risks in the right category as follows:



The auditor needs to assess the likelihood that there is a risk in the EI sector along the value chain and assess the impact it would have if the identified risk occurred.

Use of the risk chart assists auditors to have a clearer picture of the risks that are critical or high and, in this manner, helps to prioritise the risks that are significant/will have a high impact if they materialise. Based on the overall assessment of the risks, the SAIs decide on the audits to be conducted to respond to the risks. The risk chart is illustrated in figure 5.



**Figure 5: Risk chart**

In this risk assessment approach, it is not necessary to address the risks that are insignificant or low. There is a need to assess the risks carefully in the moderate category and decide whether there is really a need to conduct an audit. This model can assist SAIs to avoid low-impact audits and prioritise audits that are significant to the intended users (Parliament, citizens, donors, etc.) or where the risk along the EI value chain is high.

#### **2.4. Response to audit risks identified**

Once the auditor has identified all the relevant risks along AFROSAI-E’s EI value chain, in line with the auditing principles of ISSAI 100, the auditor has the due-care professional obligation to design audit procedures to respond to the audit risks identified. Depending on the nature and understanding of the risk, the auditor may choose to respond to the risk by performing a financial, performance or compliance audit in line with ISSAIs and as per AFROSAI-Es methodology in FAM, CAM and PAM.

AFROSAI-E has developed a template that can be used by auditors in prioritising and responding to the risks identified, see template 2 Risk mapping matrix (in the annexures).

The concept of the seven steps of AFROSAI-E’s EI value chain and how to use the risk assessment tools along the value chain have now been highlighted; the next chapter contains a more detailed explanation of each of the seven steps. Have

In each step, the chapter elaborates on the roles of key stakeholders and audit considerations that SAIs might consider in the audit of EI.

Templates 1 and 2 have been developed by AFROSAI-E and can be used by auditors in identifying and mapping risks along the EI value chain.

### 3. Audit considerations along the extractive industries value chain

#### 3.1. Policies and Legal framework

##### 3.1.1. Introduction

A **policy** defines the core set of principles, procedures and goals for a certain sector underpinning all other rules and activities.

Policies are in this context metarules (rules that governs other rules). As such, policies are, or should be concerning all legal instruments that regulates extractive industries. Elaborated and clear policies are vital for a country's performance in a particular extractive industry. All legal instruments should be prepared in accordance with policies on extractive industries.<sup>16</sup>

The Norwegian fiscal policy framework is, for instance, regarded as the basic success factor for the build-up of one of the largest wealth funds in the world<sup>17</sup>; All revenues (net cash flow) derived from petroleum operations shall be transferred directly to the Government Pension Fund Global, and of the resources in the Fund can only be transferred to the budget pursuant to a decision by Parliament (maximum 3 %).

**Box 1 - Case examples:** The Ugandan National Oil and Gas policy

The examples from Uganda represent how to formulate overarching policies for the development and management of the extractive industries sector in a country.

The Uganda National Oil and Gas Policy<sup>18</sup> defines ten objectives, which shall underpin and provide direction to all future management of the petroleum sector in the country. These are:

- i. To strengthen the legal and regulatory framework for the development of the mineral sector.
- ii. To ensure efficient, equitable, accountable and transparent management of mineral revenues.
- iii. To establish, manage and promote the country's mineral potential.
- iv. To enhance and strengthen the institutional capacity for effective governance of the mineral sector.
- v. To organize and legislate artisanal and small-scale mining in Uganda.
- vi. To promote and protect Health, Safety and the Environment in the mineral industry.
- vii. Provide a framework for gender mainstreaming, equity and human rights and eradication of child labour in the mining industry.
- viii. To provide a framework for marketing and value addition of minerals.
- ix. To promote local content and national participation in the mineral industry; and
- x. To promote regional and international cooperation.

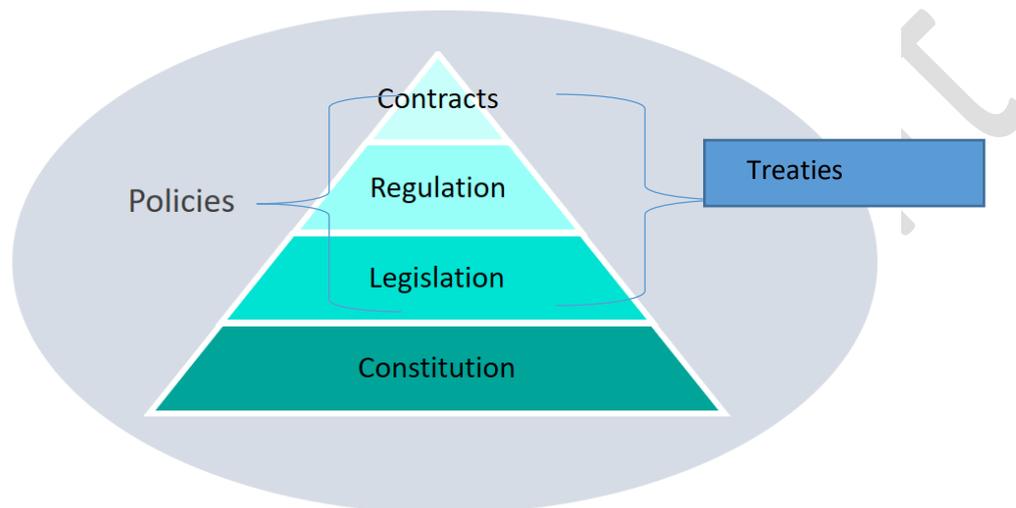
<sup>16</sup> [https://pau.go.ug/uploads/Status\\_Policy\\_Implementation.pdf](https://pau.go.ug/uploads/Status_Policy_Implementation.pdf)

<sup>17</sup> [The fund | Norges Bank Investment Management \(nbim.no\)](https://www.nbim.no/)

<sup>18</sup> Uganda National Oil and Gas Policy (2018)

### 3.1.2 Legal framework

**Legal framework** is the entire legal and regulatory structure governing the extractive industry. It includes the constitution, legislation, regulations and contracts as well as international treaties regulating the sector. The legal framework plays a crucial role in ensuring good governance and sustainable development, as it serves as the backbone of the relationship between the government, the extractive industry companies and other stakeholders in EI. Hence, it is a cross-cutting issue along the EI value chain.



**Figure 6: Policies and Legal framework hierarchy**

The legal framework relating to EI can be found on different levels, and the relationship between the different levels can be illustrated in a **legal hierarchy**. At the bottom of the hierarchy is the foundation, which is the constitution. Furthermore, each instrument becomes more detailed and specific the more we go up in the hierarchy; for example, contracts are usually more detailed than rules and regulations. Moving up in the hierarchy, each legal instrument must be consistent and in accordance with the instrument below it, as the levels at the bottom of the hierarchy have higher authority.<sup>19</sup> A legal instrument with lower authority can only deviate from a higher authority legal instrument if the latter legal instrument clearly authorises such deviation. The different legal instruments are described below.

1. The **constitution** defines the principles upon which the state is based, the procedure in which laws are made and by whom. It is thus the most basic law from which all the other laws and rules are hierarchically derived. Most constitutions seek to regulate the relationship between institutions of the state. Some constitutions also act as limiters of state power by establishing lines, which a state's rulers cannot cross, such as fundamental rights

<sup>19</sup> [Legal Framework](#). NRG Reader March 2015

- 2. A **policy** defines the core set of principles, procedures and goals for a certain sector underpinning all other rules and activities except the constitution. Policies determines thus the preparation and the interpretation of content in all legal instruments (laws, acts, regulations)
- 3. **Legislation**, Legislation is laws (acts) suggested by government or members of parliament (MP) and adopted by parliament.
- 4. **Regulations**, instructions, directives and statutory instruments/requirements set out provisions to supplement the legislation. The procedures to change regulations are less comprehensive than for legislation; hence, they are more suitable for periodic adjustments (such as technical requirements, administrative procedures and administrative fees). They often elaborate on specific provisions of an act, offering more detailed and often more practical requirements. Regulations should incorporate internationally recognised good practices, including technical, environmental, accounting and auditing aspects.
- 5. **Contracts/licences** are agreements between two or more parties that provide the details associated with a specific project, binding only the actors related to that project alone.
- 6. In addition to the national rules mentioned above, **international treaties** (conventions) have provisions that give rights and obligations to states, individuals and companies. International treaties are agreements entered into by sovereign states. Treaties can be bilateral (between two particular states) or multilateral (between three or more states). Laws, regulations and contracts should be in accordance with binding treaties a state has entered. In the legal hierarchy, international treaties will often have the same level of authority as legislation. In case of conflict between treaties and national legislation, the treaties will often overrule the national legislation (if allowed by the latter). **International standards** can be considered as a part of the legal framework, if these are adopted in the legislation, for instance, the OECD transfer pricing guidelines and the Santiago Principles on Sovereign Wealth Funds.

**Table 2 Some examples and further description of legal instruments in the EI sector.**

LEGAL INSTRUMENT	Table 2 EI NATURE OF THE LEGAL INSTRUMENT
Policy	Principles for governing natural resources. Policies are in this context paramount metarules (rules that govern other rules). All legal instruments should ideally be in accordance with policies on extractive industries.

LEGAL INSTRUMENT	Table 2 EI NATURE OF THE LEGAL INSTRUMENT
<b>Constitution</b>	<p>The Constitution may provide the legal basis for:</p> <ul style="list-style-type: none"> <li>• the ownership, exploration, development and production of hydrocarbon and mineral resources</li> <li>• the structure of political institutions, checks and balances within the political system, environmental protection, civil legal process and labour standards relevant to natural resources</li> <li>• power and responsibilities between the central government and regional and/or local government</li> <li>• how resource revenue should be distributed between different levels of government</li> </ul>
<b>Legislation and policy</b>	<p>Legislation usually defines the legal and institutional framework; the role of the state, clearly separating commercial activities, licensing procedures and contractual terms; access to resources; comprehensive environmental protection requirements; and a framework for fiscal terms.<sup>20</sup></p> <p><b>Petroleum Act</b></p> <p>The petroleum act provides high-level information on the roles and responsibilities of government and how the petroleum sector should be managed. The act identifies the main institutions and their roles and responsibilities. The act should contain requirements on how to perform the licensing process, procedures for the exploration and production of petroleum, duties of licensee, fees and royalties etc. Normally it is the Ministry of Petroleum (or similar) which is responsible for implementing the act and managing the petroleum sector.</p> <p><b>Mining and minerals act</b></p> <p>The mining and minerals act expresses the basic position that minerals in their natural state are owned by the state. It outlines the licensing scheme for mineral operations, the incidence of the various mineral rights and the mandate of the major regulatory institutions. There are pieces of subordinate legislation that add detail in specific areas to the regime set out in the principal legislation. Similar to the petroleum act.</p> <p><b>Petroleum Revenue Management Act</b></p>

<sup>20</sup>Extractive Industries Value Chain: A comprehensive integrated approach to developing extractive industries. World Bank 2009.

LEGAL INSTRUMENT	Table 2 EI NATURE OF THE LEGAL INSTRUMENT
	<p>The petroleum revenue management act provides rules and procedures for the handling of petroleum revenue by the government. The provisions should cover the transfer of petroleum revenue to the consolidated fund (for funding of next year's national budget), establishment and management of reserve funds, transfers to affected local communities, investment policies etc. Normally the central bank is granted a key role in the management of petroleum revenue.</p> <p><b>Taxation Act</b></p> <p>Often a taxation act specifically aimed at the petroleum and EI sector is established with special tax rates and regulations.</p> <p>Acts concerning penalties for breach of laws concerning EI (corruption, embezzlement, fraud, tax evasion) May be implemented in various laws regarding EI.</p> <p><b>Other relevant legislation and policy</b></p> <p>Health, safety and environment act, procurement act (regulating the bidding process), finance and accountability act, central bank act, audit act, hydrocarbon and/or mining law, petroleum sector policy, and mining sector policy.</p>
<b>Regulations</b>	<p>Regulations in EI are usually the implementing rules created by the executive body to make legislation practical. For instance, a law may require that the executive body awards petroleum licenses through competitive tender. The regulation related to this legislation may then describe how, when and where interested companies must register their interest as well as which specific forms to submit.<sup>21</sup></p>
<b>Contracts</b>	<p>In EI, the most relevant contracts are those in which the state grants the right to explore or extract national resources. The most common forms of contracts are concessions, production sharing contracts (PSC) and service agreements. These are further discussed in Section 3.4.</p>
<b>International treaties (conventions) and standards</b>	<p><b>International treaties</b></p> <p>Tax treaty's main purpose is to avoid double taxation. Mainly bilateral and based upon different model tax conventions (i.e. UN Model Tax Convention, OECD Model Tax Convention, US Model Tax Treaty)</p> <p>Links to databases on international tax treaties:</p>

<sup>21</sup> [Legal Framework](#). NREGI Reader March 2015

LEGAL INSTRUMENT	Table 2 EI NATURE OF THE LEGAL INSTRUMENT
	<ul style="list-style-type: none"> <li>• <a href="#">In-Force Treaties (taxnotes.com)</a></li> <li>• <a href="#">The Tax Treaties Explorer – ICTD</a></li> </ul> <p><a href="#">United Nations Framework Convention on Climate Change</a>, Paris Agreement on climate change.</p> <p>Links to databases on international treaties on environmental protection (IEA`s):</p> <ul style="list-style-type: none"> <li>• <a href="#">Environmental Agreements by Lineage   International Environmental Agreements (IEA) Database Project (uoregon.edu)</a></li> <li>• <a href="#">Treaties - International Environmental Law Research Guide - Guides at Georgetown Law Library</a></li> </ul> <p>Other:</p> <ul style="list-style-type: none"> <li>• <a href="#">OAU/AU Treaties, Conventions, Protocols &amp; Charters   African Union</a></li> </ul> <p><b>International standards</b></p> <p>EITI Standard, OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations, OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, Santiago principles on Sovereign Wealth Funds, Equator principles, The Kimberly Process Certification Scheme.</p>
<b>Other relevant legal instruments</b>	Government’s strategic plan, annual state budget plan, sales, transportation and marketing strategy etc.

Requirements on different levels should all be based on the state/government’s key policy decisions. When looking at a single item such as the extraction of petroleum, the legislative framework applicable to the process will most likely be on all four levels described in the legal framework hierarchy above. The legislative provisions on different levels of the framework should work together and not prescribe contradictory processes.

<b>Box 2 Case example: Legal instruments in the Ghanaian petroleum and mining sector</b>	
<p><b>Constitution:</b>  <i>The Constitution of the Republic of Ghana, Articles 257, 268, 269</i></p>	

**Policy:**

*The National Energy Policy (2010)*

**Legislation regarding petroleum:**

- *Ghana National Petroleum Corporation Law, 1983 (PNDC Law 64)*
- *Petroleum (Exploration and Production) Act, 2016 (Act 919)*
- *Petroleum Exploration and Production Law, 1984 (PNDC Law 8410)*
- *Petroleum Income Tax Law, 1987 (PNDC law 188)*
- *The Petroleum Revenue Management Act, 2011 (Act 815)*
- *The Petroleum Revenue Management (Amendments) Act, 2015 (Act 893)*
- *The Petroleum Commission Act, 2011 (Act 821)*
- *The Income Tax Act, 2015 Act 896*

**Legislation regarding minerals:**

- *Minerals and Mining Policy of Ghana 2014*
- *Minerals Commission Act, 1993 (Act 450)*
- *Minerals and Mining Act, 2006 (Act 703)*
- *Minerals and Mining (Amendment) Act, 2015 (Act 900)*
- *Minerals and Mining (Amendment) Act, 2019 (Act 995)*
- *Minerals Development Fund Act, 2016 (Act 912)*
- *Minerals Income Investment Fund Act, 2018 (Act 978)*
- *Kimberley Process Certificate Act, 2003 (Act 652)*

**Regulations regarding petroleum:**

- *Petroleum (Exploration and Production: General) regulations, 2018 (LI 2359)*
- *Petroleum (Local Content and Local Participation) regulations, 2013 (LI 2204)*
- *Petroleum (Exploration and Production: Measurement) regulations, 2016 (LI 2246)*
- *Petroleum (Exploration and Production: Health, safety and environment) regulations, 2017 (LI 2258)*
- *Petroleum (Exploration and Production: Data management) regulations, 2017 (LI 2257)*
- *Petroleum Commission Fees and Charges Regulations (LI 2221)*

**Regulations regarding minerals:**

- *Minerals and Mining (Health, Safety and Technical) Regulations, 2012 (L.I 2182)*
- *Minerals and Mining (General) Regulations, 2012 (L.I 2173)*
- *Minerals and Mining (Licensing) Regulations 2012 (LI 2176)*
- *Minerals and Mining (Explosives) Regulations 2012 (LI 2177)*
- *Minerals and Mining (Support Services) Regulations, 2012 (LI 2174)*
- *Minerals and Mining (Mineral Operations – Tracking of Earth Moving and Mining Equipment) Regulations, 2020 (LI 2404)*
- *Minerals and Mining (Ground Rent) Regulations, 2018 (LI 2357)*
- *Minerals (Royalties) Regulations 2009, (LI 2173)*
- *Minerals and Mining (Compensation and Resettlement) Regulations, 2012 (LI 2175)*

- *Minerals and Mining (Local Content and Local Participation) Regulations, 2020 (LI 2431)*

**Related laws:**

- *Environmental Assessment Regulations, 1999 (LI 1652)*
- *Environmental Protection Agency Act, 1994 (Act 490)*
- *Forestry Commission Act, 1999 (Act 571)*
- *Water Resources Commission Act, 1996 (Act 562)*
- *Geological Survey Authority Act, 2016 (Act 928)*
- *Lands Act, 2020 (Act 1036)*
- *The Income Tax Act, 2015 (Act 896)*
- *Local Governance Act, 2016 (Act 936)*
- *Land Use and Spatial Planning Act, 2016 (Act 925)*

**Contracts:**

- *The Model Petroleum Agreement of Ghana*
- *The Petroleum Agreements*

Source: [Ghana Audit Service, 2015 GHEITI Oil and Gas Report \(2018\)](#), [Petroleum Commission Ghana, 2018 The Law Reviews Ghana](#),

### **3.1.3 Key role players**

**Supreme audit institutions.** For SAIs, auditors need to have an overview and understanding of the legal framework as well as the roles and responsibilities of the key players in the EI. In this way, in line with the SAI's mandate, the SAI can identify whether there are any gaps between the various legal instruments and determine possible risk areas in the legal framework.

**Parliament** will pass laws and approve policies regulating the EI sector, and scrutinise and act on the audit reports relating to EI processes and revenues. In cases characterised by high ore significance, Parliament may also allow exploration and development of petroleum and minerals within an area, balancing different considerations such as environmental and revenue prospects.

**Government**, through ministries, will operationalise the legal framework into regulations that govern the EI sector. It will also propose policies to be passed by the parliament. Government is responsible for putting structures in place to ensure the proper implementation and compliance with the legal framework. Under these policies, laws/acts and regulations, the government is responsible for negotiating, signing contracts/agreements, monitoring EI-operations with multinational EI companies, and perform due assessment, collection and allocation of the revenues from the EI sector. Different governmental institutions, i.e. agencies dealing with health, environmental and safety issues, carry out the government responsibilities along the EI value chain. A national petroleum/energy/mining company

in which government has all or a majority share(s) can have governmental functions and act as an operator and/or a licensee.

Within the government, the enforcement of the legal framework is further complicated by the number of public agencies involved in the implementation of the legal framework. Mapping the various ministries and public agencies involved should go hand in hand with the mapping of the legal framework. Some of the relevant public agencies involved are as follows:

- Ministry of mines, petroleum or energy
- Ministry or agency responsible for taxes and/or other financial payments
- Ministry responsible for protection of the environment
- Ministry responsible for health, labour or safety
- Investment promotion agency
- State-owned enterprises

**International companies** are often crucial for ensuring that advanced technology and experience are brought into the projects. They manage much of the reconnaissance of exploration, production, operating and dismantling of installations. One of their main objectives is to maximise profits, by extracting as much of the resource rent as they can in the countries where they operate.

**Civil society** has an important role in promoting the rule of law and existence of a robust legal framework. They tend to monitor EI closely and do often function as a watchdog. These may include Academia, Media, EITI, Tax Justice International, Publish What You Pay, NRGI and others. Ad-hoc groupings may be established to protect the interests of affected parties.

#### ***3.1.4 Assessing the legal framework across the EI Value chain***

There should be specific legislation in place regulating the activities of each of the elements of EI value chain. The auditor needs to obtain an understanding of all existing legislation to identify any gaps, inconsistencies and areas where different interpretations can be applied. As explained above, auditors should not expect to find all these elements covered in a single piece of legislation. Moreover, while some SAIs have the mandate to evaluate certain legislations, other do not.

#### **Government activities/decisions to explore/extract**

The duties and responsibilities of key players should be clearly defined in the legislation. The legislation, typically the Petroleum Act/Mining Act, should define who has the right to conduct seismic surveys/exploration and who has the right to own the data gathered from these exploration activities. Legislation must specify what data should be handed over to the government for inclusion in national databanks.

### **Award of contracts and licences**

The more comprehensive the legislation, the fewer decisions will have to be made through negotiations with the petroleum and mining companies. The procurement process and the aspects that are left to be negotiated are ultimately policy decisions, in accordance with the legislation, i.e. the Procurement Act. The auditor should identify the relevant steps of the procurement process in the act and identify relevant provisions from other acts or regulations ensuring additional transparency.

Discretionary authority given to individuals and even multiple public servants in quorum should be identified, for instance tax incentives, tax exemptions or tax holidays. Experience shows that a high occurrence of such tax incentives<sup>22</sup> reduces the tax base, creates room for bribery and corruption and increases the appearance of loopholes for tax evasion. See more details on this in chapter 4.3

### **Monitoring of operations**

The legislative framework should provide for the regulatory bodies tasked to perform their monitoring of operations. The mandates of these entities should also provide useful information on what their tasks are. Regulations would normally deal with controls and metering of quality, quantity sales and exports of produced volumes and aspects of human resources, safety and the environment.

### **Assessment & collection of revenue**

Payments derived from EI are often the most prominent revenues. The tax legislation should be updated to cater for the super profits that are made from the extraction of these resources, and special tax rates should apply. Revenues from Petroleum Sharing Agreements/Contracts (PSA/PSC) are often the most extensive revenues from petroleum sector. The auditor could assess to what extent the tax legislation/PSA/PSC is clear on how and which exploration costs can be deducted from the gross revenue. There should also be specific provisions in legislation and PSA/PSC that constitute the arm's length principle and deal with the risk of transfer pricing. A general anti-avoidance rule (GAAR) should also be considered. Some former UK colonies have incorporated or inherited strong GAARs in their legislation.

There should be specific reporting requirements for EI production quantity and quality, exports etc. in various legislation enabling revenue officers to compare audited financial statements and tax returns with relevant and credible production and sales figures.

### **Revenue management and allocation**

The legislation should clearly define how revenue from EI should be managed and allocated to ensure that revenues from extractive industries are used for diversification of the economy and that there is a

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<sup>22</sup><https://www.taxjustice.net/2019/01/03/ineffective-tax-incentives-on-profits-heavily-used-by-african-nations-compared-to-european-nations-study-finds/>

form of distribution formula in place. There should be clear procedures to invest the collected revenue and to ensure maximum dividends.

### **Implementation of sustainable policies**

As extraction and production of natural resources have an impact on the environmental, social and economic aspects of a country, the EI legal framework should include regulations governing these aspects on each step throughout the entire EI value chain. Some examples of legal instruments relevant to sustainability are environmental laws, local content law and labour law as well as environmental, social, health and safety regulations. The steps on *policies and legal framework* and *implementation of sustainable policies* are both cross-cutting issues along the EI value chain.

#### **3.1.5 High-level audit considerations**

The SAI needs to do a thorough mapping of the legal framework to establish the following:

- What are the legal requirements of the government's management of the extractive sector? A mapping of the legal framework is a prerequisite for developing an audit programme.
- How is the role of the SAI spelled out in the legislation? The SAI may be given a direct role in e.g. verifying the recoverable costs and receiving declarations of assets from officials.
- Is the legal framework effective and appropriate for ensuring management of the EI sector in line with the decisions and intentions of Parliament? Are the government's policies and policy instruments effective and appropriate for following up on the EI related decisions and intentions of Parliament?
- The legal framework constitutes the bulk of policy that is approved by Parliament. The implementation of those policies presents many possibilities for performance/value-for-money audits. The SAI can review the framework and attempt to identify performance audit themes, based on Parliament's intentions when improving the legal framework.
- Auditors may also consider contracts that influence government reporting, e.g. an agreement with EITI as a member country.
- The auditors may also consider [chapter 5 of EI sourcebook](#) on Policies, Legal and Contractual Framework<sup>23</sup> as the information might be useful for gaining more knowledge about the topic and could be helpful in auditing.

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<sup>23</sup> [http://www.eisourcebook.org/642\\_5+Policy%2C+Legal+and+Contractual+Framework.html](http://www.eisourcebook.org/642_5+Policy%2C+Legal+and+Contractual+Framework.html)

In relation to the Resource Governance Index (RGI), the Natural Resource Governance Institute (NRGI) also examines the gap between a country's legal framework and its practice. The legal framework score includes all indicators pertaining the coverage and quality of laws and regulations that shape the resource governance, while the practice score covers the indicators relating the actions taken by the government.<sup>24</sup> The gap between these two scores forms the *law and practice gap*.

Countries in the African region with the lowest gaps, 2017:

Country	Law	Practice	Gap
Mauritania	33	36	+3
Zambia	53	56	+3
Botswana	43	43	0
Zimbabwe	36	35	-1
Algeria	38	37	-1
Tunisia (oil and gas)	59	57	-2
Angola	47	44	-3
Sudan	29	24	-5
South Africa	51	46	-5

Countries in the African region with the highest gaps:

Country	Law	Practice	Gap
Tanzania (mining)	69	43	-26
Tanzania (oil and gas)	77	49	-29
Niger	74	44	-29
Liberia	73	40	-32
Congo	65	30	-36
Equatorial Guinea	47	11	-36
Burkina Faso	86	49	-37
South Sudan	78	20	-58

Source: [Resource Governance Index Dataset](#)

## 3.2. Government activities/decision to explore/extract

### 3.2.1. Introduction

Exploration in the mining and oil and gas sectors provide first step to better understand the quality and quantum of resource base. Explorations provide policy makers and regulators with the information needed to make informed decisions about minerals and oil and gas resources development on the best

<sup>24</sup> [Resource Governance Index](#)

available data. Exploration surveys determine both areas that are and are not likely to have recoverable oil and gas and mineral resources. However, unless the surveys can commence, that information will never be available to policymakers and the public.

The roles and responsibilities of different Ministries and Agencies need to be clearly defined and enforced. This helps to avoid overlapping or conflicting competencies and roles in policy making, rulemaking, and monitoring. At the same time, it prevents gaps in regulatory responsibility. Moreover, if the overall policy objective is to utilise the extractives sector for wider economic development and benefits, it is important to ensure that institutions and agencies are working to this end and not discouraging such development by their actions.

Ideally, Parliament or an appropriate legislative body must consider whether an area should be explored. There will always be several considerations, which may for example relate to the environment such as affecting the communities and local industries. In many cases, such resources are discovered in areas rich in biodiversity and a fragile environment. However, a decision to open an area for exploration is a political decision which should be based on unbiased and neutral information to balance various interests. An Environmental Impact Assessment (EIA) should be done whenever a seismic survey is performed.

**Box 4: Example of Typical Aspects for Decision Making by a Government**

- Topographical mapping, regional geological mapping, and related work
- Geological data collection, dissemination, and publication (including the digitisation of paper files and records)
- Setting consultation, consent, and approval requirements at critical stages of operations, including the following:
  - Reconnaissance
  - Exploration work programme implementation
  - Drilling
  - Discovery
  - Appraisal
  - Commerciality
  - Development planning and any revisions to plans
  - Reservoir management and production
  - Late field or mine life plans
  - Decommissioning plans

**3.2.2. Exploration activities for mining**

Mining is the process of extracting useful materials from the earth through exploration and appraisal. Some examples of substances that are mined include copper, coal, gold, or iron ore among others.

Mining can be done in different forms such as large scale, small scale and artisanal. Large-scale mining involves the payment of royalties and other taxes to governments in return for developing publicly owned mineral resources. Leading Large Scale Mining operators also implement international standards, in areas like disclosure of payments to government, cyanide management and conflict-sensitive business practices.

Artisanal and small-scale mining is a largely informal economic sector that includes workers around the world who use basic tools to extract from the earth everything from gold and gemstones to vital metals such as cobalt, tin, tungsten and tantalum.

Exploration usually begins with airborne studies and mapping. Even when minerals are below the ground, geologists can gather initial information based on formations and recordings of magnetic fields. Next, geologists conduct seismic analysis during which they use sound waves to get information about the chemical composition and density of rocks. If this initial information is promising, companies may apply for exploration licenses with which they can conduct further research, usually including some drilling and extraction of core samples. The samples are analysed to estimate the composition and size of a field.

Mineral finds are often classified using three categories: inferred mineral resources, indicated resources and measured resources.

### ***3.2.3. Seismic and geological surveys – onshore and offshore petroleum***

Onshore drilling is generally considered to be more expensive to carry out seismic surveys than offshore drilling, but it is cheaper to drill for oil and gas onshore than offshore. This means that it is less likely that the companies will extensively seek onshore reconnaissance licences. It is more likely that the companies will take their chances and drill in places where the sub-soil samples provide some assurance of success. For offshore activities, there are companies who specialise in carrying out seismic surveys. They do a large-scale mapping of the seabed and gather valuable data. By using advanced equipment, they can cover thousands of square kilometres in a short time, but the data must be analysed rigorously before expensive drilling is initiated.

### ***3.2.4. Data management***

Government, through Ministries and agencies/directorates, should ensure that information from these surveys is stored and updated in a database. Controls should be in place to ensure that reliable and up-to-date information is available in the database. Geological information infrastructure, including regional assessment of petroleum and mineral resources, is also important, as it enables government to better understand and manage the country's petroleum and mineral resources, define public policies, manage land-related conflicts, assess potential future revenues and facilitate bidding processes, particularly in the case of hydrocarbons.

Weak information security poses the risk that information may be disclosed to unauthorised persons with no proper access; where security is low information may be amended unlawfully. On the other hand, certain information on exploration blocks should also be made public if an open bidding process is initiated. Such information includes disclosure that:

- The process of giving out reconnaissance licences was fair, and that the reconnaissance phase has a time limit (usually such licences last one year).
- The licences specify that the data and information gathered from the seismic surveys will become the property of the government and be made public in the long term.
- Any sale of seismic and geological data should be agreed upon with the government. Government should also receive a share of the profit of the sale of data.

Government should always have the upper hand when it comes to information. It is of major strategic importance that the government has full knowledge of any mining, petroleum and gas deposits in the seabed. This knowledge will assist in establishing future award rounds, setting of the taxation rate and prediction of future revenue from mining, petroleum and gas production.

The mining and exploration industries are coming under increasing pressure and obligation to adhere to stricter environmental reporting guidelines. A data management system should manage all the data and documentation for current and future environmental impact studies that would benefit from integrating the environmental management system in several ways, including rationalising data collection and use, simplifying the acquisition of licences and permits.

### **3.2.5. Extraction of oil, gas and minerals**

When the exploration activity results shows that oil, gas or mineral deposits are significant and the prospects of generating economic rent or resource rent are great the government needs to decide on whether to extract or not.

Extraction consists of any operations that see the removal of minerals and aggregates from the earth, processing and beneficiation of these extracts and ultimately the sale of the final products and by-products. In addition, the extraction of natural resources is a very risky activity for the environment. The potential environmental consequences can be disastrous. The government must play a regulatory and monitoring role to help mitigate those risks.

Due to the combination of scarcity and high demand for the resources extracted, a great deal of economic rent is produced through extractive industries. Economic rent or resource rent in the context of natural resources is the excess profit or supernormal profit that originates not from the production process but from the inherent value of the resource being exploited. This excess profit is not tied to the

production process of the producer, which can extract a normal rate of return from a fraction of the market price. The value of these resources is therefore inherent, and because they occur on land or the continental shelves of countries, they belong to the citizens of those countries.

Final extraction decision on extraction is taken at various levels of government and sometimes even by parliament. Generally the ministry of mines or ministry of oil/gas will award exploration licences, see more details on award of licences and contracts in chapter 3.3.

### **3.2.6. High-level audit considerations**

The role of the auditor, primarily, is to obtain an understanding of how government gathers information about the exploration area and how this information and data are kept and used. Further, the award of reconnaissance licences follows the same principles as a public procurement process. Although the awarding process will differ from country to country, there are a few steps that are fairly generic, and which can be audited as compliance or performance audits. The SAI should assess the following:

- Whether an EIA was conducted prior to the political approval or if one is planned. Who did the EIA?
- Were quality assurance processes undertaken?
- Is the process of awarding exploration licences conduct in transparent manner?
- Have the exploration licences been used by the company who was awarded initially, or did the company sell the licence to another company?
- If the company has sold the exploration licence with e.g. 50-90% yield, the government should also get its share or have some mechanisms in place to ensure to capture such revenues.
- Is there a reason to doubt the reliability of the explorative studies?
- What is the competence of those performing the study?
- Does the government run a seismic data database?
- If yes, is it complete and is proper data security provided for?
- Are the data up to date?
- Are there strategies in place to ensure that there is reliable data on the availability and quantum of minerals at areas that have been explored before they are given out as concessions?
- Do regulators monitor the environmental management conditions indicated in explorative licenses and permits?
- What measures are implemented to ensure that companies carrying out exploration do not end up in extracting, and that they are made to acquire the relevant licenses and permits for extraction?

## **3.3. Award of contracts and licences**

### **3.3.1. Introduction**

This section discusses the characteristics of a transparent, competitive and non-discretionary bidding process for the award of exploration, development and production rights. We shall focus on a best practice scenario, highlighting the characteristics of an efficient and effective system.

### **Contracts (licenses, leases, concessions, and other contractual arrangements)**

Contracts in EI are complex and does most often have major potential impact on various areas of a country. They govern the relationship between governments and oil, gas, and mining companies in the extraction and exploitation of natural resources and affect everything from revenues and tax liabilities to local content obligations to the protection of the environment.

Yet, despite their critical importance, many host country governments lack a strategic vision (policy), strong regulatory frameworks, or the necessary resources to plan, prepare for, negotiate, monitor, and implement such projects, limiting their ability to maximise the benefits for their country.

Countries allocate mineral exploration and production rights in different ways – ranging from a variety of forms of licensing rounds and public tenders to direct procurement/negotiation. The majority use a combination of these. While some countries have rigid systems where a few parameters that affect the sharing of the resource rent are biddable, some award rights in respect of work programmes, and for others, everything is biddable. Some examples of biddable parameters include cash bonuses, royalties, and profit shares.

Proper and successful government award of contracts and procurement rests upon certain core principles of behaviour<sup>25</sup>:

- Value for Money
- Open and Effective Competition (predictability, transparency)
- Ethics and Fair Dealing (equal treatment and proportionality)
- Accountability and Reporting (verifiability, transparency)
- Equity

An efficient and effective system for award of contracts has following key characteristics:

- A legal framework which defines institutional responsibilities well,
- Competency and capacity to audit and monitor compliance of the legal framework
- Best international practice for the award of the rights,
- Competitive and bidding procedures
- Minimal discretionary authority
- Efficient communication system

In areas where good geological data is available and where there are clear indications of interest from more than one potential applicant, governments are more likely to offer licenses on a competitive

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<sup>25</sup> [GENERAL PROCUREMENT GUIDELINES - 2.doc \(treasury.gov.za\)](#)

bidding basis. Competitive bidding entails as a good practice for a transparent contract awarding process.

The bidding and licensing process for minerals, oil and gas exploration and production rights is normally managed by a specific ministry who is responsible for interacting with the mineral, oil and gas companies. The tender process requires the investors to place bids in accordance with bidding criteria set out in legislation or regulation. These criteria may include the following:

- The highest bidder;
- The best qualified bidder; or
- The most experienced bidder.

### **3.3.2. Types of fiscal regime**

Awarding of contracts and licences is based on the fiscal system of a country. There are two main types of fiscal system, one based on contracts and one based on concession/licensing. No one system is superior to the other; however, the provisions within the system determine how good the agreement is for the government and how good it is for the international companies.

The amount of resource rent the governments and companies share is usually determined by the parameters of the agreements, rather than the type of agreement used. The key terms and main issues involved in a fiscal system include the following:

- Who will pay for exploration and development?
- How will production costs be financed?
- Who will manage the operation?
- When will the production start?
- What kind of minerals?
- How will the produced resource be shared or sold?
- In what order will the parties be paid?

#### **Concessionary system**

A concession is an agreement where government grants a company or a person (investor) the exclusive right to explore for, develop and/or produce resources at its own risk and expense, generally for a specific amount of time in both petroleum and mining sector. Extracted minerals pursuant to these arrangements belong to the investors who, in exchange for such rights, generally pay a royalty on the volumes extracted, as well as other payments such as bonuses, surface rentals, VAT and regular taxes as PAYE and tax on profit/net revenue (company/corporate/income tax). Concessionary regimes usually operate within the existing tax laws. For instance, the standard corporate income tax rate that applies to all industries also applies to the petroleum industry. Added to the existing income tax are various forms of resource rent taxes and/or royalties to compensate government as the resource owner for the

resources that will be depleted during the production operations. Concession agreement is the oldest of international agreements and is sometimes referred to as a licence agreement, or as a tax and royalty agreement. Norway's licencing system in petroleum sector is an example of this. A common difference between concessions and PSCs is that there is usually no limit on deductions in the tax systems, so the companies may often be entitled to allocate more cost to the licence. Losses will be carried forward until the company's losses/costs are fully deducted in taxable revenues from production. Hence, it will usually take time from start of production until government gets its share in production through taxes. In the mining sector, a mining law may set out the terms for compensation and implementing regulations. Contracts may also provide for special terms, including relief from royalties or special allowances. If the government is a partner in the joint venture, it also receives a share of the production corresponding to the share it owns.

The advantage of a concessionary system is that they are more straightforward and transparent than other types of agreements, especially if a public bidding system is used to set basic terms (in contrast to discreet direct negotiation between investor and representatives of government). Additionally, the financial risk of the project, including the cost of exploration, is absorbed by the contractor. The main disadvantage (for governments) is that a bidder's perspective is commercial. As a result, the presence of information asymmetry where decisions are made with lack of sufficient information about the potential reserves in the area explored can result in government collecting less revenues. This can result in government accepting lower returns on the project, especially if there is lack of adequate knowledge about the potential of a concession area because ground-breaking or profound exploration has not been fully undertaken.

### **Contract based systems**

#### Production sharing agreements

A PSC/PSA is a contract/an agreement between a government and investor. PSCs usually allow more government control over the exploration, development and production of the resources compared to that in a concessionary system for both mining and petroleum. The terms of the contract are usually separated into distinct and sequential exploration, development and production periods. As with concession arrangements, ownership of the investors' share of production generally vests with the investors upon production. While the private investor takes on the full risk of the investment, the government retains full ownership of the resource. Once production starts, the oil (or its proceeds) is shared between the state and the investor according to contractual clauses. "Cost oil" is the first fixed part/component of produced petroleum in which the investor is allowed to recover costs. The second component is "profit oil" – remuneration for risk and capital. Profit oil (or its proceeds) is shared between the government and the investor.

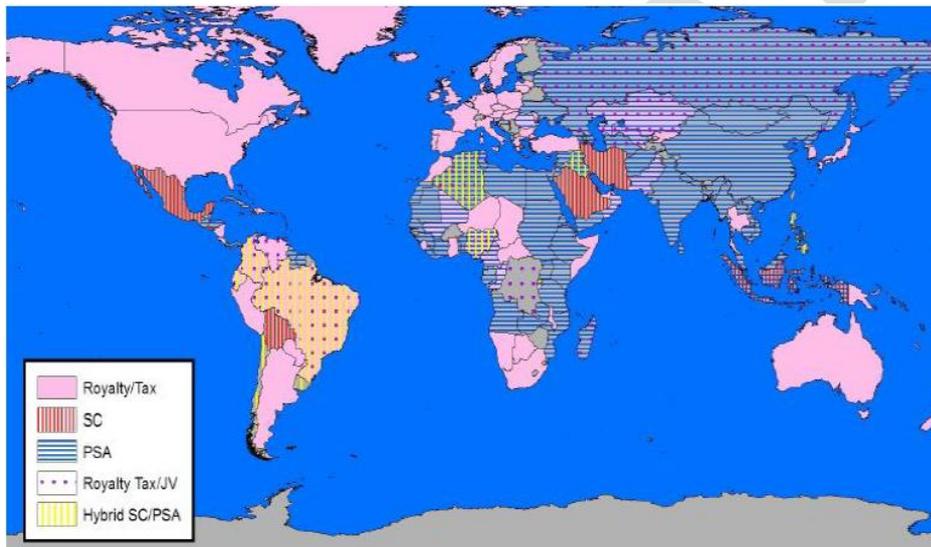
Although sharing of production is the primary fiscal mechanism for value sharing in these types of contracts, other common forms of fiscal instruments used in PSCs include royalties, bonuses and profit

taxes. In some countries, the financial clauses of the PSC supplant all other taxes, while in other taxes still apply within the PSC framework. With a PSC, it is difficult to enforce social and environmental standards beyond the contract terms. Investors are weary of spending large sums of money on long-term, high-risk projects without guarantees about the future tax regime. PSCs are designed to provide this guarantee.

To the state, a PSC usually ensures a high volume of private investments without financial and operational risk. Government does not risk losses other than the cost of the negotiations (mainly fees paid to advisers). Another advantage for especially development countries is that the fixed part «profit oil» secures revenues already from the start of production.

Concession agreements should be reviewed more in substance than in form. Some agreements/service contracts that are referred to as concession agreement while they in substance are a hybrid of PSC and service contract which effectively make them difficult to categorise.<sup>26</sup>

More details on production sharing agreements and the fiscal instruments are provided in the section below on collection of revenue.



**Figure 7: Illustration of petroleum taxation systems<sup>27</sup>**

### Technical service agreements

Technical Service Contracts (TSC, sometimes referred to as Technical Assistance Contracts or Technical Service Agreements) are generally contracted regarding existing fields. Service contracts tend to be typical for countries where the country only seeks to attract additional expertise. The government retains control of the resources and enters into an agreement for a company to provide technical services in the form of exploration work, construction and managing development. The government

<sup>26</sup> [PSAs Vs Service Contracts, The Case Of Iraq | MEES](#)

<sup>27</sup> Source: Econ

keeps the produced resources, and the company is paid in cash or commodity. The contractor tends to hold less risk in these situations and provides its services for a fee. In some cases, the contractor may be exposed to cost overruns as compared to approved budgets, and thus sometime these arrangements are referred to as “risk service contracts.”

#### Joint Venture or Consortium

This is an arrangement between several investors who may pool capital and expertise to jointly exploit and share the risks connected with exploiting a particular extractive project. The state can also be partner in such joint ventures. The benefit of a joint venture (JV) for a government is that it is not alone in the decision-making and responsibility for a project. It can count on the expertise of a major oil company. All parties share the profits, as well as liabilities for taxes and royalties. Sharing also has a downside for government. Risks and costs must be shared too, making the host government a direct and responsible participant in the natural resource extraction. Responsibility also brings with it potential liability, including for environmental damage.

**Table 3: Advantages and disadvantages of Concessionary system and Contract based systems.<sup>28</sup>**

Fiscal Regime	Advantages	Disadvantages
Concessionary system	<ul style="list-style-type: none"> <li>• Concessionary regimes are more straightforward and transparent.</li> <li>• Technological innovation is high, which results in potential for efficiency gains in all phases of the project development and implementation.</li> <li>• Low risk for the government as the investor takes on all the financial risk of the project, including the cost of exploration. In case wells come up dry, the private company largely shoulders the financial burden</li> </ul>	<ul style="list-style-type: none"> <li>• Due to information asymmetry, the government may not know the full potential of the area explored through the extensive exploration.</li> <li>• May require close regulatory oversight</li> <li>• May have underlying fiscal costs to the government</li> </ul>

<sup>28</sup> **Source:** Tax Policy Discussion Paper for Public Comment- What is the most appropriate tax regime for the oil and gas industry? [2021121501 Discussion Document - Oil and Gas Tax Regime.pdf \(treasury.gov.za\)](#)

<p>Contract based system (PSC, TSC and JV)</p>	<ul style="list-style-type: none"> <li>• Low risk for government in that government does not risk losses other than the cost of the negotiations (mainly fees paid to advisers).</li> <li>• It provides certainty for the investor by locking in taxes for the duration of the project upon contract signature.</li> <li>• PSCs are beneficial to government in that they ensure a high volume of private investments without financial and operational risk</li> </ul>	<ul style="list-style-type: none"> <li>• Agreements are complex in structure and require high level of negotiation.</li> <li>• Contractual provisions are binding throughout the contract period and may not make provisions for flexibility to adjust to unplanned situations</li> </ul>
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### Similarities and differences between petroleum and mining contracts

Similarities between the sectors' usage does exist, but the considerable differences between the two industries are reflected in the table below.

<b>Condition</b>	<b>Petroleum</b>	<b>Mining</b>
<b><i>Contractual preferences and the existence of separate regimes</i></b>	The agreements typically used in the petroleum industry (PSAs/PSCs) have limited relevance to those commonly found in the mining industry.	Licences are typically favoured in mining, with permits and concessions sometimes used.
<b><i>Consideration of geology and exploration, production processes, market economics, and environmental and social impacts.</i></b>	These differences give some explanation why production sharing agreements are more widely used in the petroleum industry than in mining.	
<b><i>scope of contract agreements</i></b>	scope of most petroleum agreements is wider, extending over more phases of the industry's activity (exploration, production, and sale)	scope of most mining agreements is not wider

<b><i>Degree of government involvement and control</i></b>	Government control is usually greater in petroleum agreements	Government Control is less in mining agreement
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**The importance of model contracts/agreements/licences**

EI sector laws give powers to governments to negotiate agreements with potential investors. Hence, negotiators are often allowed to develop terms to attract investment. Differences in risks and benefits of the blocks or areas that a government can offer are reflected in particular agreement clauses, taking account of specific risks and market conditions. However, the contingency for abuse of this discretionary power is such that recent trends are to confer less discretion, encouraging greater standardisation model contracts, agreements and licences. Box 5 has a case example showing abuse of discretionary authority in government contract agreement as cited from the performance audit report on social economic contribution from the Mining services in Malawi.

EXPOSURE DRAFT

**Box 5: Case Example: Performance audit report on social economic contribution of mining services in Malawi- Finding 4.21**

**4.2.1 Legislation and regulatory framework of the mining sector**

According to the Mines and Minerals policy 2013, government had set plans through DOM to put in place a clear, transparent and equitable regulatory framework for the mineral sector, to effectively regulate the mining services. In addition, Ministry's strategic plan (2014-2016) provided for a strategic outcome of having improved mining policies, strategies and legislation and a target of revising mining legislative framework by June 2016.

An enquiry into the legal and regulatory framework for the mining services established that Malawi was using the Mines and Minerals Act of 1981 which is out of date and now overdue for revision. Review of the 1981 Mines and Minerals Act revealed that there were shortfalls in the existing legislation which affected the way how contracts were being awarded to large scale mining companies. This contributed to ministry's failure in its mandate by not fulfilling the critical strategic outcomes in its 2014-16 strategic plan. These shortfalls include among others:

- i. Ownership of mineral rights under the Act with regards to award of contract to large scale mining companies
- ii.

Section 2 of the Act stipulates that ownership of Mineral rights under the Act is predicated on the principle of social trust whereby the entire property in, and control over minerals in land in Malawi are vested in the President on behalf of the people of Malawi. This creates a room for abuse by political leaders in offering mining contracts. This is evidenced in the way in which the Paladin's contract award was handled. The process of contract award did not comply with the requirements of having the contract reviewed by the Commissioner of Mines. Non-compliance to the requirements of the award of contracts by the Ministry of Natural Resources, Energy and Mining led to the crafting of a fiscal regime that did not benefit the country in terms of revenue generation. For instance, the fiscal regime provided for 15% stake in form of Company's dividends to Government of Malawi (GOM). However, with reference to this provision, the audit established that during the period under review, the company had been reflecting net losses after tax in its financial statements. This meant that no dividends were paid to GOM throughout the whole period of the company's operations.

Furthermore, the fiscal regime provided for tax holidays which led to loss of tax revenue by GOM as Paladin was given exemption from the resources rent tax for life of the mine and exemption from import duty and import VAT.

The responsibility which government negotiators bear is considerable. Lack of sufficient capacity on their side to negotiate a contract and in monitoring its operation is often a challenge. The use of model contracts with terms and conditions that may be developed with assistance from international experts has the advantage of reducing the impact of a capacity, inexperience and competence shortage.

It is a requirement by EITI that the Awarding of Contracts and licenses needs to be disclosed. Contract transparency under the EITI Standard means the disclosure of the full text of any contract, license, concession, production-sharing agreement or other agreement granted by, or entered by, the government which provides the terms attached to the exploitation of oil, gas and mineral resources. This includes the full text of any annex, addendum or rider which establishes details relevant to the exploitation rights or the execution thereof, as well as the full

text of any alteration or amendment to these documents.<sup>29</sup> Refer Annex 2, figure 5.4 - an illustration depicting how the EITI works in three steps 5.2.3. The Extractive Industries Transparency Initiative (EITI) standard requires several disclosures around the contracting and licensing process, and the EITI open data policy encourages implementing countries to incorporate these into ongoing government and corporate reporting systems, rather than relying on annual EITI reports.<sup>30</sup>

Contract disclosure is a mitigating factor to deal with corruption, mobilising revenues, building trust and negotiating fair deals for the country's resources. The disclosure also provides guidance to relevant stakeholders, precisely multi-stakeholder groups (MSGs) on ways of addressing rising issues pertaining to contract awarding such as approaches to the contract disclosures, practical steps and ways of addressing barriers.

### **3.3.3. High-level audit considerations**

The award of contracts and licences follows the same principles as a public procurement process. Although the awarding process will differ from country to country, there are a few steps that are fairly generic, and which should be audited. The SAI should assess whether:

- The chosen licensee/contractor fulfils all the qualification criteria set in the legislation. It is of vital importance that the operator possesses the correct qualifications and the appropriate competence.
- The contents of the minerals/petroleum agreements are in accordance with the provisions in the legislation.
- If required, the licensee/contractor(s) has set up a separate company in the country responsible for the operations.
- The contractor, when ending the exploration phase and moving into the development/production phase, has fulfilled all the obligations in the current commitment period as provided in the contract/licences and submitted a work programme to the government on the obligations for the next commitment period.
- The government acts if the contractor does not comply with the time frames in the contract agreement.
- The contractor reports to government within the stipulated time frame after minerals/petroleum have been discovered.
- The appraisal programme has been developed in accordance with international best practice and standards.
- The government has received a report on the activities in the appraisal period and a written declaration of commerciality.

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<sup>29</sup> EITI POLICY BRIEF AFRICA THE CASE FOR CONTRACT TRANSPARENCY February 2021

<sup>30</sup> Natural Resource Governance Institute

- The contractor has developed environmental and sustainability impact assessments in accordance with the requirements and these are approved by the government.
- The government has received a plan for development and production from the contractor and it has been thoroughly evaluated. The government should approve the plan before contracts for development and production are entered into and before construction commences.
- The production permit issued by the government is in line with the production plan developed by the contractor.
- The government has done everything in its power to ensure that the contractor maximises the production volume from the minerals/petroleum deposits.
- The licensee/contractor is not granted tax holiday, incentives or other exemptions. If so, SAI should obtain assurance for the warrant/authority.

## 3.4. Monitoring of operations

### 3.4.1. Introduction

For effective monitoring of operations in extractive industries, the roles and responsibilities of different ministries and agencies need to be clearly defined and enforced. This helps to avoid overlapping or conflicting competencies and roles in monitoring. At the same time, it prevents gaps in regulatory responsibility. Typically, there are ten key institutions that share responsibilities in the management of oil, gas, and mining. They include but are not limited to: Executive bodies, legislative bodies, sector ministries, regulatory agencies, national resource companies, finance ministry, taxation authority, central bank, economic planning ministry and environment ministry. Close coordination among these institutions is essential to effective management of the extractive industries sector.

Each of these institutions needs to have sufficient resources and staff to fulfil its mandate, commensurate with the technical complexities of oil, gas, and mining sectors. More often than not, requisite capacity is lacking. Technical assistance and the engagement of professional advisers can make an important contribution to capacity building. However, capacity requirements will change if activity moves beyond exploration to development and production.

The allocation of monitoring roles and responsibilities to agencies in the regulatory framework should take full account of environmental and social protection in the sector. For countries with well-developed environmental monitoring capacity, the environmental ministry should be responsible for policy and establishing laws and regulations, and a national environmental protection agency or local environmental authorities should be responsible for enforcement. The laws and regulations should clearly specify which environmental authority is responsible for monitoring and enforcement. They should also specify the procedures for companies to follow in preparing and submitting environmental and social performance data and the procedures for verification and independent testing by the environmental authorities.

The environmental authority should be able to put in place the institutional arrangements and capacity needed to respond to serious environmental incidents or accidents, so that they can be controlled rapidly and investigated thoroughly with results disseminated to communities and actions taken to prevent reoccurrence. In presenting their plans for approval by government, oil, gas, and mining sector project sponsors may be reasonably required to demonstrate that they have the organisational capacity to comply with social and environmental impact laws and regulations and with undertakings given in the environmental and social management plan and the closure plan. Environmental performance data should be provided to government by the operator of the project. Environmental performance data should also be provided to local communities in the local language with annual updates.

Monitoring of production volumes and related activities may take different forms, but usually entails regular submission of documentation, such as reports and supporting information by companies and their contractors, as well as physical inspections. When auditing the monitoring process, auditors should obtain documentation of monitoring activities. Auditors should not assume that oversight agencies reviewed documents or cross-checked reports to supporting documents. Auditors should identify how reviews were documented and look for notes by the reviewer about queries and corrections which may have been made.

### **Key Considerations for Oil and Gas**

Systems of accountability and verification are essential to monitor extraction companies' performance, in terms of production volumes as well as monitoring environmental and social impacts.

#### **i. Production Volumes**

Monitoring production volumes usually entails reviewing and cross-checking documentation regularly, such as project reports and supporting information, as well as physical inspections of extraction operations and production measuring equipment accuracy.

Although some uncertainty is inherent in any measurement, it is important to avoid bias; systematic error that consistently over- or under-measures volumes. Key controls against bias include using the appropriate meter and processing equipment for the resource, observing meter calibrations, observing sales and verifying volume calculations accuracy.

#### **ii. Environmental and Social Impacts**

According to the [EI Source Book](#), the two common monitoring tools are Environmental and Social Impact Assessments (ESIAs) and Environmental and Social Management Plans (ESMPs). For ESIAs, companies analyse short- and long-term impacts of the project, and identify potential mitigation measures and monitoring methods. ESMPs are based on the ESIA, but provide more detail on how the company will manage impacts, such as its operating policies, procedures and practices for compliance and reducing negative impacts. Auditors may use these tools to monitor company performance.

## **Key Considerations for Mining**

Similar to oil and gas, systems of accountability and verification such as accounting procedures and regular independent audits are essential to monitor mining companies' performance, in terms of production volumes, as well as minimising environmental and social impacts. The development of a national cadastre and a national data bank is key to improving transparency, certainty of rights, the knowledge of the resource base, and the quality and reliability of government revenue estimates.

### **i. Production Volumes**

Monitoring production volumes or the value of material extracted usually entails auditing producer information regulatory, such as project reports and supporting data, as well as physical inspections of extraction operations and production measuring equipment to ensure its accuracy. However, the process for measuring production volume or material value can vary greatly depending on the mineral being produced, the mineral processing methods being employed, and the type of royalty being assessed. For example, some minerals such as stone, sand, and gravel, where processing is usually limited to washing and separation, are generally measured in volume or weight directly at the mine site. In contrast, metal minerals such as copper may be sold as ore concentrate or refined for use in various applications. As a result, royalties for copper may be assessed either on the volume of ore extracted or the value of product.

Measuring volumes or determining the value of minerals extracted can be further complicated by royalty systems that allow the mine operator to deduct costs associated with, refining, or smelting. Because of these complexities, a mine producing multiple minerals from the same ore body that are subject to different types of royalties, may need to use different methods for recording production volumes or determining market value at different stages in the mineral production process.

### **ii. Environmental and Social Impacts**

According to the El Source Book, when compared with oil, mining operations generally have a larger footprint and thus have greater potential to cause adverse social and environmental impacts. A well-designed system of environmental and social impact mitigation and monitoring involves early consultation and participatory monitoring practices at the local community level.

Like oil and gas, two common monitoring tools are environmental and social impact assessments (ESIAs) and environmental and social management plans (ESMPs). For ESIAs, companies analyse short- and long-term impacts through all stages of the project, and identify potential mitigation measures and monitoring methods. ESMPs are based on the ESIA, but provide more detail on how the company will manage impacts and comply with the conditions required as part of the project approval process.

For more information on matters to consider on environmental and social impacts, auditors can check the section on El Value Chain Step 7: Implementing Sustainable Policies.

### **3.4.1 High-level audit considerations**

Auditors provide oversight of government agencies and supervisory bodies, to ensure that the laws and agreements regulating the exploration, development and production of oil and gas are adhered to. Additionally, it is important for government agencies to monitor operations through the full project life cycle. Specifically, auditors should assess:

- i. Whether the government has:
  - Ensured that appropriate institutional capacity is available at each stage in the EI Value Chain.
  - Ensured that capabilities are available, in the sense of specialist skills, training and adequate resources.
  - Put in place non-overlapping mandates so that each ministry or agency has a mandate with clearly defined competencies and responsibilities and the resources and staff to fulfil the mandate.
  - Ensured consistency of approach, so that all government bodies are working to achieve extractives development in a sustainable manner.
- ii. What are the systems of accountability and verification in place to monitor company performance, such as accounting procedures and regular independent audits?
- iii. How do government agencies monitor production volume measurements?
  - Is the government examining and testing the volume measuring equipment at regular intervals and in accordance with the regulations?
  - Are the government cross-checking company reports and documents against supporting information or other sources?
- iv. How do government agencies monitor environmental and social impacts?
  - Is the government monitoring progress against the company's environmental and social impact assessments and associated management plans?
  - Whether the government is assessing penalties or taking other measures to hold companies accountable for negative social and environmental impacts?

### **3.4.2 Artisanal and Small-Scale Miners**

Artisanal and small-scale mining operations are characterised by simplified forms of exploration, extraction, processing and transportation that often involves use of limited technology in carrying out mining activities from easily accessible mineral deposits (OECD, 2018). Artisanal Mining is primarily an informal sector, with limited information available about its production, income, operations, and even the location of activities.

Major obstacles facing the industry include a high degree of informality, difficulty in attracting investment funds, limited commercial skills of artisanal miners, poor health and safety standards and poor mining and processing technologies, among others.

Changing perspectives on mining over the past 15 years have significantly shifted the focus from large-scale, capital-intensive mining operations to the mining sector, including artisanal and small-scale mining, in assessments of sustainable future.<sup>31</sup>

Inspection and monitoring involve checking whether miners adhere to health, safety and environmental standards at all times. Inspection of mines should be carried out regularly to ensure that miners comply with requirements.

### **3.4.3 High-level audit considerations on artisanal and small-scale mining**

SAIs should conduct audits to establish whether:

- i. The government has laws and regulations in place to govern the operations of artisanal mining.
- ii. Relevant ministries and government agencies are ensuring that artisanal miners comply with laws and regulations on artisanal mining, where this legal framework has been set up.
- iii. The government is taking action on artisanal miners with regard to pollution of waterways through mercury use, dam construction, a build-up of silt, poor sanitation and effluent dumped in rivers;
- iv. The government has acted to reduce the risks to which artisanal miners are exposed, for instance, use of mercury and cyanide in gold extraction and working without the required personal protective equipment.
- v. Abandoned mines are being rehabilitated, as many artisanal miners have lost their lives while mining in old mines that have been left open due to improper mine closure and lack of reclamation.

In the case of environmental audits of artisanal mining where there are no laws and regulations to uphold mining operations, the auditor in carrying out such audits is expected to apply criteria like: estimated environmental costs, liabilities and risks associated with artisans' mining sites, systems of establishing priorities and management of mines opened by artisans, comprehensive plans for legalisation through registering the artisans and issuing them with licences in order to adhere to environmental laws and regulations.

#### **Examples of audits conducted on Monitoring Operations**

- i. SAI Kenya- Preparedness of the State Department of Petroleum to Monitor Costs in the Petroleum Sector
- ii. SAI Kenya- Monitoring of Mining Operations by the State Department of Mines
- iii. SAI Kenya- Monitoring of Artisanal Mining Operations in Kenya by the Ministry of Petroleum and Mining

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<sup>31</sup> Oil, Gas and Mining Source Book for Understanding the Extractive Industries, 2017.

### 3.5. Revenue assessment and collection

#### 3.5.1. Introduction

The ability of a government to assess and collect taxes, royalties, duties and other revenues depends on the choice and quality of fiscal regime and fiscal instruments, and on the administrative and audit capacity and competence in the relevant institutions. Mineral/petroleum extraction activities are subject to a great variety of fiscal instruments. These include taxes that apply to all other sectors of the economy and taxes that are specific to the petroleum and mining industry. In addition, non-tax forms of rent collection (such as royalties, surface fees, bonuses and production sharing) are often used; they can be considerable and even exceed tax revenues. When a national mineral/petroleum company exists, the government should receive dividends as a shareholder of the company. Government revenue may therefore consist of several revenue streams, which in addition may be collected in cash or in kind. To enable assessment and ensure completeness of the EI-companies' obligation to report and pay such taxes, fees, bonuses, duties, VAT, dividends, share etc, it is essential to collect and verify data on quality and quantity of the volumes produced, consumed and exported. Furthermore, it is important to assess the prices realised by, and the costs invoiced to the EI-company, in particular when there are transactions between related companies. Reported prices that does not reflect market conditions at the time of transaction should be corrected by government through and by anti-avoidance rules and instruments.

In case of tax evasion, tool as surtax, additional tax and criminal proceedings should be considered in accordance with the legal system. All payments and proceeds to government related to EI should be reconciliated at each payment point/account, and ensured funnelled and deposited into treasury accounts (preferably at the central bank).

#### 3.5.2. Role of government

The government is responsible for collecting various forms of revenue from the EI activities. Below are the five main types of EI revenue, fiscal regimes that the government can use to get a share of the proceeds.

**Table 4: Examples of revenue**

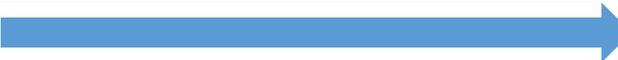
TYPE OF REVENUE	CHARACTERISTICS	PROS AND CONS		EXAMPLES OF REVENUE
<b>Upfront</b>	Upfront revenues are meant to reflect the present value of EI resources.	Instant revenue to government's treasury.	Does not reflect the real value of the resources.	Auction of exploration rights, licence fees, area fees, signature bonus and transportation fees

TYPE OF REVENUE	CHARACTERISTICS	PROS AND CONS		EXAMPLES OF REVENUE
<b>Gross taxes</b>	A tax based on the production, not the actual profit made. Costs are therefore irrelevant.	Easy to administrate. Just multiply, “price of commodity” with “production volume” multiplied by royalty rate. Gives government early revenue before break-even.	May detract from investments because costs are not accounted for. This tax is regressive and not progressive, meaning that government take will not increase with increased profit.	Royalties Domestic market obligations (an effective royalty) Certain types of windfall tax Ground rent tax (typically on hydro-electric and nuclear power)
<b>Field taxation</b> (most applicable for petroleum)	A special tax regime for the oil/gas block with a cost recovery limit and sharing of profit. Based on contracts, not law.	Gives instant revenue for govt. Preferred by IOCs because of predictability of terms. With sliding scales, govt. take will increase with increase in both production volumes and oil and gas prices.	Different contracts for different oil/gas blocks creates complexity for revenue authorities. Government cannot easily change the terms.	Production sharing agreements/ contracts
<b>Corporate net income tax</b>	Tax paid on profit base after costs have been deducted. Law determines tax rate.	By taxing profit, government take will increase. Costs are considered, and investments become attractive.	Risk of transfer pricing puts a big burden on revenue authorities. A taxable profit may only occur some years after production, which may create an expectation	Profit income tax Other taxes include: <ul style="list-style-type: none"> <li>• Commercial tax</li> <li>• Corporation/ Company income tax</li> <li>• Capital gains tax</li> <li>• Withholding tax</li> <li>• Pay-as-you-earn tax (deductible)</li> </ul>

TYPE OF REVENUE	CHARACTERISTICS	PROS AND CONS		EXAMPLES OF REVENUE
			gap on the part of the public.	
<b>Government participation</b>	Government has a share in the EI projects and is part of a consortium.	Gives the government direct access to profit. Enables the country to build local content.	Government takes big risks. In countries with high corruption EI- government companies may become unmanageable.	Government share in projects, state-owned companies

### Five aspects of the different fiscal regimes

- Risk sharing refers to how much risk the government bears. If government participates through being a shareholder it will need to cover a similar share of the costs, thus taking a huge risk.

Five aspects	Upfront	Gross taxation	Field taxation	Corporate net tax	Government participation
	- Auction of rights - Licence fees	- Royalty - Production taxes	Ring fence and/or PSA	Ordinary profit tax + economic rent tax	- National oil company - Shareholder in licences
•	Minimal risk sharing				Maximum risk sharing
•	Simple system			Complex system	
•	Early revenue				Late revenue
•		Negative incentives			More neutral
•	Low share of economic rent				High share of economic rent

**Table 5: Characteristics of the different fiscal regimes**

However, if government receives a single payment through the auctioning of exploration rights, government does not need to worry about costs, and the companies take all the risk of non-discovery.

- Type of system refers to how difficult it is for the revenue authorities to calculate the correct revenue to be collected. With corporate net tax, the companies have big incentives to book as much cost as possible to reduce the tax base. To mitigate this risk, revenue authorities need highly competent staff on transfer pricing. With royalties, however, government does not need to verify costs.
- The timing of when government receives its revenue will vary among the different fiscal regimes. With e.g. royalties, revenue will come at the same time as production begins as it can be based on production estimates. This makes it easier to meet big expectations on the part of the public of extraordinary revenues from the new industry. Relying on tax on profit, however, will delay revenue because companies will need to cover their costs first.
- Incentives are affected by the type of fiscal regime. Royalties are not so popular among companies because costs are not considered. Thus if a project has 5% profit, and 10% royalty on production, it would mean that the company in most likely has a 5% loss, which would discourage investment and create negative incentives. Tax on profit however is related to the profitability of the project and cash flow of the company, and will therefore not affect their investment decision negatively.
- Government's share of economic rent will increase when moving to the right side of the table. It is only when the commodities are sold on the open market that the real value is revealed. Auctions and royalties are applied before the EI commodities are sold on the open market, and government may therefore get a share that is far less than the actual value. With participation however, government is selling the commodities and gets direct access to the market.

The main types of government revenue collected from EI, namely taxes and royalties, are further explained below.

**Taxes** are calculated and assessed according to the relevant tax regulation, e.g. Company Income Tax Act or Mineral/Petroleum Profits Tax Act. Gross income is calculated by multiplying realised volume or mineral/petroleum with arm's length prices. Taxable income (profit) is calculated by deduction of allowable expenditures from gross income. Allowable expenditures are normally detailed specified in the legal framework, and should be necessary, appropriate, economical and connected to the mineral/petroleum operations. The revenue authorities (tax officials) must assess and control/scrutinise whether both gross income and expenditures are calculated and reported in accordance with the legal basis (acts) in tax returns etc. This requires timely inspections/checks of tax returns and more thorough scrutiny through tax audits to certify that tax returns are in accordance with taxpayers' accounts.

**Royalties** are normally assessed based on the production of minerals/petroleum, price and quality. There are normally different rates for onshore fields and offshore fields, with offshore fields that run deep, being the lowest. The amount of royalty to be paid on petroleum production, for example, is usually based on the following parameters:

- Production figures of the operating company.
- Prevailing prices for the petroleum produced; and
- A royalty rate (calculated as a percentage of value)

To ensure that all taxes and royalties have been collected it is essential to solicit and verify data on the volumes produced, consumed and exported, and on the prices realised by the seller of minerals/petroleum. Reliance may be placed on the metering systems of the companies, but the accuracy of these readings should be checked on a regular basis by the relevant government agency.

### **Revenue from SOE/NOC**

State owned companies (SOE) or national oil companies (NOC) often have a role in selling the mineral or oil that is the state's share. The state could receive minerals or oil through several arrangements, including the NOC's own extraction, its ownership shares in a joint venture, participation in a production sharing agreement, and oil paid by companies to the government to cover their royalty or tax liabilities, see chapter 4.1 for more details about SOE and NOC.

#### **3.5.3. Key aspects of expenditure in EI sector**

**Exploration expenditure** is incurred early in the process when companies start searching for petroleum and gas. Wells used to explore can be either exploratory wells – used to find new reservoirs, or development wells – drilled into the known extent of a producing reservoir. There are generally three categories of incurred expenditure: cash operating costs, general and administrative expenses, and depletion and depreciation expenses (which are non-cash costs). How the expenditure is audited depends largely on how the expenditure is accounted for, which is normally specified in the contract with the company.

One method, called the “**successful efforts**” method, for example allows a company to capitalise only those expenses associated with successfully locating new petroleum and natural gas reserves. For unsuccessful (or "dry hole") results, the associated operating costs are immediately charged against revenues for that period.

The alternative approach, known as the “**full cost**” method, allows all operating expenses relating to locating new petroleum and gas reserves – regardless of the outcome – to be capitalised.

Exploration costs capitalised under either method are recorded as long-term assets. This is because like the lathes, presses and other machinery used by a manufacturing concern, petroleum and natural gas

reserves are considered productive assets for a petroleum and gas company; Generally Accepted Accounting Principles (GAAP) require that the costs to acquire those assets be charged against revenues as the assets are used.<sup>32</sup> As per the ISSAIs, auditors need to understand and evaluate the appropriateness of the relevant accounting framework used.

Legislative requirements on accounting for expenditure items include the provisions of regulations, instructions and the provisions in the contract.

#### **3.5.4. Specific audit focus area – transfer pricing**

**Transfer pricing** (TP) is the estimated value of physical goods, intangible property or provided services between related/associated parties. Such parties or enterprises are commonly named controlling company, holding company, parent company, proprietary company, subsidiary and subsidiary company, joint ventures or affiliates.

Since the parties are related/associated, there is an absence of free market conditions. The absence of free market conditions makes it possible to shift taxable profits by fixing prices in the most favourable way for the parties. There is an inherent risk of shifting of profit where cross-border transactions happen within multinational entities (MNEs); the profits are not properly taxed where value is created or added due to transfer mispricing.

Transfer pricing can be defined as a commonly accepted methodology to determine free acceptable deviation from market prices (arm's length). The methodology can be used by authorities as well as private companies. It will help tax authorities in their effort to reduce tax base erosion, and for MNEs it can identify those parts of the enterprise that are performing well and not so well. An MNE could also suffer double taxation on the same profits without proper transfer pricing.

The arm's length principle is set forth in Article 9 of the OECD Model Tax Convention as follows: Where "conditions are made or imposed between the two enterprises in their commercial or financial relations which differ from those which would be made between independent enterprises, then any profits which would, but for those conditions, have accrued to one of the enterprises, but, by reason of those conditions, have not so accrued, may be included in the profits of that enterprise and taxed accordingly".

Most countries have implemented a general anti-avoidance rule (GAAR) in their legislation that can be used to mitigate transfer mispricing.

#### **Why transfer pricing is important to the SAIs within extractive industries**

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<sup>32</sup> <http://www.investopedia.com/articles/fundamental-analysis/08/petroleumhttp://www.investopedia.com/articles/fundamental-analysis/08/oil-gas.asp-ixzz24HQURRl6>

Extractive industries require huge technical investments and specialised expertise that the local mining or petroleum company buys from an affiliated company abroad. Africa has also large deposits of minerals and petroleum. An estimated 60-70% of world trade is transactions between subsidiaries within MNEs. The absence of free market conditions enables profit shifting between countries and thus tax base erosion in any particular country through aggressive tax planning.

According to Global Financial Integrity (GFI) estimates, which are largely credited as the foremost method of sighting illicit financial flow (IFF), the share involving trade mispricing (transfer pricing) was estimated to be more than 80% in the 2015 publication (Kar and Spanjers, 2015), ref. section 4.2.

Transfer prices are significant to both taxpayers and tax administrations because they determine in large part the income and expenses, and therefore taxable profits, of associated companies in different tax jurisdictions. To illustrate the opportunity of profit shifting within EI, a survey of 10 of the world's most powerful EI giants showed that 34% of their 6 038 subsidiaries were situated in tax havens.<sup>33</sup>

Transfer pricing is a worldwide problem for governments, but especially daunting in developing countries mainly because of weak institutions (revenue authorities) and legal frameworks and lack of discipline in the public sector.

Transfer pricing is therefore important to SAIs in their audit/supervision of government performance (i.e. Ministry of Finance and revenue authority) on their assessment, collection and tax audit of revenues from MNEs in EI.

### **Profit shifting between companies**

As some jurisdictions in the world have low- or no-income tax for companies (tax havens), there are economic incentives for MNEs to shift profit between their companies in respectively high- and low-tax jurisdictions. Profit can be shifted by setting the price (invoicing) higher than market price on services and goods, captives (insurance) and intangibles to a company in a normal tax-rate country. The abnormally high price can then be deducted for tax purposes or as cost recoverable in the latter country and thus reduce the legal tax/revenue base in this particular country.

It is important to note that the invoicing country does not have to be a tax haven. Some seemingly normal tax-rate jurisdictions have special regulations that allow cash flow through their jurisdiction without taxation, and the profit might eventually end up in a tax haven.

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<sup>33</sup> Mathiason, N. (2011). *Piping Profits. Mapping the 6,038 subsidiaries owned by ten of the world's most powerful Extractive Industry giants and the quest by Latin American journalists to find out more.* Oslo: Publish What You Pay Norway. <http://www.publishwhatyoupay.no/pipingprofits>

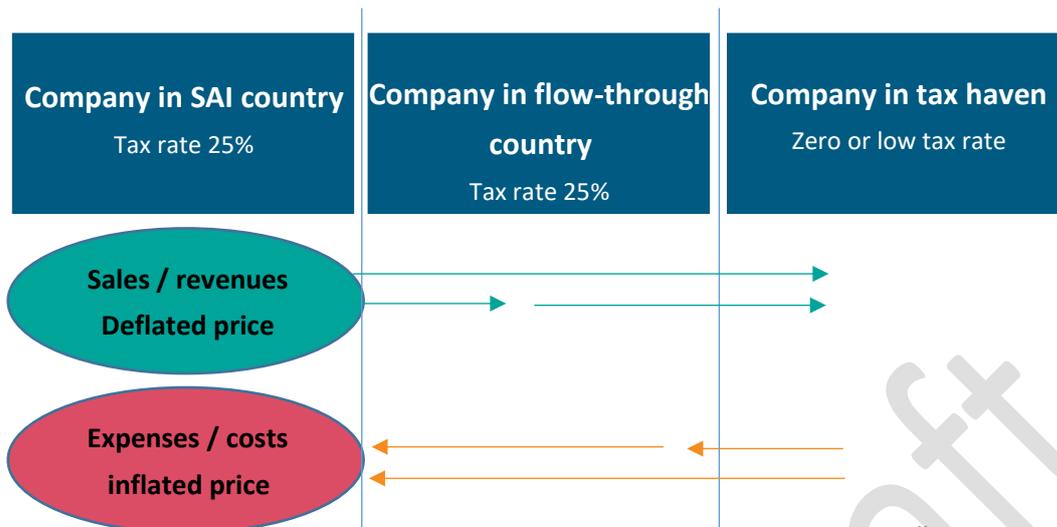


Figure 8: Illustration of

*transfer pricing*

Transfer pricing is a high-risk area in countries with EI due to the nature of the business: MNEs, advanced technical expertise and knowledge, large investments, valuable assets and intangible property. Within production sharing agreements, transfer pricing has consequences for the calculation of recovery costs, and it is an important issue in ring-fencing. Cost recovery statements will normally contain costs incurred through services performed by an associated enterprise. Since the sister company and the local company have the same owner, the companies have incentives to exaggerate the costs incurred to be able to deduct more costs through cost recovery. For other than tax purposes, it is indifferent to the company where income and costs are located.

#### **How to audit transfer pricing and what the SAI auditors need to know**

Revenue authorities and SAIs are the most important institutions to prevent transfer mispricing. SAIs in some countries have direct authority to audit cost statements according to production sharing agreements and therefore have tasks like a tax authority. Tax authorities (and some SAIs) accomplish TP prevention through tax audits on the companies or TP risk assessment, comparability analysis and function analysis. Reassessments by the tax authorities might be challenged through a complaint from the company to tax tribunals or courts. Under certain contracts, in particular PSAs, the SAI and revenue authority can challenge mispricing through an Appeals Board/Advisory Committee or through ordinary judiciary and/or reporting cases of tax evasion and fraud for indictment/prosecution.

Where a SAI has no direct authority to audit cost statements, the SAI's tasks should primarily be monitoring and conducting compliance and performance audit of the tax authority on its accomplishment and performance on TP issues.

There are different TP rules and regulations across the globe. Common to them all is that they contain rules on what kind of information companies should present to government bodies to enable them to control the price set between affiliated parties. Further, they contain pre-approved methods of calculating an arm's length price. For OECD countries there are five pre-approved methods.<sup>34</sup> These methods are:

- Comparable Uncontrolled Price (CUP): Prices between unrelated parties
- Cost Plus Method: Comparing gross profit to cost of sales
- Resale Price Method (RPM): Comparing unrelated gross profits between unrelated parties
- Profit Split Method (PSM): Delineation of interrelated and incomparable transactions where substance (risks, efforts, tasks, contributions etc.) is allocated to find an arm's length split of profit between the related companies
- Transactional Net Margin Method (TNMM): Testing of net profit between related and unrelated parties for similar transaction. Practical solution when other methods do not solve the TP problem.

Other jurisdictions may have more pre-approved methods, for example USA has seven pre-approved methods. Some countries limit the arm's length considerations so that the companies must use one of these methods to prove arm's length, whereas other countries allow presentation of other methods to prove arm's length. Either way, the reasoning behind all the methods used is to substantiate that the transaction/agreement is economically sound and could have been concluded by unaffiliated parties (arm's length).

To do this, extensive amounts of documentation need to be examined. The documentation should disclose the nature of the transaction, the amounts paid and a comparable price/contract, which can substantiate that the price agreed upon does not significantly diverge from what two unrelated parties could have agreed. Today, almost all MNEs will have this information ready for authorities' inspection at the time of filing their tax returns.

#### **Examples of transfer pricing audit findings**

- Reluctancy or unwillingness to provide mandatory TP documents for audit.
- Weak practice in revenue authority's resoluteness regarding taxpayer's compliance by providing TP documentation within deadline.
- Lack of competence and resources in revenue authority.
- General assistance costs invoiced from affiliated company not free of affiliate's shareholder cost mixed with cost of providing services to affiliated companies.
- Indiscriminate rate of services provided regardless of staff experience or merit.
- Duplication of costs (liable not to be discovered/detected in TP arrangements).
- Insurance/captives – overpriced by subsidiary in tax haven.
- Use of intangibles – overpriced by subsidiary in tax haven.

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<sup>34</sup> <http://www.transferpricing.wiki/general-transfer-pricing-information/transfer-pricing-methods/>

- Loans and financing/funding from related companies/affiliates with inflated interest rates.
- Restrictions to audit TP in clauses in PSA (void terms in PSA).
- 973 USD – Price on plastic bucket;<sup>35</sup>
- 52 USD – Price on rocket launcher;<sup>36</sup>
- 13 USD – Price on camera recorder.<sup>37</sup>

### **3.5.5. High-level audit considerations**

The SAI needs to do a thorough mapping of the legislation and contracts/agreements that have provisions on revenues from EI. The legislation on revenues from EI might be in separate petroleum or mining taxation acts, or they may be handled in the general income tax act of the country. For production sharing agreements/contracts, the most important provision for revenues is in the contract itself.

The SAI should assess whether:

- Reported volumes and quality of produced minerals and petroleum are correct.
- The tax is calculated based on the rate specified in the relevant law, act or contract.
- The deduction of costs for a specific year of income only relate to the relevant contract area (ring fencing),<sup>38</sup>
- Deductions of funds going to a decommissioning fund reserve are relevant.
- The recoverable costs are in line with the eligible deductible expenditures defined in the PSA/PSC, or in the taxation act (necessary, appropriate, economical and connected to the mineral/petroleum operations).
- The prices in transactions between related companies is assessed and tested for transfer mispricing
- The value of petroleum/minerals etc, of which tax revenues are derived, is calculated and measured in accordance with legislation/contracts.
- The revenue authority ensures that tax returns are submitted timely and complete for correct calculation/assessment for revenue.
- The revenue authority ensures timely payments and reconciliation of accounts in accordance with the legislation/contracts (as specified in the taxation act/PSA/PSC).
- The revenue authority ensures that all licences/contractors are captured in the relevant revenue systems

<sup>35</sup> Pak, S. J., Zdanowicz, J. S. (2002). *U.S. Trade with the World*. Malvern/Miami: Trade Research Institute: [http://www.oss.net/dynamaster/file\\_archive/040318/50b167ce2bb58f256cf8c2225aa4da82/OSS2003-01-09.pdf](http://www.oss.net/dynamaster/file_archive/040318/50b167ce2bb58f256cf8c2225aa4da82/OSS2003-01-09.pdf)

<sup>36</sup> Pak, S. J., Zdanowicz, J. S. (2002). *U.S. Trade with the World*. Malvern/Miami: Trade Research Institute: [http://www.oss.net/dynamaster/file\\_archive/040318/50b167ce2bb58f256cf8c2225aa4da82/OSS2003-01-09.pdf](http://www.oss.net/dynamaster/file_archive/040318/50b167ce2bb58f256cf8c2225aa4da82/OSS2003-01-09.pdf)

<sup>37</sup> Pak, S. J., Zdanowicz, J. S. (2002). *U.S. Trade with the World*. Malvern/Miami: Trade Research Institute: [http://www.oss.net/dynamaster/file\\_archive/040318/50b167ce2bb58f256cf8c2225aa4da82/OSS2003-01-09.pdf](http://www.oss.net/dynamaster/file_archive/040318/50b167ce2bb58f256cf8c2225aa4da82/OSS2003-01-09.pdf)

<sup>38</sup> In many countries, such as Uganda and South Sudan, companies can only deduct the costs that relate to activities within the contract area. In countries like Norway, the ring fencing is between offshore and onshore. Thus, companies can deduct *all* their costs from all their contract areas combined, but not costs related to onshore activities/operations.

### **Transfer pricing audit considerations**

The tax auditor should consider the country's domestic legislation regarding key TP principles, including the arm's length principle, TP methods, comparability analysis, intangible property, intra-group services, cost contribution agreements, TP documentation, administrative approaches to avoiding and resolving disputes, safe harbours and other implementation measures.

The legal framework is different from country to country. Whilst some jurisdictions have strong laws and regulations that can prevent or resolve transfer mispricing, others have weak laws or no regulations. In this case, a tax auditor should consider whether it is legally possible to apply a general anti-avoidance rule (GAAR), the OECD guidelines on TP and/or any other international best practice.

A SAI's mandate is normally limited to controlling how tax authorities handle TP risks. Audits on this subject may be conducted either as compliance or performance audits. Some examples of compliance and performance audit topics are listed below.

### **Compliance audits**

Examine/check/survey/scrutinise relevant revenue authority on their:

- ❖ Reliability/trustworthiness of reports on controls and tax audits.
- ❖ Paramount policies/requirements by Parliament and/or superior authority.
- ❖ Compliance with legislation, e.g. tax audit performance, internal quality assurance.
- ❖ Compliance with provisions in contracts/agreements, i.e. monitoring, audits, surveillance etc.
- ❖ Use of policy instruments, e.g. documentation deadlines, sanctions and penal provisions, surtax.
- ❖ Accuracy in the selection of tax audit subjects.
- ❖ Results of tax audits, reassessment and controls in increased revenues.
- ❖ Use of information exchange agreements (IEAs), if any.
- ❖ Use of other relevant international agreements/treaties (assistance to collect abroad).

### **Performance audits**

Assess the performance of the relevant revenue authority on:

- ❖ Steering and control by superior authority (Ministry of Finance).
- ❖ Growth and progress in quota of taxpayers selected for tax audit/control.
- ❖ Organisation, competence and capacity on TP.
- ❖ Survey of taxpayers' behaviour.
- ❖ Vignette test of civil servants' competence on TP.
- ❖ Case administration/tax audits and time consumed – cause.
- ❖ Effects of tax audits, reassessments.
- ❖ Controls in increased revenues.

**Financial audits** (not relevant for all SAI's)

- ❖ Direct audit of cost statements from EI company
- ❖ Direct audit of revenue statements from EI company
- ❖ Assess EI company reports/tax returns with comparable databases regarding i.e. volumes produced and quality (Ministry of Finance, Ministry of Mines, Petroleum Authority, Customs/Asycuda<sup>39</sup>)
- ❖ Assess and compare EI company TP policies and practices with acceptable national/international standards
- ❖ Stratify and select costs and revenues to/from affiliated companies based on risk and materiality to ascertain in accordance with arm`s length principle

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<sup>39</sup> <https://asycuda.org/en/about/>

**Table 6: Revenue loss in EI Sector - and mitigation**

Revenue loss in EI-sector - and how to mitigate				
Affected source	Cause	Manipulation/ evasion/avoidance	Government Mitigation Good governance	SAI response
Tax rate	Negotiation competence, skills, bribery	Tax incentives	Improve negotiation skills, contract transparency, renegotiate contracts, anti-corruption work, EITI (publish what you pay/receive)	Compliance and performance audit, supervision, recommendation through (annual) audit reports
		Tax exemptions/holidays		
	Treaty shopping	Withholding tax	General Anti-Avoidance Rule (GAAR) Renegotiate treaties	Compliance and/or performance audit, recommendation through (annual) audit reports
	Change of ownership	Capital gain tax	Supervision, reporting mechanisms	
Tax base	False statements/returns Fraud	Volumes and quality of production	Revenue Audits, Assess/analyse relevant databases, Use of provision on offences in taxation act and criminal act	Compliance and/or performance audit, recommendation through (annual) audit reports
	Underreporting- Transfer Pricing	Sales price	Tax/revenue audit General Anti-Avoidance Rule (GAAR) Use of provision on offences in taxation act and criminal act	Compliance and/or performance audit, recommendation through (annual) audit reports
	Inflated costs/ Transfer Pricing false returns/ statements Overreporting	Ineligible costs	Tax/revenue audit General Anti-Avoidance Rule (GAAR) Use of provision on offences in taxation act and criminal act	Compliance and/or performance audit, recommendation through (annual) audit reports
		Misallocated costs Inflated goods and Services	Tax/revenue audit General Anti-Avoidance Rule (GAAR) Use of provision on offences in taxation act and criminal act	Compliance and/or performance audit, recommendation through (annual) audit reports
		Debt Financing	Tax/revenue audit General Anti-Avoidance Rule (GAAR) Use of provision on offences in taxation act and criminal act	Compliance and/or performance audit, recommendation through (annual) audit reports

## 3.6. Revenue management and allocation

### 3.6.1. Introduction

The extraction of minerals/petroleum has the potential of generating massive revenues. At the same time, extraction of these resources is no guarantee for ensuring prosperity, equal distribution of wealth, reduction of poverty and long-term fiscal sustainability. On the contrary, revenue from these resources can deepen existing corrupt practices and illegitimate power structures. It is therefore vital that the revenue generated should be distributed and managed in a way that benefits the whole country across generations.

The NRG Reader, March 2015, explains revenue allocation as the way a government distributes natural resources to different levels of government, institutions or directly to the citizens. When the institutions receive the resource revenues, how they establish procedures or principles to plan, organise, staff and control operations for the use of the revenues allocated to them is what is termed revenue management.

There are different ways of designing a system for the allocation and management of revenue from natural resources. It is considered ideal practice to plan for and set aside part of the revenues to finance present needs (national budget) of countries, whilst the remaining part of the revenue is committed into interest-bearing reserve funds. The system for the management and allocation of revenue from minerals/petroleum is to be governed by rules and procedures to ensure a responsible, accountable, and sustainable use.

According to the EITI, the key steps in transparent and sound revenue management and allocation are to:

- Prepare appropriate macroeconomic policy responses to mitigate any negative impact from exchange rate appreciation.
- Make savings decisions to facilitate: (1) the smoothing of public expenditure considering revenue volatility and (2) asset accumulation considering the finite nature of oil, gas and mineral resources.
- Allocate public expenditures judiciously, nested within a medium-term expenditure framework and aligned with a country development strategy that ensures adequate scrutiny and appraisal of public investment choices and provides for sound revenue sharing policies.

### 3.6.2 Petroleum and mineral sovereign wealth funds

With worldwide economic price booms the level of government revenue and accumulation of “Windfall profits” have reached proportions unseen in the past. For countries with large, expected revenues, petroleum and mineral sovereign wealth funds provide a way to collect revenue which government cannot efficiently spend during a single year. To avoid such wasteful expenditure or spending that

overheats the domestic economy, “oil and mineral funds” have been created in several producing countries. The funds may have some or all the following objectives:

- To set aside revenue that would be used to smooth expenditure over time, thus countering the effects of price volatility and variations in production levels.
- To save part of the revenue derived from current exploitation of natural resources for the benefit of future generations.
- To invest the savings in other countries, to avoid overheating of the domestic economy.
- Depending on the magnitude of the accumulation, to insure against extraordinary events (for example, natural disasters).

Countries that have just started production usually aim not for a permanent savings fund, but for a temporary but a fairly constant expenditure level for several years to kick-start their development. Countries making substantial revenues from EI often start by eliminating high-interest debt before implementing policies to invest surplus funds. It can also happen that the oil and gas booms generate an increase in public debt. Caution should be exercised to ensure that countries are not too optimistic about future revenues from EI. This can lead to over-committing the anticipated revenue, whereas a fall in prices would translate to lower-than-expected revenue, which may prove insufficient to service the debt. Some countries decide to have a stabilisation fund which acts as a buffer against both a sharp drop and rise in commodity prices. In South Sudan the legal framework<sup>40</sup> allows for an “Oil Revenue Stabilisation Account” to be established, in addition to a Future Generation Fund. The Oil Revenue Stabilisation Account shall contain excess revenue which may be used during times when the oil price makes sudden drops. One such incidence was in 2014 when the price dropped to below 30 USD. For some countries, which were dependent on having an oil price of for example, 75 USD to break even, this represented a potential fiscal crisis.

The lesson learned is that in times of high oil prices, the government should consider saving the extra revenue rather than inflating the state budget. There will always be times when the oil price drops because of trends in the world economy, and the government needs to be prepared to meet this challenge.

Ghana’s Petroleum Revenue Management Act (PRMA), 2011 (Act 815) as amended by the Petroleum Revenue Management (Amendment) Act, 2015 (Act 893) is a case that employs most of the objectives outlined to ensure sound revenue management and allocation indicated by EITI. The PRMA, has established the Ghana Petroleum Holding Fund (GPHF), which is to receive and disburse all petroleum revenue due the republic as follows:

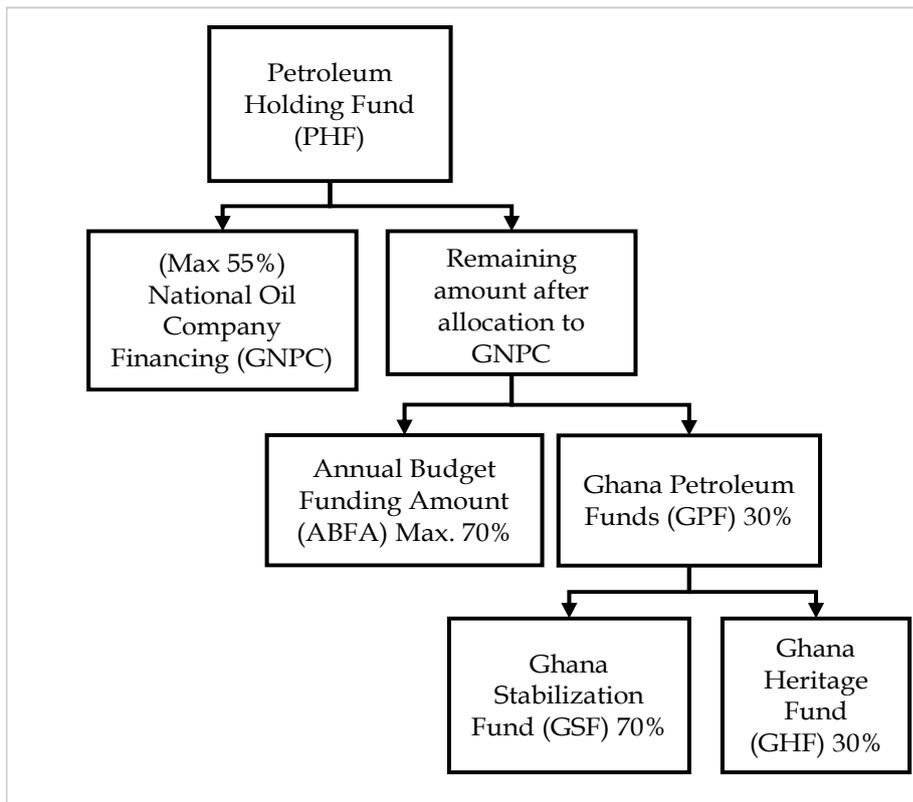
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<sup>40</sup> Petroleum Revenue Management Act 2013

- A maximum of fifty-five percent of the petroleum revenue goes to the Ghana National Petroleum Company (GNPC) for its functioning for carried and participating interests as well as equity finance in the petroleum industry in the country.
- A maximum of seventy percent of the remaining revenue from the GPHF is allocated for the Annual Budget Funding Amount (ABFA), which represents the amount of petroleum revenue allocated for spending in every financial year. Not less than seventy of this allocation is to go into public investment into capital works, whilst the rest is for recurrent spending and funding of the activities of the Public Interest and Accountability Committee (PIAC), which has been set up to ensure accountability and transparency of the petroleum revenue.
- The other thirty percent is deposited into the Ghana Petroleum Fund (GPF), which comprises the Ghana Stabilization Fund (GSF) and the Ghana Heritage Fund (GHF).
- The GSF is the fund established to cushion the impact on or sustain public expenditure capacity during periods of unanticipated petroleum revenue shortfalls. It receives seventy percent of the thirty percent allocated to the GPF.
- \*The GHF, which is an endowment fund created to support the development for future generations when petroleum reserves have been depleted, receives thirty percent of the thirty percent allocated to the GPF.

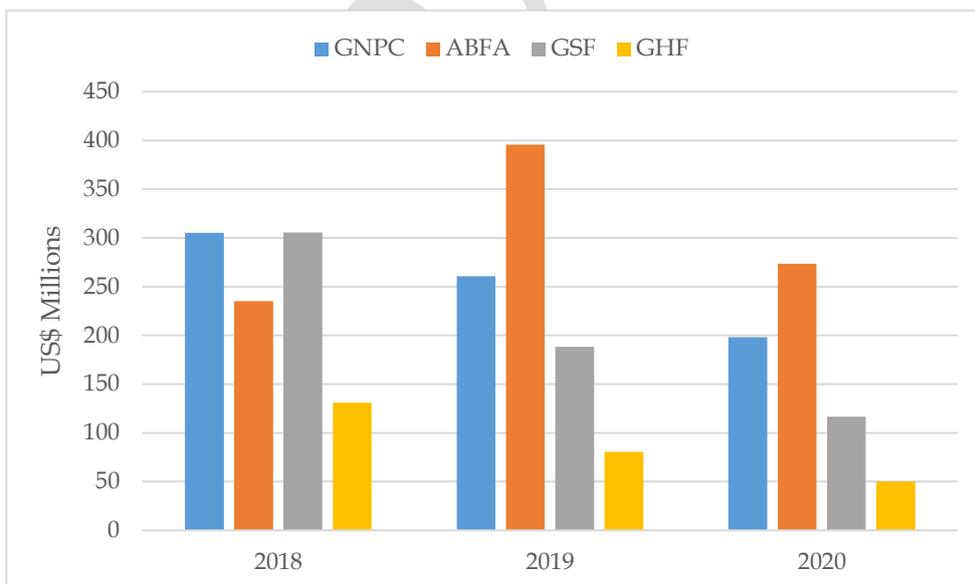
The allocation of petroleum revenue in Ghana is simplified in Figure 9, while Figure 10 depicts the amounts of petroleum revenues distributed to the respective avenues from 2018 to 2020.

Figure 9: Spending allocations of Ghana’s oil revenue under the PRMA



Source: Petroleum Revenue Management Act (PRMA), 2011 (Act 815) as amended by the Petroleum Revenue Management (Amendment) Act, 2015, Ghana

Figure 10: Amounts of petroleum revenues distributed to the respective avenues from 2018 to 2020



Source: Report of the Auditor-General on the management of petroleum funds for the financial year ended, 31/12/2020

Figure 10 shows that Ghana's national budget through the ABFA received the greatest share of petroleum receipts, followed by the Ghana National Petroleum Company (GNPC), the Ghana Stabilisation Fund (GSF) and the Ghana Heritage Fund (GHF).

The essence of ensuring prudent management and allocation of minerals and petroleum revenue by countries is to promote smooth spending flows, long-term fiscal sustainability, and intergenerational equity as measures to mitigate Dutch Disease.

**Box 6 Case example - The Dutch disease** is a reminder that revenue collected from petroleum resources is not only a blessing, but also a curse, if not handled correctly. The Netherlands discovered large gas fields in 1959 and after extracting the resources, large quantities of foreign currency were flowing in, with the result that the Netherlands had a much stronger currency than other nations. The Dutch government also increased its spending, which increased inflationary pressure on the domestic economy. The manufacturing industry suffered greatly from this by being less competitive. Policies should be set to ensure long-term fiscal sustainability and prevent the so-called "Dutch disease". Annual budgeting should be based on accurate estimates of petroleum and mineral prices and assumptions of volumes.

#### **High-level audit considerations**

The reports of the SAI in this area could alert the government to the need to encourage sustainable planning and budgeting. The EITI value chain contains some questions, which the SAI can use to address the important areas:

- Are there measures in place that are being implemented to ensure resource funds are judiciously allocated and managed in the country's budget?
- Are the decisions on revenue allocation transparent?
- Are expenditure decisions nested within a sound macro-fiscal framework and in line with the country's development strategy?
- Are there policy measures to address the risk of Dutch disease?
- Is there a credible mechanism to deal with excess revenue in a sustainable manner, such as setting it aside in a transparent savings and stabilisation fund?

The Santiago Principles<sup>41</sup> represent another important set of internationally accepted standards for the establishment and management of sovereign wealth funds. There are 24 principles covering e.g. legal framework, governance framework and audit (relevant for SAIs).

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<sup>41</sup> <https://www.ifswf.org/santiago-principles-landing/santiago-principles>

In many cases a separate mineral or petroleum revenue management act is developed. The act would, establish an account for revenue from EI, outline rules for how the revenue should be transferred to the consolidated fund, how funds should be set aside into reserve funds and how transfers to communities in the producing areas should be designed. To provide assurance that the rules and regulations for managing revenue from EI are being adhered to, the auditor should assess whether:

- Revenue from EI is being paid on time into the designated account in the central bank.
- There is a management agreement between the Ministry of Finance and the central bank which also covers investment policies.
- The cap set to be allocated to the various avenues defined by the governing legislation are adhered to.
- The cap set on the amount of revenue from EI to be transferred to the annual budget is adhered to. Normally, the transfer of the revenue should not exceed what is needed to fund next year's national budget.
- Amounts transferred to the annual budget are used to fund activities and projects defined by the governing legislation:
- Projects to be funded from allocations to the annual budget are executed at the local and national level.
- Transfers from the central bank are processed only with the appropriate signatures.
- Any reserve funds established are managed in a proper way and they are spent for the intended purpose. Withdrawals should only be made for the intended purpose.
- Transfers are made to the local communities defined in the legislation as eligible recipients.

### **3.7. Implementation of sustainable policies: Economic, Environmental and Social Concerns**

#### **3.7.1. Introduction**

The extraction of natural resources has Global, Regional, and Local consequences/impacts and these consequences can also be categorised into environmental, social and/or economic. These impacts have the potential to disrupt development processes and activities that are aimed at providing some relief to future generations for the extraction and use of these natural (finite) resources. It is therefore important for governments to plan and implement policies that reduce the negative impacts of EI activities on the environment and on local communities towards ensuring sustainable development and economic growth. EI has a huge potential for development given that that sector drives other vital sectors of any economy such as services, education and health and this potential can be achieved with deliberate action to ensure sustainability in the extractive industry.

### 3.7.2. The Role of Government

To attain sustainable development especially with reference to the extractive industry, governments are expected to invest in and deliver basic services, ensure human rights are protected, put in place fiscal regimes, manage revenues transparently and invest these revenues. Governments are also expected to develop legislation, regulations and policies related to sustainable issues, including social services, public health, education, public infrastructure, economic policies and setting environmental performance standards and align such legislation and policies with national development plans and international initiatives, and put in place institutions and agencies capable of managing the extractive industries. The existence of these regulations alone does not guarantee success of the extractive industry but enforcement of same and governments again are responsible for enforcement of such regulations

Sustainability cuts across all phases of the EI value chain thus the need for policies in that direction. Governments in developing policy around the EI value chain often consider these vital areas because the success of the government in these areas translates into the success of the entire EI sector. These sectors include the legal and regulatory framework around which the sector would operate, contracts and agreements towards exploration, extractions, development and so on. There is also a need to consider procurement especially in the award of contracts and underlining issues and monitoring of operations while development is ongoing. The issue of revenue management (collection and utilisation) is also worth considering in the development of policy especially taking into consideration the sustainability of the sector. Table 7 shows some areas relevant for sustainability policy development and /or implementation along the EI Value chain.

**Table 7: EI Value chain and sustainable policies**

EI Value Chain Step	Relevant to sustainable policies
<b>Policies and legal framework</b>	Environmental, health and safety (EHS) regulations, social impact regulations/agreements, revenue management regulations, local content policies and legislations, contracts, licensing agreements and conditions for tender qualifications etc.
<b>Government activities/decisions to explore/extract</b>	Baseline assessments, verification of license compliance, environmental and social considerations when exploring etc.
<b>Award of contracts and licences</b>	EIA/ESHIA license and requirements etc.
<b>Monitoring of operations</b>	Environmental health and safety (EHS) monitoring, (EIA/Environmental Management) monitoring, monitoring of closure/decommissioning etc.
<b>Assessment and collection of revenues</b>	EIA license fees, rehabilitation fees, monitoring fees, community development funds, decommissioning funds/financial assurance etc.

<b>Revenue management and allocation</b>	Managing and allocating revenue to and from community development funds, decommissioning funds or sovereign wealth funds etc.
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### **3.7.3. Role of Supreme Audit Institutions (SAIs) and AFROSAI-E**

SAIs have a duty to make a difference in the lives of citizens (ISSAI 12) by providing objective and independent assessments on whether governments are managing public resources (Natural) in a way that adequately meets the needs of the present generation without compromising the ability of future generations to meet their own needs. This includes ensuring the protection of those natural resources the environment as well as healthy ecosystems resulting in the well-being of all citizens.

SAIs also have a duty of partnering governments to ensure good governance and accountability in all sectors of governance including the Extractive Industry and more recently in the attainment of the Sustainable Development Goals (SDGs) and Agenda 2063. That is: SAIs can, through their audits and consistent with their mandates and priorities, make valuable contributions to national efforts to track progress, monitor implementation and identify improvement opportunities across the full set of the SDGs and the Agenda 2063 aspirations.

The extractive industries have an unprecedented opportunity to mobilise significant human, physical, technological and financial resources to advance the SDGs. With careful planning and implementation, the extractive industries sector can create jobs, spur innovation and develop investment and infrastructure. If managed poorly, the industry can lead to environmental degradation, displaced populations and increased conflict, among other challenges.

AFROSAI-E has endeavoured to map the SDGs and Agenda 2063, ref. Annex 3, to extractive industry with the following objectives:

- Facilitate a shared understanding of how EI most effectively supports the achievement of the SDGs and the 2063 Agenda.
- Enable SAI auditors, key EI actors and their partners to identify how the industry can support countries in achieving the SDGs and 2063 Agenda.
- Encourage SAIs to further incorporate relevant SDGs and the 2063 Agenda into their audits of EI and operations, validate their current efforts and spark new ideas in auditing.

Achieving the SDGs by 2030 will require all sectors and stakeholders to incorporate the SDGs into their own practices and operations, requiring unprecedented cooperation and collaboration among governments, non-governmental organisations, development partners, the private sector and communities.

### 3.7.4. Managing environmental and social issues

All extracting activity should be preceded by an Environmental Impact Assessment (EIA) or Environmental Social Health Impact Assessment (ESHIA), an assessment of the possible positive and/or negative impact that a proposed project may have, considering the environmental, social and economic aspects. The international standards on environmental management, the ISO 14000 series, prescribe how such assessments shall be carried out. Ideally, the EIA should cover the following phases of the extraction process:

1. Reconnaissance activities (seismic and geological surveys).
2. Exploration drilling.
3. Development and production.
4. Decommissioning and /or closure.

While undertaking the EIA, the licensee/contractor should also conduct a comprehensive environmental baseline study. This will assist in comparing the post-extraction activities phase with the initial situation. The EIA will lead to the development of an environmental management plan. This plan will be prepared by the licensee/contractor and will lay out the environmental requirements for the extraction activities. The plan should be reviewed and approved by the government. It is also considered best practice to disclose the environmental plan to the affected communities. If changes are made to the environmental plan, they should be communicated to the communities to ensure that their views are considered.

The risk is often that EIAs are carried out only at the initial phase of exploration, and not applied throughout the whole process ending with the abandonment of the project. There is also a risk that assessments and plans are not updated when changes occur. Furthermore, there is a risk that fees paid by license holders for the regulator's monitoring, is not used for purpose.

### 3.7.5. Extractive industries' environmental and social impact

Petroleum and mining activities can have many effects on society and the environment. To assist SAIs to better understand the challenges and risks, some of the environmental<sup>42</sup> and social issues have been identified and described below.<sup>43</sup>

**Table 8: Environmental and social impact issues**

Environmental Impact Issues	Social Impact Issues
<b>Biodiversity</b> EI can have huge negative impact on biodiversity, resulting in the destruction/ disruption of habitats, ecosystem degradation and loss, destruction of key	<b>Human rights</b> Human rights issues in the mining industry can include security, corruption, discrimination, child labour, labour conditions, environmental damage,

<sup>42</sup> For more information on environmental issues in mining, see INTOSAI WGEA 2010, [Auditing Mining: Guidance for Supreme Audit Institutions](#).

<sup>43</sup> Risks and effects will differ based on the EI operations as well as country context.

<b>Environmental Impact Issues</b>	<b>Social Impact Issues</b>
flora and fauna, deforestation, oil spills or releases of toxic compounds. EI can cause enormous damage to the environment.	land acquisition and resettlement, loss of culture and local community economic development along with specific issues for indigenous peoples. <sup>4445</sup>
<b>Disaster management and emergency preparedness</b> EI related disasters can be catastrophic, endangering human lives and communities, as well as affecting the natural environment. Disaster management risk assessments must be conducted, and preventative management plans must be developed to reduce the damage caused by a disaster.	<b>Fatalities, Safety and Occupational Health of miners and communities</b> EI expose employees to dangerous working conditions, e.g. risks of collapse in underground mines, explosions, floods, fires etc. Occupational health hazards include e.g. exposure to extremely high temperatures and loud machinery, inhalation of dust and contact with chemicals.
<b>Decommissioning, rehabilitation and mine closure. See below.</b>	<b>Local content, local employment and investment. See below.</b>
<b>Water usage and water pollution</b> EI depends on water. Wastewater, offshore drilling and mine waste can pollute water sources and affect plants, marine and other wildlife.	<b>Gender equality</b> EI activities can have negative social impacts such as crime, alcoholism, domestic violence, prostitution, trafficking and sexual exploitation and sexually transmitted diseases.
<b>Air emissions</b> EI is energy intensive and requires extensive use of transport, producing gaseous emissions. Oil and gas operations also lead to burning and releasing of gases, “flaring”. Dust, particles and gaseous emissions in the air can lead to severe human health impacts and respiratory diseases as well as environmental degradation, CO <sub>2</sub> emissions and climate change.	<b>Cultural heritage</b> EI activities can potentially affect the culture and traditions of local communities, particularly indigenous communities, by disrupting traditional practices or damaging areas of archaeological, historical, artistic or religious significance.
<b>Pollution and waste management</b> Pollution from waste, if not managed effectively, can have significant impacts on the natural environment and the communities, through contaminated water and crops, reduced soil quality, and other human health and environmental impacts.	<b>Displacement and resettlement of communities</b> One of the major social impacts of onshore mining and oil activities is the displacement or forcing of thousands of people to abandon their current homes, which worsen social marginalisation, unemployment, homelessness and health problems.
<b>Land usage and acquisition</b> Environmental disruptions include permanent loss of natural resources and pre-emption of alternative land uses (for agriculture, forestry, hunting or leisure).	<b>Other social issues worth noting</b> <ul style="list-style-type: none"> <li>• Food security and deterioration of livelihoods</li> <li>• Increased cost of living and economic disparity</li> <li>• Changes in population dynamics</li> </ul>

<sup>44</sup> International Finance Corporation; Sustainable and responsible mining in Africa – a getting started Guide

<sup>45</sup> For more information on human rights risks, see BGR 2016, [Human Rights Risks in Mining - A Baseline Study](#).

Environmental Impact Issues	Social Impact Issues
	Improper land acquisition can result in continuous conflicts between licensees and landowners

### Community development

Extractive industries' effect on people's livelihood is substantial. The challenge at the community level is to maximise the benefits and to avoid or mitigate any negative impacts of EI activities. Priorities and ultimately choices regarding trade-offs relating to different social, environmental, and economic goals need to be determined through participatory processes before, during and after EI operations, involving all relevant actors, including members of the affected community, and in accord with the local context.

Community development is the process of increasing the strength and resilience of communities, improving people's quality of life and enabling people to fully participate in decision-making. There is increasing emphasis on the importance of meaningful engagement and involvement with local communities, which enables companies to better understand and communicate more effectively with local communities, enhancing respect and reducing conflict. To gain the trust of local communities in regions around the world, companies are building local schools, hospitals, and infrastructure, and supporting communities through local procurement and employment. Some best practices include educating local communities on health-related issues so they can reduce the incidence of preventable illness and disease; providing communities with financial training to build viable businesses; leveraging existing infrastructure to create new economic activity and reskilling local workers in alternative industries, such as agricultural production, which can help them thrive once local EI projects shut down.<sup>46</sup>

Community development initiatives have previously been associated with companies' corporate social responsibility programmes. However, community development is becoming a requirement in more countries. In West Africa, Community Development Agreements – a compact between government, mining companies and communities – are mandatory for getting mining licences. Community Development Agreements are regulated in law. The agreements also include provisions on the collection of development funds, monitoring of compliance with agreements, implementation of activities, evaluation etc. Regulated or not, recent industry initiatives involve contributing to the social, economic and institutional development of host countries and communities. In practice, the companies are expected to go beyond mitigating social impacts, and work towards creating lasting benefits that sustain people beyond the life of a project.<sup>47</sup>

### Decommissioning, rehabilitation and mine closure

<sup>46</sup> Deloitte, *Tracking the Trends 2019*.

<sup>47</sup> See for instance ICMM [Community Development Toolkit](#).

Extractive industries leave environmental and social damage in the communities where decommissioning, rehabilitation and mine closure is not effectively managed. The effects depend on the type and size of the extractive activity, the location and surrounding areas, and the technology used. The larger the oil field or mine, the greater the impact, and these are more complex when the activities occur near ecologically or socially sensible areas. Rehabilitation is about putting the land or area that was impacted by extractive industries back to a sustainable, healthy and usable condition.

Lack of proper decommissioning and mine closure is a key risk in extractive industries, and the process is in itself a relevant source of negative environmental impact if not properly managed. Decommissioning, rehabilitation and closure is technical and complex, and insufficient funding is the largest barrier. The EI companies may have an interest in postponing the decommissioning phase. EI companies should ensure that they provide adequate plans and finances for rehabilitation and restoration of the environment throughout the lifecycle of the project, including progressive (ongoing) rehabilitation, rehabilitation in the closure phase, and rehabilitation of latent or residual impacts that may arise long after operations have ended.

There is a lack of global regulations and standards for decommissioning, rehabilitation and closure. It is the government's responsibility to ensure that petroleum or mining sites are not abandoned. Environmental laws should ensure that communities are protected and that companies are held accountable for environmental damage caused by extraction. Legal requirements for decommissioning and mine closure are often found in the petroleum or mineral act or in the environment act and regulations. The requirement will normally be for the licensee/contractor to submit to the ministry a *decommissioning plan* or *closure plan* either before obtaining an EIA licence or a specific amount of time before a licence expires or activities are expected to end. The plan must also contain information on costs and finances, management system, cessation alternatives and environmental and sustainability impact assessments, and contain a proposal for restoration of the land and waste management. The licensee/contractor shall establish a *decommissioning fund* large enough to cover the full costs of decommissioning, or provide other form of *financial assurance*. The licensee/contractor is responsible for *restoring* the affected area and removing the causes of damage or danger to the environment and the neighbouring communities. Governments must also make sure that there are local agencies with skilled people responsible for ensuring that closure is carried out as it should be. However, governments in many countries lack capacity to implement closure plans.

Best practice is developed through international and regional initiatives aimed at governments and companies respectively. Recent best practice for governments and industry<sup>48</sup> all seem to indicate that good policy should include adequate financial assurance, update mechanisms (regular closure plan and financial assurance updates and approvals), transparency, and community and stakeholder engagement

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<sup>48</sup> Recent examples of this are ICMM (2019) [Integrated Mine Closure - Good Practice Guide](#) and the ICMM (2019) [Financial Concepts for Mine Closure](#).

and participation. Within mining, the Asia-Pacific Economic Cooperation has developed a Mine Closure Checklist for governments, and The Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF) has developed a Mining Policy Framework. These can guide governments in developing and implementing a successful mine closure governance framework, and guide SAIs auditing government efforts to ensure proper mine closure.<sup>49</sup>

### **Local content, local employment and investment**

The intention with local content requirements is to ensure that host country citizens benefit from resource extraction in their country. It also ensures that local firms get supply contracts that ensure sustainable growth and development. Many contracts and licenses for extraction of oil, gas or minerals have local content provisions. Local content is not relevant only for developing countries or for EI; local content policies are being drafted across the world, and across sectors. Some countries have developed general or sector specific local content policies, and some have local content laws. The provisions aim to maximise the economic opportunities of resource extraction to the host country and better ensure that benefits associated with resource extraction remain in the host country. Local content policies that are gender sensitive and does not create inequalities can also help to reduce discrimination and promote opportunities for women's participation in EI, reducing the risk of gender inequality in EI.

Local content requirements frequently used include ownership (often joint ventures with local firms), maximisation of local procurement (preferences given to sourcing from local companies), local transformation of beneficiation of raw materials, local employment at different stages of the value chain and of different levels of competencies (often involving requirements to support training) and local technology or research development.

#### **3.7.6. High-level audit considerations**

To ensure that government performs its duties, the SAIs should consider:

##### **Environmental and society**

- Government commitments to meeting agreements made in treaties, laws, policies and programmes such as:
  - a. The existence of local policies, plans and legislation aligned to the treaties and to national development plans to govern the EI sector
  - b. Mainstreaming of major development goals (SDGs and Agenda 2063) into EI legislation, plans and policies
  - c. Mechanisms to monitor, follow up, review and report on the progress in implementing the 2030 Agendas

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<sup>49</sup> See for instance APEC (2018) [Mine Closure Checklist for Governments](#) and IGF (2013) [Mining Policy Framework - Mining and Sustainable Development](#).

- d. Resources and capacities (means of implementation) needed to implement the 2030 Agenda
- Government efforts to ensure EI companies comply with environmental and social laws and regulations including:
  - a. The process of assessing and approving Environmental Impact Assessments, Environmental Management Plans and Environmental Social Impact Assessments
  - b. Whether regulatory agencies enforce the submission of Environmental Impact Assessments, Environmental Management Plan and Social Impact Assessments by EI companies
  - c. The technical capacity of regulators to regularly monitor, report and follow-up on environmental and social issues
  - d. The effectiveness and adequacy of the system for regular monitoring, reporting and follow-up on environmental and social issues
  - e. Adequate supervision of EI activities
  - f. Efficient and effective management of funds (if any) for environmental and social monitoring
- Government preparedness

#### **Decommissioning, rehabilitation and closure**

- Governments efforts to ensure compliance such as:
  - Technical capacity of Government agencies processing and reviewing closure plans,
  - Whether the processes followed by the regulator ensure timely and cost-effective identification and rehabilitation of EI facilities to minimise adverse social and environmental impacts
  - Whether the regulator implement strategies that ensures that companies provide guarantee in the form of bonds or cash as security for the likelihood of failure of companies to rehabilitate or properly rehabilitate drilled or mined areas.
  - the adequacy of associated cost estimates and the management of financial assurance
  - Assurance of adequacy of rehabilitation works by the EI company/player
  - Availability of bonds and guarantees against failure to rehabilitate destroyed environment/communities/livelihoods
- The regulatory framework's completeness in assigning roles and responsibilities in decommissioning and closure, including liability in the event of non-compliance by contract/license holders

#### **Community development**

- Availability of Community development schemes/agreements/plans' and funds' aimed at ensuring that EI activities benefit the local communities
- Alignment of such plans to specific SDGs, targets and indicators as well as to regional and national plans and policies

- Availability of monitoring indicators for the schemes

**Local content**

- Whether the legal framework in their country has provided for local content requirements, and establish the comprehensiveness through benchmarking with countries that have a robust framework on local content

Assessing the effectiveness of the legal framework through auditing whether or to what extent the relevant government ministries, departments or agencies are monitoring the implementation of local content requirements.

EXPOSURE DRAFT

## 4. Other risk areas and relevant audit considerations in EI

### 4.1. State-owned enterprises (SOEs)

State-owned enterprises (SOEs) play important roles in exploiting natural resources and managing the extractive sector. While some are commercial or operational companies selling crude oil or raw minerals, managing state equity or participating directly in extractive operations others are regulatory or administrative entities or instruments of economic or state development.

Many SOEs perform a mix of commercial and non-commercial duties. SOEs can generate significant revenue for the state, enable a government to exercise greater control over the sector, help improve local technologies and skills, manage exposure to energy transition risks, or address market failures by providing services that would not otherwise be provided by the private sector. State equity is also used by many countries to secure additional government take (beyond tax revenue) from extractive projects. Governance of state participation and SOEs have considerable implications for public finances and the economy in general. Although some SOEs have made significant contributions to development and revenue generation, others have struggled with poor governance and corruption. Early results from EITI reporting and validation have shown that although financial transactions related to state-owned companies have become more transparent, there is still a demand for improvement of transparency standards around SOEs governance.

EITI reporting and validation have shown that although financial transactions related to state-owned companies have become more transparent, there is still a demand for improving transparency standards around SOE governance.

EITI standards require countries to explain the role of SOEs in the oil, gas and mining sector, as well as the rules that govern the financial relationship between the government and SOEs. This should include the level of ownership that the government has in SOEs, subsidiaries and joint ventures. Disclosures related to SOEs are covered by EITI Requirements 2.6, 4.5 and 6.2.

#### High Level Audit Considerations

- What revenues can the state expect to collect from its direct and indirect participation in the extractive sector?
- How much is the state or SOE spending to meet the terms of its participation in the industry, what are they entitled to receive and how much is it actually receiving in revenues?
- What are SOE auditing rules and how are they complied with?
- Does the state or SOEs manage revenues collected from its participation in the industry in a transparent and sound way?
- Is the SOE a credible partner for a foreign company to enter in a business partnership with?

The EITI International Secretariat recommends a step-by-step approach to Multi Stakeholder Groups for reporting on state participation in the extractive industries. Auditors can use the steps to gather information on SOEs participation in extractive industries. This is shown in Annex 5.

SOEs play a central role in the success or failure of national development. They can be engines for economic growth, but can also become mired in corruption and ineffectiveness.

The 2021 RGI assessed the governance of 21 oil, gas and mining SOEs. The report states that many state-owned enterprises lack basic elements of corporate transparency and financial accountability. To discourage corruption, SOEs should adopt basic elements of corporate transparency and financial accountability, such as the publication of annual reports and the conduct of regular financial audits.

State-owned enterprises should strengthen integrity measures. The record is similarly mixed with respect to other important integrity measures. Fifteen out of the 21 SOEs assessed in the 2021 RGI did not publish codes of conduct, making it difficult for citizens to know whether these companies have developed adequate anticorruption standards and procedures.

Corruption risks are also high in commodity trading and specifically when SOEs sell oil to commodity traders. Recent bribery cases have implicated several international traders and SOE officials from countries assessed in the 2021 RGI. Clear rules regarding commodity sales can guard against risk prone discretionary decision-making. Commodity sales transparency may also help prevent corruption and inform the efforts of anticorruption actors, such as law enforcement and the media.

Transparency, oversight and clearly established rules and processes can all help prevent corruption, including in the high-risk areas of beneficial ownership, SOE expenditures and commodity trading. They send signals to sector participants about the importance of integrity, reduce the scope for political or private agendas to distort decision-making and facilitate oversight.

SOEs should implement basic corporate transparency and financial accountability measures, such as the publication of annual reports, implementation of regular financial audits and reporting on commodity sales, as well as integrity measures such as publishing codes of conduct and increasing levels of governing board independence.

Disclosures of transactions within SOE groups are also vital to understand the financial relations between SOEs and their subsidiaries, joint ventures and affiliates, including dividends and payments collected, terms related to ownership changes and the sales of SOE assets.

## 4.2. Illicit financial flows

IFFs are defined as “money illegally earned, transferred or used” (OECD, 2018).

The *United Nations Development Programme (UNDP)* defines IFFs this way: “IFFs include, but are not limited to, cross-border transfers of the proceeds of tax evasion, corruption, trade in contraband goods, and criminal activities such as drug trafficking and counterfeiting.”

The international illegal or illicit movement of money generated in developing countries has become a major issue in the development agenda. Reducing illicit financial flows (IFFs) is a component of Goal 16<sup>50</sup> of the 2030 Sustainable Development Goals, as well as a staple of declarations from the G7 and G20.

Although the numbers on illicit financial flows (IFFs) are inherently rubbery and definitions vary, current estimates of illicit capital flight from the African continent amount to some USD 88.6 billion per year over 2013-15, or the equivalent of 3.7% of Africa’s total gross domestic product (GDP).; almost half of this, or at least USD 40 billion, was due to IFFs related to the export of extractive commodities (UNCTAD). This is significantly more than the value of official development assistance receipts, USD 37 billion, or of foreign direct investment, at USD 45 billion. <sup>51</sup> IFFs have five major sources (bribes, tax evasion, criminal enterprise earnings, corporate profit shifting and currency regulation evasion) and many channels for movement of the moneys (e.g. bulk cash smuggling, shell corporations, informal value transfer systems and trade-based money laundering).

Tackling illicit financial flows (IFFs) has gained prominence in recent years on account of the 2008-09 global financial crisis, the revelations of the Paradise and Panama Papers in 2016-17 and the all too frequent high-profile scandals involving some of the world’s largest corporations.

### 4.2.1. *Why IFF is an important matter*

Most illicit activities represent a net loss for the region: countries and companies lose revenue, investment, markets and legitimacy; and citizens are disenfranchised, exposed to violence and health risks, and deprived of financial gains.

- Illicit activities and flows feed a vicious cycle of corruption, allowing groups or individuals in power to access resources that can be used to boost electoral campaigns, secure patronage and retain control.

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<sup>50</sup> Goal 16.4 “By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime”.

<sup>51</sup> Porter, D. and C. Anderson (2021), *Illicit financial flows in oil and gas commodity trade: Experience, lessons and proposals*, OECD Publishing, Paris.

- There are spill-over effects from illicit and criminal activities, such as increased instability, violence or even terrorism.
- The distinction between licit and illicit is often blurred. With few viable legitimate livelihood opportunities within the formal economy, these other forms of trade and industry – albeit illicit – are subsistence-level activities.

At the same time, these issues have so far been addressed as security problems. Yet, for AFROSAI-E member countries, as elsewhere, they are primarily a development concern. The perspective of the most vulnerable – the ordinary African citizen – is also a particularly important area of focus in elaborating the role of SAIs in this area.

#### **4.2.2. *Illicit financial flows enablers***

As per the High-Level Panel on Illicit Flows from Africa Report of 2013<sup>52</sup> IFFs are driven by several “push” and “pull” factors. The most obvious push factor driving IFFs is the desire to hide illicit wealth. The report cites four key drivers of IFFs as given below:

- Poor governance enables IFFs. Low capacity and/or competence in assessment, audit and collection of revenues opens for transfer mispricing and tax evasion. A poor business environment may encourage IFFs when people find it easier to make money through illicit activities than through legitimate business. Weak regulatory structures may also be an important factor in post-conflict countries.
- Double taxation agreements (DTAs) can also enable IFFs. DTAs have a positive role in several respects, since double taxation can stifle economic activity and deter direct foreign investment, and agreements between countries to avoid such consequences have a place in necessary policy interventions. However, the benefit of such agreements depends on their provisions.
- Tax incentives<sup>53</sup> are another set of instruments with positive intentions that sometimes enable IFFs. Ordinarily, tax incentives are granted to encourage inward investment or the expansion of economic activity in general or in specific sectors. However, tax incentives are a major risk area for corruption, and they can have a pernicious effect when abused.
- A major enabler or pull factor for IFFs from Africa is the existence of financial secrecy jurisdictions and/or tax havens.

Irrespective of how illicit financial transfers take place, the ultimate objective of the actors involved is to hide the proceeds from the public eye and law enforcement agencies.

#### **4.2.3. *Key illicit financial flows in the extractive industries in Africa***

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<sup>52</sup> Report of the High-Level Panel on Illicit Financial Flows from Africa commissioned by the AU/ECA Conference of Ministers of Finance, Planning and Economic Development

<sup>53</sup> <https://www.taxjustice.net/2019/01/03/ineffective-tax-incentives-on-profits-heavily-used-by-african-nations-compared-to-european-nations-study-finds/>

In resource-rich sub-Saharan Africa (SSA), oil and mining on average account for 28% of gross domestic product (GDP) and more than three-quarters of export earnings. (OECD)

- Current estimates suggest that some EUR 40 billion in IFFs from the African continent each year are linked to the extractives industries, with the overwhelming share of these flows attributed to oil.

Oil trade activities constitute the most significant source of domestic resource mobilisation for oil producing developing countries. Yet, corruption and illicit financial flows (IFFs) also expose them to macro-critical risks of economic instability, exacerbating their often-high vulnerability to chronic poverty, fragility and episodic conflict.

In the EI sector, these flows mostly originate from corruption, illegal resource exploitation and tax evasion (including smuggling and transfer mispricing).

- indications are that the vulnerability of Sub Sahara African oil and gas producers to IFFs is increasing and that the COVID-19 pandemic is exacerbating it (OECD, 2020). In the current crisis brought about by COVID-19 and the drastic fall in global oil prices, capital outflows from selected developing and emerging Oil trading and development economies (including Angola, Ghana, Kenya, Nigeria, South Africa and Zambia) reached a record high of USD 100 billion between February and early June 2020 (G20 High-Level Ministerial Conference, 2020) Although all are not illicit, there is a risk of IFFs increases due to the expedited administrative measures adopted to deal with the economic and social crisis and to already overstretched administrative, oversight and audit functions.

### **Abusive transfer pricing (Transfer Mispricing)**

Transfer pricing happens whenever two companies that are part of the same multinational group trade with each other. Transfer pricing is not illegal or necessarily abusive. What is illegal or abusive is transfer mispricing, also known as transfer pricing manipulation or abusive transfer pricing. (Transfer mispricing is a form of a more general phenomenon known as trade mispricing, which includes trade between unrelated or apparently unrelated parties – an example is re-invoicing). It is estimated that in EI around 70 per cent of international trade happens within, rather than between, multinationals: that is, across national boundaries but within the same corporate group.

Estimates vary as to how much tax revenue is lost by governments due to transfer mispricing. See example as per Tanzania case studies by Hon. Zitto Kabwe, MP. African tax administrations (ATAF) report that transfer pricing represents one of the highest risks to their tax bases. Having effective transfer pricing legislation is a key element in African countries' fight to combat

abusive transfer pricing practices and is also important in providing taxpayers with greater tax certainty and encouraging voluntary compliance.

### Tax evasion

Tax evasion is the illegal evasion of taxes by individuals, corporations and trusts. Tax evasion often entails taxpayers deliberately misrepresenting the true state of their affairs to the revenue authorities to reduce their tax liability and includes dishonest tax reporting, such as declaring less income, profits or gains than the amounts earned, or overstating deductions.

Tax avoidance in EI generally takes place in the grey area between legality and illegality – such as when multinational entities shift profit to companies in tax havens – whereas tax evasion/fraud involves the overt breaking of laws. The organisation [Global Financial Integrity](#) estimates that Mauritania loses 12% of its GDP to such activity, Chad 20%, and the Republic of Congo 25%. As a result, IFFs both damage African states and hold back their industrialisation and development.

Tax evasion is criminal, but tax planning and tax avoidance is normally defined as legal activities. Multinational companies and their assistants will therefore be prone to describe their activities as legal tax planning until they are stopped by a relevant authority through a thorough tax audit that concludes by identifying the particular tax scheme as tax evasion, see figure 9 below.

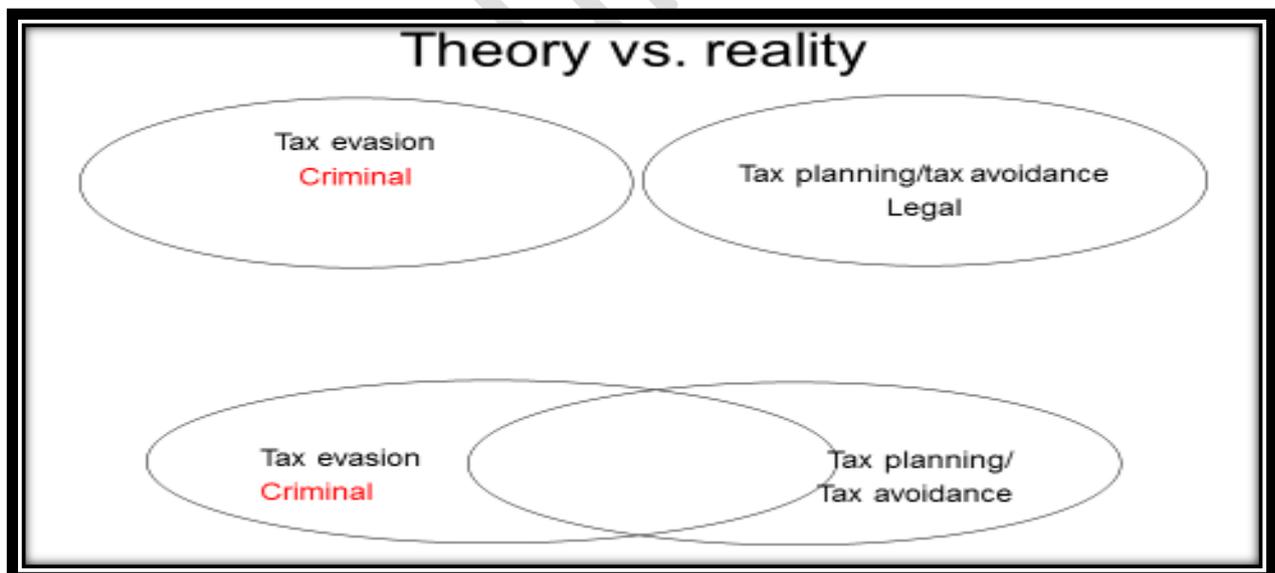


Figure 11: Theory vs. reality

### Money laundering

Money laundering is the act of concealing the transformation of profits from illegal activities and corruption into ostensibly "legitimate" assets. Money laundering is rife in Africa. Because

of the hugely cash based and often informal economies, criminals can move dirty money across borders, concealing its source and making it clean. As many African countries are rich in either oil or precious stones, these commodities are frequently used to move funds around the continent.

Money laundering involves three steps:

1. The first involves introducing cash into the financial system by some means ("placement").
2. The second involves carrying out complex financial transactions to camouflage the illegal source of the cash ("layering"); and
3. Finally, acquiring wealth generated from the transactions of the illicit funds ("integration").

Some of these steps may be omitted, depending upon the circumstances. For example, non-cash proceeds that are already in the financial system would not need to be placed.

Illegal transactions or financial discrepancies can take place anywhere in the world. There is, however, a lower risk of detection in African countries because the compliance programmes are often not as robust as they should be and, in some cases, simply ineffective. Several initiatives have been adopted with the goal of minimising money laundering, both in the world and in Africa specifically. The Eastern and Southern Africa Anti-Money Laundering Group (ESAAMLG<sup>54</sup>) aims to combat money laundering in Eastern and Southern Africa by studying emerging money-laundering typologies, developing capacities and coordinating technical assistance.

### **Beneficial Ownership**

Hidden beneficial owners of natural resource-related companies have been linked to significant levels of tax evasion, corruption, and international financial fraud.

Corruption risks are particularly linked to politically exposed persons (PEPs), or high-level public officials or politicians (or their family members) who have managed to acquire a stake in a natural resource company or an investment project. A review of 100 real-world cases of license or contract awards in the oil, gas, and mining sectors in which accusations of corruption arose found that over half involved a PEP as a hidden beneficial owner (Sayne, Gillies, Watkins 2017) Even in countries where companies are required to report, update, and publish beneficial ownership information, beneficial ownership disclosure can be evaded through creating shell companies in countries without disclosure requirements.

- *Pandora papers under beneficial ownership*

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<sup>54</sup> Members of ESAAMLG are Angola, Botswana, Comoros, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Seychelles, Tanzania, Uganda, Zambia and Zimbabwe.

Governments should establish public registries of verified beneficial ownership information on all legal entities, and all banks should know the true beneficial owner(s) of any account in their financial institution

#### **4.2.4. Existing efforts to combat illicit financial flows**

Illicit financial flows have both a source country and a destination country; they often also involve transit countries.<sup>55</sup> Transit countries are primarily wealthy nations, since they offer secure facilities, a wide range of investment opportunities and political stability. Destination countries may often be a tax haven where the beneficial owner controls the shifted profits. Tax haven may provide the beneficial owner desired secrecy or low tax or both. The flows can best be stemmed by internationally co-ordinated actions involving both source, transit and destination countries, as reflected in the resolutions of the G20 on the issue of IFFs. There are five main interventions explicitly aimed to reduce IFFs:<sup>56</sup>

1. Anti-money laundering (AML) laws and programmes. These attempt to (a) prevent offenders from turning illegally generated money into legal funds that can be used for any investment or consumption purpose and (b) use the effort to launder money to apprehend and punish offenders, including those professionals who help the primary offenders move, conceal or transform the proceeds of crime. Almost all nations have in place laws and institutions that have received some degree of approval from the Financial Action Task Force (FATF), a G7-created entity that sets the rules for such matters.
2. Stolen asset and recovery procedures. A range of laws and programmes aim to facilitate the return of assets stolen from national coffers by corrupt officials.
3. Automatic exchange of information between countries. Under these international treaties/agreements, each country's banks are required by law to provide revenue authorities with information about all accounts. Then each country exchanges such information of accounts that are held by that country's residents.<sup>57</sup>
4. The development of new rules regarding country-by-country reporting of corporate profits, intended to prevent corporate profit-shifting abuses; see OECD (2015).<sup>58</sup>
5. The development of ownership registries, which may hamper secrecy of ownership of financial assets and a broad array of real assets. In reality, the existence and use of tax havens will in many cases hamper governments and civil society abilities to disclose the beneficial owner.<sup>59</sup> The beneficial owner is the individual who ultimately controls or profits from a company.

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<sup>55</sup> See Tax Justice Network *Financial Secrecy Index* <http://www.financialsecrecyindex.com/introduction/fsi-2015-results>

<sup>56</sup> 2015 Financing for Development Commitment on IFFs: to "substantially reduce and eventually eliminate IFFs"

<sup>57</sup> <http://www.oecd.org/tax/exchange-of-tax-information/>

<sup>58</sup> <http://www.oecd.org/tax/transfer-pricing/transfer-pricing-documentation-and-country-by-country-reporting-action-13-2015-final-report-9789264241480-en.htm>

<sup>59</sup> [https://www.transparency.org/whatwedo/publication/recommendations\\_on\\_beneficial\\_ownership\\_transparency\\_for\\_ogp\\_national\\_actio](https://www.transparency.org/whatwedo/publication/recommendations_on_beneficial_ownership_transparency_for_ogp_national_actio)

#### **4.2.5. High-level audit considerations**

SAls remain at the pinnacle of good corporate governance in the public sector hence they have a role to play in addressing IFFs in EI. Government agencies should also work together and communicate with one another. The following considerations should be kept in mind when performing audits in EI:

- Acquiring information and understanding of how these outflows occur in the EI sector
- Consider the options to access available data for evaluating realistic and accurate volumes and sources of the outflow
- Government policy, legal framework and monitoring of IFF along the value chain
- If possible, identify whether EI companies have controls in place to prevent IFF
- Understanding of binding international law and treaties (transparency, money laundering, beneficial ownership and exchange of information)
- Ministry of Finance and revenue authority policies and actions to mitigate transfer mispricing
- Scrutinise contracts and agreements between government and EI companies for incentives and assess the economic impact on government revenues
- A broad range of IFF risks arise in oil and gas trading, among them the potential for tax evasion and money laundering associated with mis invoicing as well as the possibility of bribery, collusion and below-market pricing associated with the largely opaque oil-backed loans and oil-for-product swap agreements. IFF risks are mutually sustained on both sides of the trading relationship and at three key points of vulnerability:
  - **The selection of buyers and allocation of buyers' rights** - As is the case in government contracts in general, the allocation of the rights to buy oil or gas from national oil companies (NOCs) can attract corrupt behaviour. Problems can include bribery by buying companies to secure business, conflict of interest on the part of officials in charge of allocations and the allocation of rights to companies with politically exposed persons as their beneficial owners.
  - **The negotiation of terms of sale** - As with the award of trading rights, suboptimal terms of sale could result from bribery or favouritism. The terms of a NOC oil or gas sale determine whether the selling country receives the best possible value for its natural resources

### **4.3. Fraud and corruption**

Two main factors are often blamed for the scarcity of tax revenues from EI. First, unfavourable contracts and licence agreements tend to ensure that the larger portion of profit flows to multinational companies instead of generating revenue for the government and for the benefit of the citizens. Secondly, the high level of perceived risk of fraud, corruption and theft associated with the sector brings a focus for international good governance and anti-corruption initiatives.

Corruption - as per definition in the OECD, corruption involves behaviour on the part of officials in the public sector, whether politicians or civil servants, in which they improperly and unlawfully enrich themselves, or those close to them, by the misuse of the public power entrusted to them

Fraud - An intentional act by one or more individuals among management, those charged with governance, employees, or third parties, involving the use of deception to obtain an unjust or illegal advantage.<sup>60</sup>

**Fraudulent or corrupt practices may relate to:**

- Unfair allocation of area or block for exploration.
- Lack of transparent, competitive and non-discretionary procedures for the award of exploration, development and production rights. This may result in a situation where the fact that some bidder(s) may be favoured over others can go unnoticed and unpunished.
- Discretionary authority to grant tax holiday, tax incentives and other waving/derogating exemptions or benefits that deviate from the legal framework.
- Transfer mispricing, undertaking transactions with related parties at prices other than arm's length.

Given the significant revenue that is generated from the EI sector it is essential to have reliable financial systems and transparent contract management to mitigate the risk of corruption. If these are not in place, corruption can easily take root. Weak legal, regulatory and contractual frameworks and the lack of well-defined institutional responsibilities may present opportunities for corruption or fraud to occur under the radar for long periods.

**High level considerations:**

The role of the auditor, primarily, is to obtain an understanding of how government has set up systems of detecting fraud and corruption. Corruption may be structural by designing the system in a way that reduces transparency and accountability. The auditor must assess how system failures allow for corruption at all levels of government. The SAI will assess:

- If the risks are clearly documented, tracked with mitigation factors and who is accountable for this process
- If there is one integrated **Fraud and Corruption Strategy** across all spheres of Government and how is this assessed in terms of efficacy?

However, some red flags might indicate a high prevalence of fraudulent activities in the sector.

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<sup>60</sup> ISSAI 2240

**Table 9: Red flags for fraud and corruption**

CONSIDERATIONS / ELEMENTS	RED FLAGS INDICATING FRAUD AND CORRUPTION
Policies and Legal framework	<p><u>Outdated legal framework</u></p> <p>The legal framework may be outdated. In one African country, it was revealed that the Petroleum Act was 40 years old, therefore reducing its relevancy. This makes fraudulent activities more prevalent since it may not be apparent that any law has been breached.</p> <p><u>Discretionary authority to deviate/derogate/waive from legal framework</u></p> <p>Decisions to grant tax holiday, tax incentives or other exemptions or benefits. This is mainly caused by the authority that is given to a political exposed person (PEP) such as minister to have a discretion over some critical activities which in turn might result political capture and interference, conflict of interest, bribery and other corrupt practices.</p>
Government activities/ decisions regarding natural resources and exploration	<p><u>No proper use of databank</u></p> <p>When the bidding process is announced government should ensure a fair distribution of information on the possible petroleum and gas reserves in the exploration blocks. Routines for feeding data from seismic surveys/exploration activities into the databank may be poor, leading to an opportunity to commit fraud. This is when information may be excluded from the databank and sold to companies that are willing to pay for the information.</p> <p>Companies may also be reluctant to share their seismic data with government, which creates asymmetry of information between the two parties. Reluctance to part with important information may be due to suspected weak systems and/or corruption in government.</p> <p><u><sup>ii</sup>Inadequate environmental and social impact assessment and land tenure</u></p> <p>The process for undertaking environmental and social impact assessments and the granting of subsequent authorisations presents specific vulnerabilities. Risk factors include bureaucratic procedural delays in the approval of environmental and social impact assessments, the highly politicised process of approval of environmental impact assessments as well as the lack of communities' participation in the environmental impact assessment process</p>

CONSIDERATIONS / ELEMENTS	RED FLAGS INDICATING FRAUD AND CORRUPTION
Award of contracts and licences	<p><u>Complex and unclear bidding criteria</u></p> <p>This makes it difficult to bid with accuracy and to know how the criteria will be applied in choosing between candidates. It clears the way to award contracts to parties willing to pay bribes to be accepted. If the criteria are spelled out in an objective manner, and their weighting is clear, there is more accountability, making it more difficult to choose unfit companies.</p> <p>When companies without ability to meet the criteria are given the licence, they may opt to sell the rights to another company who can perform according to the contract. Proceeds from selling the licence are then shared with government official(s) that granted the licence.</p>
	<p><sup>1</sup> <u>Lack of host governments’ technical, human and financial resources to manage contract negotiation</u></p> <p>The insufficient technical, human and financial capacity of host governments to effectively manage negotiations ranges among the factors conducive to corruption risks on the government’s side. For example, the lack of supporting technical and economic baseline documents may undermine the government’s positions in negotiation. Weak administrative capacity may also result in unreasonable permitting and approval delays that corruption may contribute to reducing or avoiding.</p>
	<p><u>No pre-qualification rounds</u></p> <p>Without pre-qualification rounds government can be overwhelmed by numerous applications by companies with varying degrees of reliability. Companies may be established with the purpose of reaping the short-term benefits of acquiring a contract. They may have close links to policy makers. Ideally, only reliable companies with a solid reputation, when it comes to technology, finance and experience, should pass the pre-qualification round.</p>
	<p><u>Information on exploration blocks not disseminated</u></p> <p>There is unequal access to information in the announced blocks for exploration. Only companies that are willing to pay bribes to government officials get access to information that has significant market value.</p>

CONSIDERATIONS / ELEMENTS	RED FLAGS INDICATING FRAUD AND CORRUPTION
<p>Monitoring of operations – exploration and production</p>	<p><u>No reliable data on production figures</u></p> <p>Often, the total volume of production may not be known, or the information may not be reliable. For example, the total volume of petroleum and gas production in Nigeria remains a mystery. Estimates are not based on what was pumped from the wells and flow stations, but on what arrives at terminals and off-take points. This renders it possible for persons to steal crude petroleum on its way to the terminals, without being detected.</p>
	<p><u>Health, environment and safety</u></p> <p>Companies may offer bribes to monitoring and controlling agencies and receive leniency regarding the application of regulatory requirements. Companies might be given permission to operate petroleum rigs that do not comply with basic safety regulations, and which have negative impact on the environment.</p>
<p>Revenue assessment and collection</p>	<p><u>Discrepancy between tax return/assessment and payments</u></p> <p>The companies will declare to have paid certain amounts of tax and royalties. These payments may not fully reach the central bank. Is it a lack of checks and balances or were these amounts simply leaking along the way or overlooked? This issue brings the integrity of tax officials into question.</p>
	<p><u>Flaws/shortcomings in the assessment/collection systems or faulty internal controls</u></p> <p>The revenue authorities do not operate with double entry bookkeeping or maintain a cashbook or a general ledger. This makes it difficult to reconcile their own figures with the companies’ own assessments of exploration costs, fixed assets and production figures. This means if any discrepancy between the two was a result of corruption and theft, it is difficult to detect.</p>
	<p><u>Lack of discipline, both in management and executive work</u></p> <p>Auditors should also be aware that the systems are often blamed for discrepancies where simple checks would result in full reconciliations.</p>
	<p><u>Limited oversight</u></p> <p>The financial flows that are generated by the petroleum and gas revenue are not being tracked by a body such as the Accountant-General. The flows are left outside government information and management systems.</p> <p>Insufficient or inadequate reconciliation of revenue payments and accounts. Deals between top government officials and the petroleum and gas companies can be made which ensure that some of the financial flows end up in private hands.</p>

CONSIDERATIONS / ELEMENTS	RED FLAGS INDICATING FRAUD AND CORRUPTION
	<p><sup>1</sup> <u>Opacity of commodity trading transactions</u></p> <p>The lack of transparency and oversight in trading practices and processes of government's share of production provide opportunities for corruption. The lack of open and competitive public tender for the sale of commodities and the use of inappropriate commodity pricing benchmarks may lead to suboptimal allocation and overly favourable contractual terms awarded to the purchaser at the expense of the seller. This may occur in particular when the trading company offers little value-added acting as a mere intermediary between the public entity or its marketing agent and a second-tier purchaser. For example, the literature reports the case of suspicious transactions where a small trading company with no credentials in the trading business was offered very generous contractual terms for the trading of refined products even though it would provide no logistical or other reasonable service. The contractual clauses included unusual long-term repayment periods, payments in open credit with no financial guarantee requirement that lead to unbalanced terms where the seller assumes substantial default risks.</p> <p><sup>1</sup> <u>Non transparent ownership and governance structures of key actors involved in commodity trading</u></p> <p>Complex and opaque ownership and governance structures of key players in the commodity trading sector may constitute a factor conducive to corruption. This may be observed for example in the case of national oil companies that create subsidiaries for oil trading activities in purchasers' and consumers' countries or in the case of commodity trading firms using multiple entities with holdings and subsidiaries registered in different jurisdictions, front companies or front men to conceal beneficial owners</p> <p><sup>1</sup> <u>Lack of transparency on commodity trading related data</u></p> <p>Corruption may thrive where there is no full disclosure by host governments of disaggregated data on: oil volumes received by national oil companies; oil sales by national oil companies (i.e. buyer, volume, crude grade, price and</p>

CONSIDERATIONS / ELEMENTS	RED FLAGS INDICATING FRAUD AND CORRUPTION
	date for every cargo); revenue streams and financial transfers from and to the national oil companies and to and from the government
Revenue management and allocation	<p><u>Sale of natural resources is not transparent</u></p> <p>Sales and marketing information on natural resources is not always made available. For example, it is unclear how the crude petroleum is priced or what the basis is for choosing certain buyers.</p>

<sup>1</sup> <https://www.oecd.org/dev/Corruption-in-the-extractive-value-chain.pdf>

#### 4.4. Information systems and considerations along the EI value chain

The governance of extractive industries is controlled by many information systems. Some of these systems are registers, IT applications and databases that contain market sensitive information. Other systems are used for calculating EI revenue, based on the quantity and quality of the commodities produced.

Different types of data are captured, generated and exported in IT applications (a-c) and databases (d-j) such as:

- a) ERPs for mining and metals
- b) Accounting systems (or ERPs) for EI revenues, payroll etc., e.g. SAP, Oracle
- c) Revenue/customs, tax collection systems, e.g. ASYCUDA
- d) Mining cadastre data - an overview of mining licenses
- e) Oil and gas contracts<sup>61</sup> are found in various databases<sup>62</sup>
- f) Geological data for minerals
- g) Seismic survey data for oil and gas
- h) Mineral Output Statistical Evaluation System in Zambia (MOSES)
- i) Crane (Petroleum data management of Petroleum Authority of Uganda)
- j) Royalty Range and several transfer pricing databases, see description below

<sup>61</sup> [ResourceContracts.org](http://ResourceContracts.org)

<sup>62</sup> [OpenOil](http://OpenOil)

#### **4.4.1 Information systems**

##### **ERPs**

Enterprise Resource Planning (ERP) is a software that facilitates automation in business operations. The metals and minerals industry are extremely resource intensive (labour, investments, technology), which increases the need for ERPs to manage the main business processes, such as orders and sales, HR and payroll, purchase to pay, in addition to tracking business resources (cash, raw materials, production capacity). ERP software for mining industry forms a network of all the departments and divisions for sharing and exchanging data and information. This information is stored on centrally located databases for instant access whenever required.

**ERPs for mining** industry involves a vast number of processes for successful functioning of business. Allocation of resources, logistics and transportation and equipment management are some of important processes in mining industry. Every truck that carries mined metals or minerals, must be tracked to keep trace of inventory and funds. Decisions made internally can affect business strategies, which in turn affect business processes and operations. ERPs keep track of all changes to the business components and facilitates the flow of information. In similar way, there are also many ERPs for oil and gas.

Systems Application and Products (**SAP**) is an ERP that is widely used for accounting (FI) and payroll (HR), but SAP has also a large number of modules that ensures interconnection and performance efficiency without the need to use several interfacing applications. SAP modules are integrated into a single application, and the organisations can choose which modules to implement and pay for, according to their needs. SAP is widely used by many entities in the EI sector.

Several countries have implemented ERPs for financial management, which are called, Integrated Financial Management System (IFMIS).

**Other IT Applications** – these IT applications are used for specific accounting or controlling tasks in the EI value chain. They can be used for e.g. accounting, collection, recording of EI revenues, payroll etc.

**Mining Cadastre** data, which is a database of mining licences, are available on Resourcedata's website<sup>63</sup>. For Kenya<sup>64</sup>, Namibia<sup>65</sup>, Tanzania<sup>66</sup>, Zambia<sup>67</sup> and Uganda<sup>68</sup> this information is also available on their own country websites.

Mineral Output Statistical Evaluation System (**MOSES**<sup>69</sup>) - is a mineral tracking system designed by UNCTAD<sup>70</sup> and the Zambian Revenue Authority (ZRA). Its purpose is to facilitate detection of illicit trade practices that drain billions of dollars each year from the copper-rich nation and its people. The government recovered about \$1 million in unpaid export dues from mining companies just one year after piloting the MOSES in 2016.

Incorrect or mis invoicing, under-declaration of exports, and other fraudulent trade practices cost the southern African nation about \$12.5 billion between 2013 and 2015, according to [UNCTAD's Economic Development in Africa Report 2020](#).

In addition to tracking copper and other minerals as it is transporter from mines to borders, the system allows mining companies to submit their monthly mineral production reports electronically instead of travelling to the capital Lusaka to submit them in person. Delays have been cut from up to 230 days to less than one month, allowing the country's statistical office to produce more up-to-date national statistics reports for policymakers.

Other governments are also using MOSES to capture illicit financial flows out of the continent, which UNCTAD estimates at \$88.6 billion each year.

MOSES was developed as part of UNCTAD's Automated System for Customs Data ([ASYCUDA](#)), which has been helping developing countries modernize their customs clearance processes since the 1980s.

In Zambia, UNCTAD trained a local team of system developers who became responsible for maintaining and further developing the tool after the project ended in 2017. The local team is currently working on a new module for companies to be able to submit reports for gemstones.

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<sup>63</sup> [Mining Cadastre Portal - Datasets - ResourceData](#)

<sup>64</sup> [Kenya Mining Cadastre Portal - Home - FlexiCadastre](#)

<sup>65</sup> [Namibia Mining Cadastre Portal - Supported By Trimble Land Administration - Developers of Landfolio](#)

<sup>66</sup> [Tanzania Mining Cadastre eGov Portal - Home - FlexiCadastre \(madini.go.tz\)](#)

<sup>67</sup> [Zambia Mining Cadastre Map Portal - Trimble Landfolio](#)

<sup>68</sup> [Uganda Mining Cadastre eGov Portal - Trimble Landfolio - Home \(minerals.go.ug\)](#)

<sup>69</sup> [Mineral tracking tool helps Zambia combat illicit financial flows | UNCTAD](#)

<sup>70</sup> United Nations Conference on Trade and Development (UNCTAD)

[ASYCUDA](#)<sup>71</sup>- The UNCTAD Automated System for Customs Data (ASYCUDA) is an integrated customs management system for international trade and transport operations. The applications are designed and developed specifically for customs administrations and the trade community to comply with international standards when fulfilling import, export and transit related procedures.

Through its ASYCUDA programme, UNCTAD aims at:

- Modernising customs operations and helping to improve revenue collection
- Facilitating trade efficiency and competitiveness by substantially reducing transaction time and costs
- Improving security by streamlining procedures of cargo control, transit of goods and clearance of goods
- Helping fight corruption by enhancing the transparency of transactions
- Promoting sustainable development by cutting down on the use of paper, using electronic transactions and documents

According to the information on [ASYCUDA - User Countries](#), 16 out of 26 AFROSAI-E member countries are using Asycuda as per June 2022. These are listed below along with the year they adopted ASYCUDA.

Angola - AGT (2016), Eritrea, Kingdom of Eswatini Revenue Authorities - ERA, Gambia - GRA, Lesotho Revenue Authorities (2015), Liberia - LRA (2009), Malawi - MRA (2015), Mozambique - ANAC, Namibia (2017), Rwanda RRA (2016), Seychelles - SRC (2013), Sierra Leone - NRA (2019), Sudan (2011), Zambia - ZRA (2016), Zimbabwe - ZIMRA (2008) and Uganda - URA (2015)

**CRANE**<sup>72</sup> - Petroleum Authority of Uganda's Petroleum Data management

The PAU manages all the data generated from oil and gas activities in Uganda and assesses and responds to request for data. The data includes Geological and Geophysical (G&G), Engineering, Health, Safety and Environment (HSE), Costs, National Content, Subsurface and Surface Facilities. In line with the above, the PAU continues to implement:

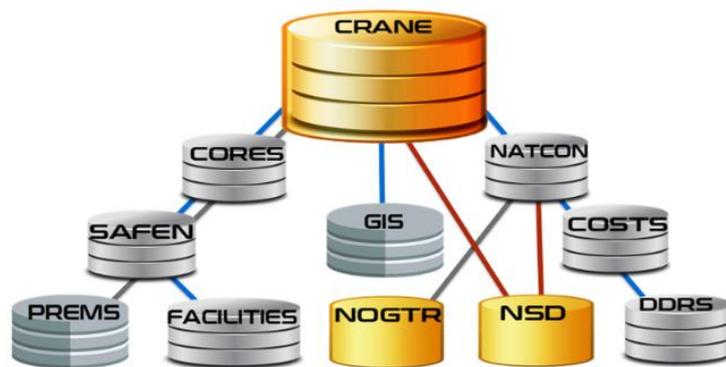
- The establishment of an internationally standardised and competitive tier three data centre.
- Efficiency in service delivery by establishing information, Communication and Technology (ICT) Infrastructure and e-Government systems, the National Supplier Database (NSD) AND National Oil and Gas Talent Register (NOGTR); and,

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<sup>71</sup> [Customs automation - ASYCUDA | UNCTAD](#)

<sup>72</sup> [Petroleum Data Management – Petroleum Authority of Uganda \(PAU\).](#)

- The development of the National Petroleum Data Repository.



### REFERENCE DATA FAMILY

Figure 12: SAI Uganda has conducted an IT audit of this system

**Royalty Range**<sup>73</sup> provides data on private company financials and ownership, royalty rates, loan interest rates and service fees. Below are also links to some transfer pricing sites:

[Transfer Pricing Benchmarking Database - TPGenie - Transfer Pricing Documentation Software \(intrapricing.com\)](http://intrapricing.com)

[Comparable Databases | Transfer Pricing | MENA | Thomson Reuters](#)

[The Transfer Pricing Database of data presents information on the “Sixth Method” corresponding to 10 Latin American countries | Inter-American Center of Tax Administrations \(ciat.org\)](#)

[International Transfer Pricing Analysis | Bureau van Dijk \(bvdinfo.com\)](#)

[Comparables | Transfer Pricing | EdgarStat](#)

#### 4.4.2. Application controls and general IT controls

When the auditor is considering risks that are relevant for financial statements, for example revenues from extractive industries, and where the auditee is using IT applications throughout this process. Financial auditors are required to take into consideration the “shall” requirements in ISSAI 2315. These requirements are incorporated in the Financial Audit Manual and related working papers.

Performance and compliance auditors may also find these considerations useful, because the EI systems (MOSES, CRANE, Cadaster) are «feeding” systems. Meaning they form the basis for calculation of the country’s revenue. This is governed by laws and regulations – and ensuring valid, complete and correct data in these systems will help ensure that the revenue from EI is correctly stated.

<sup>73</sup> See more info on website: <https://www.royaltyrange.com>

IFMIS, ASYCUDA and other revenue systems are financial systems. These systems should be audited in accordance with the ISSAI 2000-series, specifically ISSAI 2315 for IT.

The auditor must gain an understanding of the entity's information system. IT applications, which are part of the information system that the user's interface with, must be identified by the auditor, e.g.:

- Integrated Financial Management Information Systems (IFMIS e.g. Oracle EBS, SAP, Epicor)
- Payroll system e.g. IPPIS
- Tax systems e.g. ASYCUDA
- Accounting systems e.g. Sun Systems, Xero, QuickBooks
- Excel spreadsheet
- Any other relevant information system that is relevant for the audit of EI (see list above)

In this process, it is important to understand whether the IT applications are complex in nature. In obtaining an understanding of the IT environment relevant to the transactions flow, the auditor gathers information about<sup>74</sup>:

- I. **the nature and characteristics of the IT applications used,**
- II. as well as the supporting IT infrastructure and IT.

It is also important to understand whether and how the IT applications are interfaced with other applications. If the transfer of the data is fully automated or there are manual processes involved. How does data from ASYCUDA or the "feeding" systems end up in IFMIS or the consolidated financial statements? EI auditors should gain an understanding of this process and identify information processing controls that ensure that only valid, complete and accurate data is input, processed through the feeding system, and output and uploaded (or transformed to financial data and input) into the financial systems.

There is less risk of human error in fully automated process compared to manual. For example if the entity is processing information or transactions in excel spreadsheet and the data-capturing is done manually it is prone to more errors compared to if the data were transferred in a batch file, e.g. from revenue application to GL in an ERP/IFMIS. Most of the entities, and, in the extractive sector use excel spreadsheet to capture, process and manage data, and produce reports, but they do not take sufficient measures to secure the data in the excel files.

The auditor should consider if the application is in-house developed and customised especially for extractive activities/process along the EI value chain or if it is a standard application. There is higher risk for in-house developed applications generally compared to standard applications.

The auditor should also assess if the entity is relying heavily on system generated reports, the auditor should understand the dataflow of the output of the relevant report and consider the risks that might

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<sup>74</sup> ISSAI 2315, Appendix 5, para 4

occur in the transaction flow and if the output is correct and valid. Integrity of data is key to understand in this process.

The auditor should assess whether the entity's IT environment give rise to risks arising from the use of IT.

**IT environment** – The IT applications and supporting IT infrastructure, as well as the IT processes and personnel involved in those processes, which an entity uses to support business/extractive operations.

<sup>75</sup>

- (i) An **IT application** is a program or a set of programs that is used in the initiation, processing, recording and reporting of transactions or information.
- (ii) The **IT infrastructure** comprises the network, operating systems, and databases and their related hardware and software.
- (iii) The **IT processes** are the entity's processes to manage access to the IT environment, manage program changes or changes to the IT environment and manage IT operations.

What kind of information processing controls does the entity have and which risks do they mitigate? These are controls relating to the processing of information in IT applications or manual information processes in the entity's information system that directly address risks to the integrity of information (i.e., the completeness, accuracy and validity of transactions and other information).

Does the entity have policies and procedures that govern IT controls?

Are the IT controls designed, implemented and operating effectively?

To understand this the auditor should obtain policies and procedures that at least include:

- a) User management and passwords
- b) Logs and audit trails
- c) Change management
- d) Backup
- e) Physical and environmental controls

Is the **IT department** adequately resourced to support the management of the IT environment?

Keeping the financial systems and other IT systems related to EI value chain up and running, day-to-day problem solving. Is there sufficient segregation of duties?

To understand this the auditor should obtain:

- Organisation chart

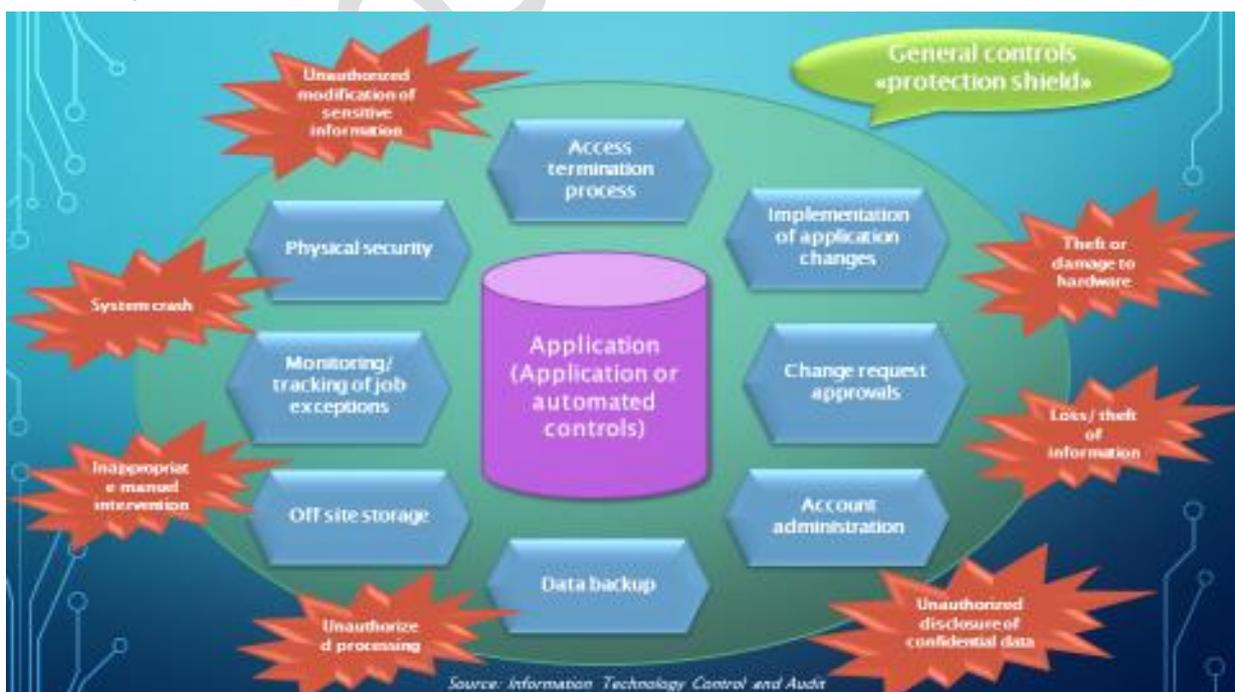
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<sup>75</sup> ISSAI 2315 para 12 (g)

- IT business plan – responsibilities of IT dept
- Job descriptions/staff competencies & qualifications/training program
- Budgets

**Outsourced IT:** The auditor should also identify if the entity has outsourced any IT services relevant to the financial systems or relevant to the audit of any steps along the EI value chain. Find out if there is a contract that outlines roles and responsibilities and that the entity's financial data related to financial statements or other extractive data related to EI value chain audits, is kept safe from unauthorised changes, and available when needed. Contract with Service Level Agreement is a key document in this regard and the auditor should obtain this and assess if there are risks related to the integrity of the data. If the risk arising from the use of IT is high, the auditor shall test general controls in addition to the information processing controls (manual and automated application controls).

The figure below illustrates how it all is interrelated. It does not apply to any particular audit type, and it is relevant for all audit types along the EI value chain. In the centre is the IT applications such as SAP and ASYCUDA. There will be embedded controls in the application that are automated and if the entity is relying on these controls the general IT controls must be effective as they are a kind of protective shield around the applications. General IT controls are those controls related to access such as users and passwords, change management (regular updates), security (back-up, cyber security, firewall etc). The risks that might occur and what the auditors need to assess, are illustrated in red/maroon around the general IT controls. The risks might be that someone has unauthorised access to modify business sensitive information. The EI entities might be vulnerable to hacking that might cause system crash and if the entity does not have back-up, it can be a serious threat for the existence of the entity that might lead to major loss of revenues and services to the citizens.



### Figure 13: General IT Controls

General IT controls are implemented to address the risks that are arising from the use of IT. Examples of risks arising from use of IT include risks related to inappropriate reliance on IT applications that are processing data inaccurately, processing inaccurate data, or both, such as<sup>76</sup>;

- Unauthorised access to data that may result in destruction of data or improper changes to data, including recording of unauthorised or non-existence transactions (such as salary to ghost employees, fake invoices, mis invoicing/transfer pricing, altering quantity of mining minerals, metals etc., override/changing of prices of goods and/or revenues). Particular risks may arise when multiple users have access to common database.
- IT personnel is granted access privileges beyond what is required or necessary to perform their assigned duties, resulting in breaking down segregation of duties.
- Unauthorised changes of master data/permanent data (e.g. change of bank account number) or changes to data in master files.
- Unauthorised changes to IT applications or other aspects of the IT environment.
- Failure to or postponing necessary changes to IT applications (updates) or other aspects of the IT environment. (We can relate to how important it is that we update our laptops and mobiles/cell phones with the latest updates).
- Potential loss of data or inability to access data as required. (Loss of data might be records that were captured for the financial statements. If there is no back-up the data cannot be restored, in the same way as when someone forgets to save a file on laptop or system/laptop has crashed that information/data is lost permanently).
- Inappropriate manual intervention.

#### **4.4.3 Cyber threats as risk areas in EI audits**

The increased use of interconnected/integrated IT applications has increased the risk arising from the use of IT. Under these conditions, opportunities for cyber criminals are multiplying. Not surprisingly, in recent years, the oil and gas industry has been targeted by several high-profile cyber-attacks. According to PWC [Cyber threat intelligence \(pwc.com\)](https://www.pwc.com/cyber-threat-intelligence):

- 49% of CEOs see Cyber risks as the number one threat in 2022
- 66% of CISOs and CIOs predict a rise in malware-via-software-update incidents in H2 2021
- 64% of CISOs and CIOs expect a jump in ransomware and software supply chain incidents in H2 2021
- 86% of cyber-attacks that PwC responded to were attributable to cyber criminals in 2020

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<sup>76</sup> ISSAI 2315 appendix 5 para 18.

The auditors need to be aware of these risks, but to audit these will require specialised expertise and the team would need to bring experts on board in case such risks are assessed as high, and whenever they are relevant for the EI audits along the EI value chain.

Up stream	Middle stream	Down stream
<ul style="list-style-type: none"> <li>• Manipulating field device parameter settings</li> <li>• Interfering with key safety controls and measures</li> <li>• Theft of intellectual property such as geological data, production information and bidding documents</li> </ul>	<ul style="list-style-type: none"> <li>• Unauthorised access to and manipulation of relieve valves, compressors and manually overriding automatic shutdowns in pipelines</li> <li>• Altering automated storage gauge controls and alarms (level, temperature, pressure)</li> </ul>	<ul style="list-style-type: none"> <li>• Controlling automated gauges at retail stations</li> <li>• Theft of customer credit card and sales data</li> <li>• Tampering with market data and transaction systems</li> </ul>
<p><b>Key business risks posed by cyber attacks</b></p> <ul style="list-style-type: none"> <li>• Damage to critical infrastructure • Environmental damage • Operational shutdown</li> <li>• Plant sabotage • Utilities interruption • Production disruption • Product quality (inferior oil or gas quality) • Undetected spills • Illegal pipeline tapping • Safety incidents (death or injury)</li> <li>• Financial loss • Reputational damage • Market disruption • National security</li> </ul>		

**Figure 14: cyber breaches impact on Oil and Gas production streams**

#### **4.4.4 Applying Data Analytics in audit of EI**

There is a vast amount of data available both at the entities that are audited by the SAIs and from the external databases. As mentioned earlier in chapter 4.1.1. the auditor can retrieve data such as contracts, mining cadastre, quantity of oil or mining/minerals extracted or deposits that can be extracted (exploration/monitoring data), commodity prices (revenue), transfer pricing databases etc. The auditor may consider using all this data that is available in audit of the extractive industries, but should at the same time be mindful of the quality of the data and assess if it is reliable. The audit team needs to identify what kind of data is relevant and reliable and then how it relates to the risks.

The auditors may consider performing data analytics that might be helpful to handle the (big) data available in an effective manner. When it has been determined, the auditor would also need to assess what is the purpose of the analyses and what will be the final outcome that may be helpful in auditing the extractive industries.

## What is Big Data?

Big data is large in *volume* (terabytes, even petabytes), complex in *format* (structured and unstructured formats like photos, maps, text, video, satellite data, sound etc.) and it is aggregated at a high speed (*velocity*), making regular processing power and software inadequate. More attributes have been added to the definition in recent years, like *value* – data has become a commodity, either by providing a competitive advantage or as an asset, and *veracity* – that questions the reliability of the data. Most SAIs are analysing data to some extent in their audits – does it matter whether it is big data or not so big data? We think not. “Value” should be the key word for SAIs. If the data analytics that we are conducting adds value to the audits of extractive industries, our reports and the citizens, we want to encourage more of it.<sup>77</sup>

The SAI/auditor may use IT software/tools such as Excel (advanced), Structured Query Language (SQL), Advanced Teammate analytics, Power BI, R and Python-Statistical Programming and other relevant tools and skills in presentation.

The auditors can use the data that is available already to the auditors from IFMIS/ERP and/or any IT-system mentioned above. If it is not sufficient auditors may also use external data that is available in various databases to perform audit data analytics in all audit types, i.e. financial- compliance- or performance audits. Our focus in the guidelines is to help auditors to assess if there is data available that can be used in performing audit data analytics that might give useful insight while auditing in any area of extractive industries.

## Audit Data Analytics (ADA)

There are two types of data analyses that can be performed:

- **Exploratory** data analyses are applied in identifying and assessing risks. Exploratory analyses are perceived as suitable for audit data analytics. The auditor can identify various patterns and assess how they deviate from the norm, analyse for example expected revenue compared to actual revenue, or the volumes produced in either mining or oil and gas. It is recommended to use graphs etc. to visualise data and explore the outliers. Exploratory analyses encompass also predictive analyses and can be performed by using external data to assess estimates and consider if the estimates are realistic.
- **Confirmatory** data analyses are applied on 100% of data population to confirm either accuracy, completeness, existence or to identify deviations. Audit standards (ISSAIs) requirements on audit evidence applies in the same manner here as in any other audit evidence gathering. Audit evidence needs to be reliable and relevant according to AICPA.

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<sup>77</sup> AFROSAI-E's SAI Guide - Becoming a Data Driven SAI, p. 6

We will not go into details on how to conduct data analyses as it is a separate discipline. The information above is mentioned to help the auditor to consider if data analyses can be performed on some of the EI audits. However, before you get started you need to assess what is the purpose of the analyses and you should have a fairly good idea of what kind of outcome is expected.

#### **4.4.5 High-level IT audit considerations**

The auditor should be aware of the risks related to the information systems that are relevant for EI, and consider the following in the process of risk assessment along the EI value chain and gather audit evidence/information from the entity for the following:

- Does the organisation/entity have IT strategy, IT policies or annual IT plan in place?
- Is the IT strategy/IT policy implemented?
- How often does the organisation go through its governance structures discuss and review its IT security defences and policies?
- Do the organisations perform regular risk assessments on the integrity of its systems?
- Do they have sufficient IT competence in the organisation?
- Has the organisation instituted effective training programmes that instruct employees on the appropriate handling and protection of sensitive data?
- Is there sufficient segregation of duties in the organisation?
- Assess if the IT environment is complex.
- Assess if the entity and its IT environment is too complex to secure.
- Assess if they have secured against the most important risks today and have focus on future security.
- Assess if the entity is posed to risks by third parties and supply chain.
- Enquire with the entity which specific risks they are worried about and how they are safeguarding against those risks.
- Which specific controls has the entity implemented to mitigate the risks they have identified and are concerned about?
- Does the entity have cyber security and threat management policy? If yes, have they implemented it? Do they monitor the incidents on regular basis?
- Has the entity outsourced services to third-party, and do they have contract and service level agreements.
- Assess whether the entity is exposed to risks related to third party.
- Consider if there is available data from the entity that you may use for performing data analyses.
- Assess if the data is reliable and relevant.
- Assess if there is available data in external databases that can be used in data analyses
- Assess if the team has competence in data analytics or consider using experts.

These are just some of the considerations that the auditor may consider regarding IT. The auditor's assessment and audit evidence/information gathering should not be limited to only these. You should also apply your professional judgement and your understanding of the entity and add on whatever is required in the process of risk assessment regarding information systems used in the EI along the value chain.

## 4.5. Energy transition

### ***Planning for the Green Shift and the Energy Transition***

A key sustainable policy is to make sure that the country does not become too dependent on revenue from a single source of EI material such as oil, gas, metals etc. Prices will fluctuate, and for some products, it is likely that they will gradually be phased out. This is especially true for oil and gas.

The UN Secretary General António Guterres declared on 4<sup>th</sup> April 2022, on the day of the launch of the 3<sup>rd</sup> Main Report from the IPCC the following:

***“But the truly dangerous radicals are the countries that are increasing the production of fossil fuels. Investing in new fossil fuels infrastructure is moral and economic madness. Such investments will soon be stranded assets – a blot on the landscape, and a blight on investment portfolios”<sup>78</sup>***

The Secretary General gave his warning as a response to the collective failure to reach the 1,5 degrees limit set by the COP 26 Climate Conference in Glasgow 2021.

### **Energy transition and Climate Risk**

According to the resolutions from the COP 26 Climate Summit in Glasgow 2021<sup>79</sup>, global CO<sub>2</sub> emissions need to be cut in half by end of 2030. The goal is to limit the global temperature increase to 1,5 degrees. If this is to happen, there needs to be a major energy transition from carbon fuels, such as oil, natural gas and coal, to renewable sources of energy.

This represents a challenge to many countries. On one hand there are countries which have made themselves dependent on oil and gas revenues, and which have failed to diversify their economy. Examples of such countries are Nigeria, Angola and South Sudan. On the other hand, there are countries that have very recently discovered oil and gas reserves and have made major investments and are looking forward to reaping the benefits from these. Examples of such countries are Mozambique, Tanzania, Kenya and Uganda. For both these group of countries, an

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<sup>78</sup> [Secretary-General's video message on the launch of the third IPCC report \[scroll down for languages\] | United Nations Secretary-General](#)

<sup>79</sup> [Decision 1/CMA.3 \(unfccc.int\)](#)

energy transition will be challenging because of high expectations in the public and low capacity to make an energy transition. The question is whether they need to act swiftly to meet the climate risk, or whether they stick to their intended plan and continue to become a petroleum producing country. What do we mean by climate risk?

Climate risk may have at least two different meanings:

- The risk that investments in oil and gas production will yield a negative rate of return because of a future drop in the global demand, which in turn is a result of a shift to greener energy sources
- The risk of physical impacts from climate change such as extreme weather, floods, droughts and sea level rise.

In this context, we are more concerned about the first risk, which are policy risks related to major investments in the oil and gas sector, which inflict great losses on the government.

### **Will oil and gas prices continue to be high?**

There are so many factors contributing to the oil and gas prices that this is impossible to say for sure. What we do know is that renewable energy sources such as solar power and wind power are becoming increasingly cheaper. Many countries are developing these energy sources in order not to become too dependent on unreliable suppliers of oil and gas, such as Russia. Many will say that this in the short term will benefit oil and gas producing countries in Africa; especially for those countries which develop LNG infrastructure. Europe in particular will be on the look for other providers of natural gas to put less dependence on Russia.

Even though the increased demand for natural gas has created optimism for natural gas producers in Africa there are reasons for taking caution. According to NRG<sup>80</sup> such reasons include:

- Current oil and gas producers have limited spare capacity to quickly increase their supply.
- Investment decisions in Mozambique and Tanzania are like to take time. This means that significant production is unlikely before 2030. By that time Europe's energy demand challenges may have resolved.
- If Russia's supply is redirected to Asia this may result in reduced shipment of oil and gas from Africa to Asia.
- Europe's energy demand may be met by LNG exports from the US, and suppliers in the Middle East, instead of Africa.
- Improvements in energy efficiency and development of alternative technologies may lead to reduced demand for energy from Africa.

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<sup>80</sup> [Will Africa really be "Europe's next gas station"? | African Arguments](#)

The conclusion is that the current, and prospective, oil and gas producing countries' governments need to factor in the risk that their oil and gas products might not become commercially viable. As SAIs we should as a minimum expect that the governments have made revenue projections that are realistic. Countries with substantial oil, gas and mineral reserves should also make long-term plans that assist in diversifying the economy. Too much reliance on a few commodities will be a burden in the end. Even though we have seen recent spikes in commodity prices, especially oil and gas, the long-term trend is clear: fossil fuels will need to be gradually phased out to tackle climate change. On the other hand energy transition does also create opportunities for mining sector due to increased demand for critical minerals, such as copper, aluminium, lithium, nickel, cobalt, manganese and graphite that are used in EV-batteries, solar power and windmills. According to IEA<sup>81</sup> demand for these minerals will grow quickly as green energy gather pace.

### **High level considerations**

#### **Energy transition and climate risk**

- What policies are in place to ensure that the country does not become too dependent on EI revenues source?
- What revenue projections have the Ministry of Finance, or similar, done to consider that the development and production of oil and/or gas may give a negative rate of return because of the global energy shift?
- Is there sufficient awareness about the critical minerals and the increased demand towards the energy transition?

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<sup>81</sup> [The Role of Critical Minerals in Clean Energy Transitions – Analysis - IEA](#)

## 5. Annexures

### Annex 1: Background on the extractive industry sector

This annex provides a detailed background on the main features of the oil and gas and solid mineral mining environment. Through extensive research, the annex gives both current and futuristic perspectives of developments in the industry through various examples from the African continent. The annex also covers the issue of artisanal mining.

#### Overview of the petroleum and gas industry<sup>82</sup>

The oil and gas industry in Africa continues to show substantial growth, with new hydrocarbon provinces developing at a significant pace. Large gas finds in Mozambique and Tanzania have caused the world to take note of East Africa as an emerging player in the global industry. According to PwC (2017)<sup>83</sup> Africa has proven natural gas reserves of 502 trillion cubic feet (Tcf) with 90% of the continent's annual natural gas production of 6.5 Tcf coming from Nigeria, Libya, Algeria and Egypt.

To date, the African oil and gas industry continues to play catch-up with the rest of the world. Despite the potential of the industry, several challenges still hamstringing the oil and gas industry in Africa from flourishing. Whilst some are industry-generic challenges, most are geopolitically driven. The internationally sustained low oil price means organisations need to continue to manage costs/spend efficiently. This is made more important as we begin to see capex increases return in the oil and gas industry. Such severe cost-cutting regimes pose challenges to the auditors as they are red-flag areas for accounting fraud and error.

Although over the years the industry and its leaders have been viewed as laggards to change, recently the oil and gas industry has not been spared the upheavals of disruptive technology. In a changing competitive landscape, driven by alternative fuels, technology, cost-cutting and partnerships, oil and gas companies need to review their strategic portfolio of activities to ensure appropriate positioning as the competitive landscape changes. For the auditor this requires more audit focus on the going concern of some of these oil companies, as the efficiency and sustainability of some business models are being challenged.

The cost per barrel of crude oil is quoted in US\$ whilst the functional and reporting currencies of most oil and gas companies in Africa are in their local currency. With financing costs, foreign currency and currency devaluation continuing as key issues for the industry in the African context, organisations should consider developing more sophisticated finance capabilities. This inevitably makes the financial reporting process more complex for the auditors and a breeding ground for fraud and corruption. As

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<sup>82</sup> <https://www.pwc.co.za/en/assets/pdf/africa-oil-and-gas-review-2018.pdf>

<sup>83</sup> PwC – South Africa 2017 Oil & Gas Africa Report

corruption continues to be a phenomenal key factor in the industry, entities need to ensure that strong, ethical leadership drives the right behaviours across the organisation.

### ***Current status***

A report from PwC – South Africa 2017 Oil & Gas Africa Report – states that despite the new discoveries in oil and gas, Africa’s share of global oil production has continued its downward trend in the past four years, dropping sharply, moving it from 9.1% of global output last year to 8.6%. Proven oil reserves in the region are estimated at 7.5% of global, a 0.1% drop from 2016 totals.

Global oil and gas industry reports continue to hint that the drop in African production was sizeable in many jurisdictions, with production in Nigeria and Congo dropping 11.9% and 7.6% respectively. In South Sudan, despite it being one of the most oil dependent countries in the world, there was a 20% drop in production between 2015 and 2016. This is due to the continued disruption from civil war in the territory as well as ageing production facilities. There are only two notable countries where production increased with Algeria growing by 1.4% and Chad increasing by a mere 0.6%.

As exploration activity has waned, this result was foreseeable. Despite this reduction, recent large finds include: Owowo in Nigeria with a potential of one billion barrels of oil, Cayar in offshore Senegal/Mauritania with approximately 15 Tcf of gas and Block 20/21 in Angola with around 313 million barrels of condensate and 2.8 Tcf of gas. Globally, the oil discovery count was down to 174, the lowest level for 60 years.

### ***The future of petroleum and gas production***

Exploration is taking place in several other countries that aim to increase their output or become first-time producers. Included in this list are Chad, Sudan, Namibia, South Africa, Madagascar and Uganda while Mozambique and Tanzania are potential gas producers.

### ***Table 5.1: Oil and gas discoveries***

## Top 10 oil & gas discoveries in 2016

Asset	Country	Region	Operator	Type	On/ Offshore	Resources (Mbbbl)
Woodford & Barnett Shale (Alpine High) – Permian Delaware	United States	North America	Apache	Gas	Onshore	944
Katambi	Angola	West Africa	BP	Gas	Offshore	699
Woodford & Barnett Shale (Alpine High) – Permian Delaware	United States	North America	Apache	Liquids	Onshore	629
Teranga	Senegal	West Africa	Kosmos Energy	Gas	Offshore	529
Al-Jathatheel	Kuwait	Middle East	Kuwait Petroleum Corp (KPC)	Liquids	Onshore	419
Ahmeyim	Senegal	West Africa	BP	Gas	Offshore	417
Golfinho	Angola	West Africa	Cobalt International Energy	Liquids	Offshore	272
Jerun	Malaysia	Southeast Asia	Sapurakencana Petroleum	Gas	Offshore	250
Zalophus	Angola	West Africa	Cobalt International Energy	Gas	Offshore	245
Anye Shale	China	East Asia	Sinopec	Gas	Onshore	244

Source: Rystad Energy

In emerging petroleum- and gas-producing countries, there is an ongoing process to consolidate and design management of the petroleum sector. This is a difficult and often controversial process, creating conflicts between different interest groups and even increasing uneven levels of power and resources among stakeholders. This process calls for a new legislative framework, such as a petroleum act, the establishment of new agencies, acquiring new technology and competence. SAIs can potentially play a critical role in ensuring that the extraction process follows internationally accepted best practice and that the resources are being used for the public good.

### Overview of the mining sector

Depending on how well mining policies and frameworks are developed, the mining sector will be biased toward either exerting a positive or a negative influence on development in countries with mineral resources. Depending on natural resource abundance, industry development and market conditions, revenues from the extraction of minerals can make up a large portion of a national or regional economy. In Sierra Leone and Mozambique, for example, the value of mining production in 2014 represented approximately 54% and 38% of national gross domestic product, respectively.<sup>84</sup>

<sup>84</sup>CAAF Guide to Auditing Mining Revenues and Financial Assurances for Site Remediation, July 2017

Mining can provide the government with budgetary resources that would be necessary for poverty reduction programmes and that can have the potential to be significant catalysts for further private sector development in the region or country.

Mining is likely to contribute to the development of the economy of any country, through taxes from large-scale mining companies that contribute to socio-economic infrastructural development within the area where the mine is located; creating employment opportunities both directly in the mines and indirectly through services to the mines; improving human capital through the provision of education and health services; increasing foreign exchange reserves (reducing foreign exchange deficit); improving infrastructure like roads and water supply; and creating other economic activities to support the mines instead of importing all supplies from abroad.

On the other hand, the supply of metals and minerals is not without environmental and social costs. The effects of mining continue long after the mine has stopped operating. Poor mining and mineral processing practices can poison the air, land and water and then leave the environment to suffer a slow death. Many rivers have been pronounced “biologically dead” due to release of mine tailings (waste from the mine containing rocks, metals and poisons) into lakes and waterways. The minerals sector also has challenges of lack of transparency and corruption, which if not well managed can be detrimental to any country.

Africa alone has about 30% of the world’s mineral reserves (source: World Bank website April 2018). According to the 2018 edition of the U.S. Geological Survey (USGS) Mineral Commodity Summaries, the following African countries have substantial mineral reserve deposits:

**Table 5.2: African countries with substantial mineral reserves**

Country	Mineral	Global ranking	Known reserves	Unit of measure
Algeria	Helium	2nd	1,800	Million cubic meters
Algeria	Phosphate rock	3rd	2,200,000	Thousand metric tons
Botswana	Diamond	2nd	14,000	Million carats
Botswana	Soda ash	4th	400,000	Thousand metric tons
DR Congo	Cobalt	1st	3,500,000	Metric tons
DR Congo	Copper	7th	20,000	Metric tons
DR Congo	Tin	2nd	800,000	Thousand metric tons
Mozambique	Zirconium	4th	1,800	Metric tons
Namibia	Rubidium	1st	50,000	Metric tons
Saudi Arabia	Sulphur	6th	4,900	Metric tons

Country	Mineral	Global ranking	Known reserves	Unit of measure
South Africa	Gold	2nd	6,000	Metric tons
South Africa	Manganese	1st	200,000	Thousand metric tons
South Africa	Nickel	7th	3,700,000	Metric tons
South Africa	Platinum	1st	63,000,000	Kilograms
South Africa	Ilmenite	4th	63,000	Thousand metric tons
South Africa	Rutile	3rd	8,300	Thousand metric tons
South Africa	Vanadium	3rd	3,500	Metric tons
Tanzania	Graphite	4th	17,000	Thousand metric tons
Zambia	Copper	7th	20,000	Metric tons
Zimbabwe	Lithium	8th	23,000	Metric tons

Source: <https://minerals.usgs.gov/minerals/pubs/mcs/2018/mcs2018.pdf>

### **Artisanal mining**

Artisanal mining refers to mining by individuals, groups, families or cooperatives with minimal or no mechanisation, often in the informal sector of the market. About 100 million people – workers and their families – depend on artisanal mining compared to about 7 million people worldwide in industrial mining. The World Bank estimates that the number of artisanal miners in Africa has grown from about 10 million in 1999 to about 30 million in 2016.<sup>85</sup>

Artisanal mining activities can have a severe impact on the social, physical and ecological environments. This type of mining often has serious environmental consequences, especially gold mining due to the use of mercury and cyanide without protective gear. In addition, the artisanal miners face the risk of falling into unprotected pits, leading to many injuries and deaths. Small-scale mining also comes with a set of problems associated with “unplanned gold rush villages”, including an almost complete lack of sanitation, clean water, education and medical care.

#### **Box 5.1 - Case example:**

##### **Monitoring fish and human exposure to mercury due to gold mining in the Lake Victoria goldfield, Tanzania**

According to a study carried out by the University of Dar es Salaam in Tanzania, it is estimated that about 250,000 people are involved in small-scale gold mining in three principal gold fields, namely the Lake Victoria goldfields around Lake Victoria.<sup>86</sup> There is potential risk of human exposure to inorganic mercury because of the extensive use of mercury in gold recovery in the Tanzanian goldfields. Furthermore, inorganic mercury released into river systems during gold ore processing is likely to be gradually transformed into the highly toxic form of methyl mercury and become concentrated through bio magnifications in aquatic food chains, particularly in fish.



<sup>85</sup> <https://www.economist.com>

<sup>86</sup> WGEA Mining Guide, 2010

### ***High-level audit considerations on artisanal mining***

SAIs should conduct audits to establish whether:

- vi. The government has laws and regulations in place to govern the operations of artisanal mining.
- vii. Relevant ministries and government agencies are ensuring that artisanal miners comply with laws and regulations on artisanal mining, where this legal framework has been set up.
- viii. The government is taking action on artisanal miners with regard to pollution of waterways through mercury use, dam construction, a build-up of silt, poor sanitation and effluent dumped in rivers;
- ix. The government has acted to reduce the risks to which artisanal miners are exposed, for instance, use of mercury and cyanide in gold extraction and working without the required personal protective equipment.
- x. Abandoned mines are being rehabilitated, as many artisanal miners have lost their lives while mining in old mines that have been left open due to improper mine closure and lack of reclamation.

In the case of environmental audits of artisanal mining where there are no laws and regulations to uphold mining operations, the auditor in carrying out such audits is expected to apply criteria like: estimated environmental costs, liabilities and risks associated with artisans' mining sites, systems of establishing priorities and management of mines opened by artisans, comprehensive plans for legalisation through registering the artisans and issuing them with licences in order to adhere to environmental laws and regulations.

### ***The future of the mining sector***

According to the international study group report on Africa's mineral regimes, Africa is well endowed with mineral resources and has a long history of mining. However, Africa has so far not reaped the developmental benefits of these resources. This is largely due to the weak integration of Africa's mining sector into national economic and social activities.

The African Union (AU) heads of state and government have taken deliberate steps to address this weakness. This has been done through the endorsement of the Africa Mining Vision (AMV) and the establishment of the African Minerals Development Centre (AMDC) to provide strategic operational support for the vision and its action plan. The Africa Mining Vision was adopted by heads of state at the February 2009 AU summit following the October 2008 meeting of African ministers responsible for mineral resource development. It is Africa's own response to addressing the paradox of great mineral wealth existing side by side with pervasive poverty.<sup>87</sup>

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<sup>87</sup> <http://www.africaminingvision.org/>

The AMV advocates thinking outside the “mining box”. Accordingly, it’s not just a question of improving mining regimes by making sure that tax revenues from mining are optimised and that the income is well spent – although that is clearly important. It’s a question of integrating mining much better into development policies at local, national and regional levels. That entails thinking about how mining can contribute better to local development by making sure workers and communities get real benefits from large-scale industrial mining and that their environment is protected. It also means making sure that nations can negotiate contracts with mining multinationals that generate fair resource rents and stipulate local inputs for operations. At regional level, it means integrating mining into industrial and trade policy.

The African Mining Vision action plan was developed in December 2011. The action plan comprises nine programme clusters of activities constructed around the key pillars of the vision. These are mineral rents and management, geological and mining formation systems, building human and institutional capacities, artisanal and small-scale mining, mineral sector governance, research and development, environmental and social issues and linkages and diversification. Auditors can find more information on the activities involved in the nine programme clusters on <http://www.africaminingvision.org/>.

Most importantly, it’s ensuring that Africa can move from its historic status as an exporter of cheap raw materials to manufacturer and supplier of knowledge-based services. It is therefore expected that through the implementation of the African Mining Vision action plan by the African Minerals Development Centre, African countries will begin reaping impactful developmental benefits from resources in their countries in the near future.

A SAI can conduct performance audits to establish the level of implementation of the AMV action plan. This is also an area where SAIs can consider conducting collaborative audits, as many African countries are expected to be implementing the action plan.

#### **The case of Africa’s largest copper discovery in the Democratic Republic of Congo**

According to international mining consultant Wood Mackenzie, the Kamoakakula Copper Project in the Democratic Republic of Congo is regarded as Africa’s largest, high-grade copper discovery and the world’s biggest, undeveloped high-grade copper discovery with an indicated resource of approximately 740Mt. The deposit is located within the Central African Copper belt and forms a part of the interpreted extension of the Western Foreland unit of north-western Zambia.<sup>88</sup>

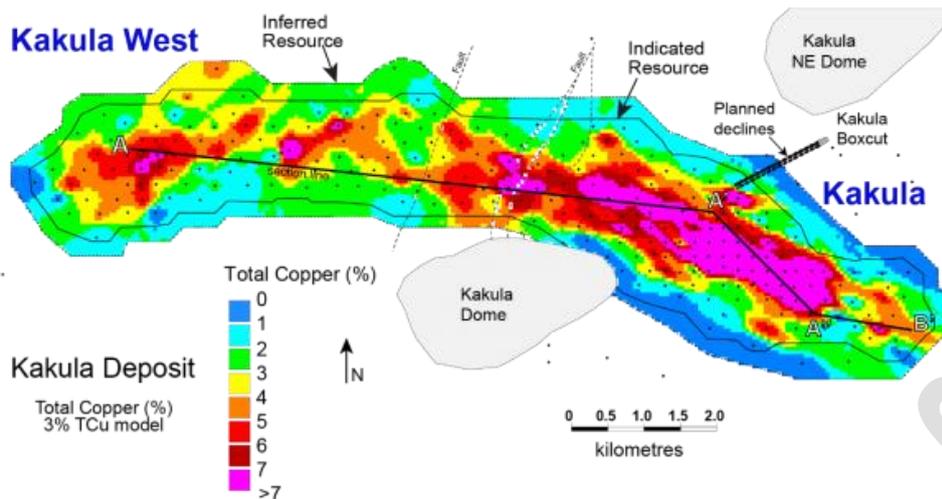
Kakula and Kakula West discovery areas showing grade of indicated and inferred mineral resource blocks

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<sup>88</sup><https://www.wallstreet-online.de>

<http://www.miningweekly.com>

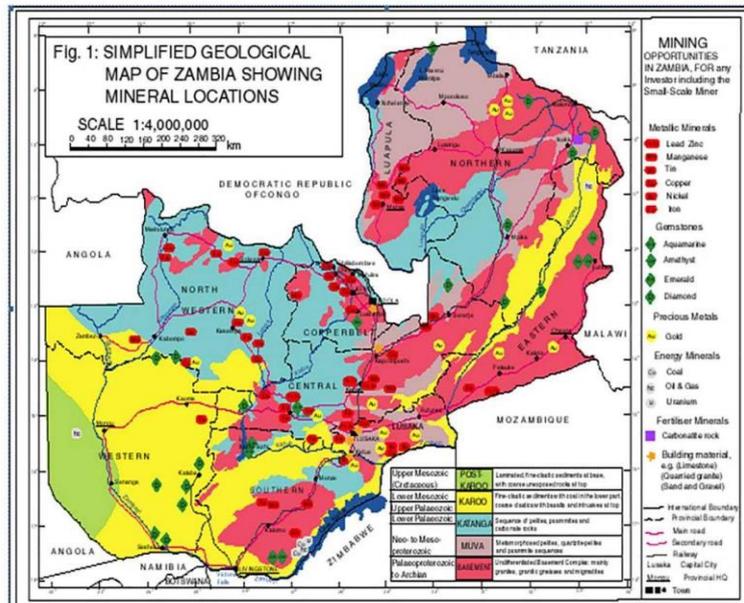
<http://www.ivanhoemines.com>



The copper discovery is expected to have impact on the economy of the Democratic Republic of Congo. The SAI has a role to play right from this early stage to ensure that the resource is well managed and that the country gets developmental benefits from the mineral resource.

**Box 5.2 Case study: Current mineral deposits in Zambia**

Zambia’s mining industry is doing well, and it is endowed with natural resources. If the global demand persists and the commodity prices remain buoyant then Zambia’s mines could generate significant revenue for the government and the citizens. The mining industry would not just provide huge tax boost to the national government’s coffers, but it would also be pumping huge amounts into local communities. At last the promises of the government and companies would be fulfilled and people would start to see the benefits of mining as their living standards begin to improve.



Despite Zambia being ranked 7<sup>th</sup> globally in copper production, communities continue to suffer from abject poverty and miserable quality of life with little access to basic services and even less hope.<sup>89</sup>

<sup>89</sup>Open Society Initiative for Southern Africa (OSISA) 2013

## Annex 2: Key regional and international initiatives in the EI sector

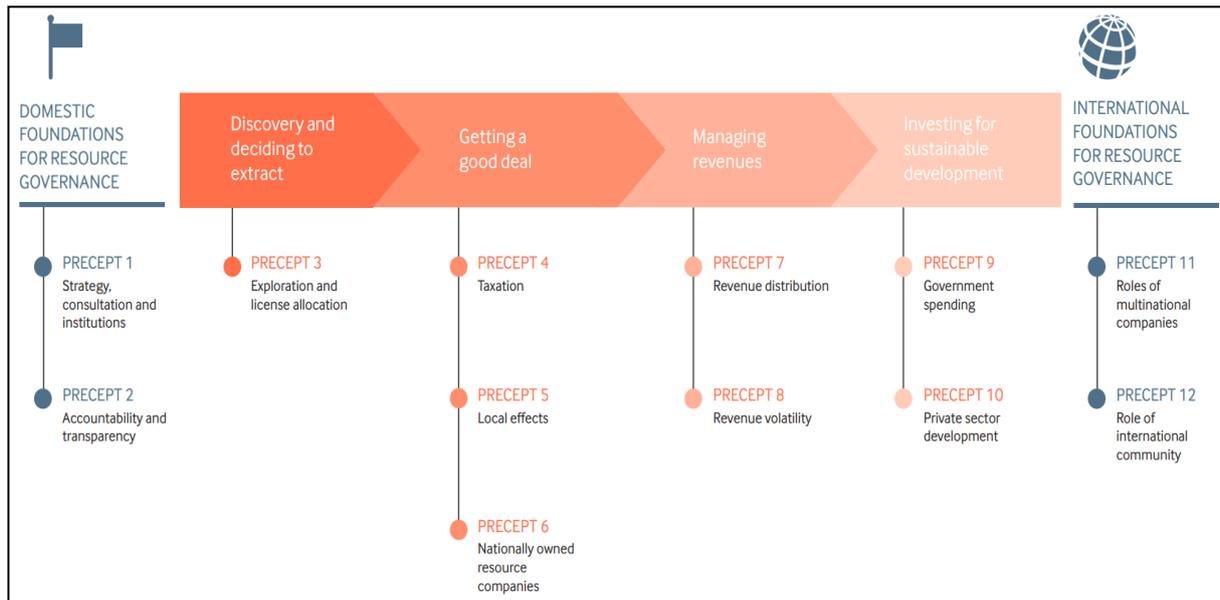
### **2 a) Natural Resource Governance Institute (NRGI)**

The [Natural Resource Governance Institute](#) (NRGI) is a non-profit organisation established to help countries realise the benefits of their endowments of oil, gas and minerals. The NRGI offers technical advice, advocacy, applied research, policy analysis and capacity development. The NRGI works with innovative agents of change within government ministries, civil society, the media, legislatures, the private sector and international institutions to promote accountable and effective governance in EI. Priority countries for the NRGI include Colombia, DRC, Ghana, Guinea, Indonesia, Mexico, Mongolia, Myanmar, Nigeria, Tanzania and Tunisia. In addition, the NRGI has limited engagement in Azerbaijan, Bolivia, Kyrgyz Republic, Libya, Peru, Philippines, Uganda, Ukraine and Zambia.

### **Natural Resource Charter**

The Natural Resource Charter is a set of principles offering policy options and practical advice for governments, societies and the international community on how to best manage natural resources for sustainable development. The Natural Resource Charter is not a precise prescription. Instead, it addresses the ingredients successful countries have used.

The charter focuses on the entire chain of decision-making starting from the discovery of the natural resource, the decision to extract, the awarding of contracts and licences, managing the revenue and developing sustainable policies for the development of the country. The charter consists of 12 precepts divided into three groups: domestic foundations for resource governance, the chain of economic decisions required to manage resources for prosperity, and the international foundations for resource governance. The first group emphasises establishing a strategy, guiding principles, rules and institutions pertaining to all the processes in the resource management, as well as the importance of accountability and transparency. The second group addresses the key decision areas for government in ensuring that value from resource wealth is translated into sustained prosperity for citizens. Lastly, the third group addresses the role of international actors, which is extractive companies and those responsible for international governance. The charter has also been translated into a Natural Resource Charter Benchmarking Framework, which is a tool for benchmarking a country's management of oil, gas and minerals against global best practices.



**Figure 5.3: Natural Resource Charter**

### Resource Governance Index (RGI)

The [Resource Governance Index \(RGI\)](#), developed by the NRGI, measures the quality of governance in oil and gas mining sectors of 81 resource-producing countries. The index is currently the only international index dedicated to resource governance. The RGI can serve as a useful tool for evidence-based policy making by governments and parliaments as well as evidence-based policy advocacy by civil society.

The RGI is a composite score based on assessments across three components: value realisation, revenue management and enabling environment component. *Value realisation* covers the governance of allocating extraction rights, exploration, production, environmental protection, revenue collection and state-owned enterprises. *Revenue management* deals with national budgeting, subnational resource revenue sharing and sovereign wealth funds. Lastly, the third component measures a country's *enabling environment*.

Findings on resource governance indices show that 66 of the 81 countries assessed, i.e. over 80% of the countries, do exhibit weak, poor, or failing governance. Consequently, less than 20% of the countries achieved an overall rating of satisfactory or above.

### Resources

The NRGI provides relevant resources related to the governance of EI. Their offerings include various publications, tools, training and courses. Some of these can be accessed through their website at <https://resourcegovernance.org/>. The NRGI has developed the following free online courses:

- [Natural Resource for Sustainable Development](#): The Fundamentals of Oil, Gas, and Mining Governance
- [Interactive course](#): Petronia

## **2 b) Working Group on the Audit of Extractive Industries (WGEI)**

In the INTOSAI community, the [Working Group on the Audit of Extractive Industries](#) (WGEI) was established in 2013 to facilitate knowledge sharing and networking for SAIs related to audit of the EI sector to promote good governance and sustainable development in the extractive industries. The scope of the working group includes oil, gas and solid minerals. The WGEI is currently composed of 46 members and is chaired by SAI Uganda from 2014 to 2022.

Through the website, the WGEI provides tools and resources related to EI. These include audit reports on [oil, gas](#) and [mining, research papers, audit guidelines and manuals, newsletters](#) and [links](#) to other resources.

## **2 c) Extractive Industries Transparency Initiative (EITI)**

The Extractive Industries Transparency Initiative (EITI) is the global standard for promoting transparency, accountability and good governance in countries rich in oil, gas and mineral resources. The EITI Standard requires the disclosure of information along the extractive industry value chain, from how extraction rights are awarded, to how revenues make their way through the government, and how they benefit the public. The Standard requires EI companies to publish what they pay to governments, and for governments to disclose what they receive which largely includes taxes, royalties and other statutory payments. The implementation of the EITI Standard takes place at the country level. As of March 2019, there are 52 countries implementing the EITI standard, wherein 24 are countries in Africa.<sup>90</sup>

The initiative emerged to mitigate the outcomes of low per capita growth, slow progress on human development, and social and political instability common to resource-rich developing countries. The EITI expects that the improvement of financial transparency in these transactions will assist with the minimisation of corruption, and better accountability in resource economies. Transparency is expected to provide a significant improvement in accountability and governance. The quality of governance is a significant factor in determining whether natural resource wealth brings long-term sustainable benefit.

### **The EITI process**

The EITI process aims at seeing result from the natural resources that transform to benefits of the people. The EITI process in a country is a government-led initiative that requires the government of each resource-rich country that wants to implement the EITI to publicly declare its intention<sup>91</sup>. The government is required to create an environment for civil society and the EI companies to engage in the EITI process fully, actively and effectively with active support from other stakeholders such as investors and international organisations. The government is required to commit to work with civil society and

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<sup>90</sup> [EITI in Africa 2018](#)

<sup>91</sup> The EITI Standard 2016 – Requirement 1.1a

companies, and establish a multi-stakeholder group (MSG) to oversee the implementation of the EITI. The MSG in each implementing country acts as governing board (government, industry, civil society organisations) to systematically review, assess and report on what is being paid by companies and received by governments from EI operations. The key functions of the MSG include:

- setting strategic direction of the initiative,
- defining the reporting scope of the initiative in each country,
- developing the national EITI work plan and conducting the reconciliation process.<sup>92</sup>
- reviewing the outcome and impact of EITI implementation on natural resource governance and publish annual progress reports.
- defining “materiality” by top companies, jurisdiction, type of payment, threshold and reporting government entity.

Below is an illustration depicting how the EITI works in three steps:

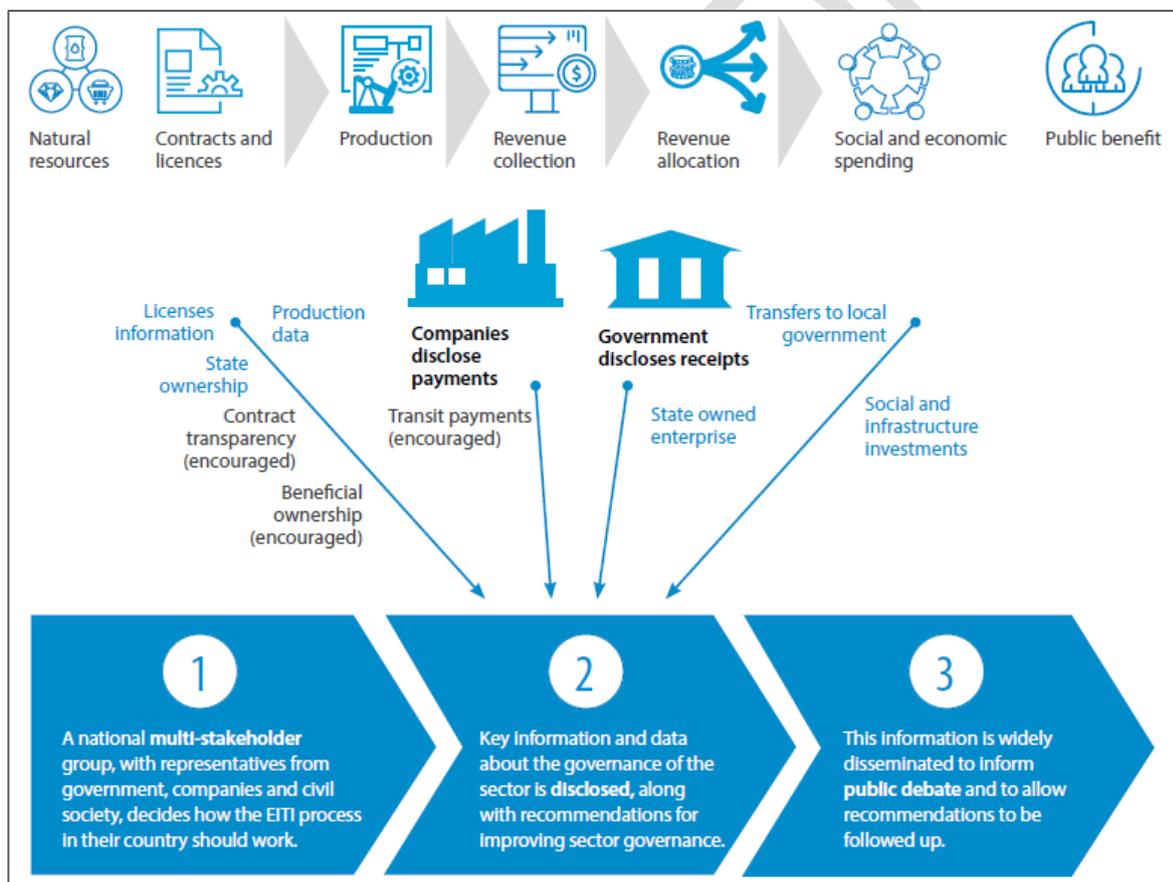


Figure 5.4

Source: [EITI Progress Report 2018](#)

## Benefits of implementing the EITI

<sup>92</sup> [www.treasury.gov.pg](http://www.treasury.gov.pg)

The EITI aims to minimise corruption and to maximise accountability of oil, gas and mining companies at national and local levels. It provides a voluntary standard that promotes and supports improved governance in resource-rich countries through full publication and verification of company payments and government revenues resulting from oil, gas and mining operations. It is supported by a robust and flexible methodology to ensure the standard is maintained in all implementing countries. It is expected to result in improved management of resource revenue. Benefits for implementing countries include mitigation of political risk. The EITI improves the investment climate by providing confidence and clear signals to investors and international financial institutions. The EITI demonstrates commitment to reform, anti-corruption and good governance, leading to improvements in tax collection and international standing, and enhanced trust and stability.<sup>93</sup> In summary:

- The EITI process provides more complete financial information on companies and countries.
- The EITI informs country ratings and investments.
- The EITI establishes forums for discussion and reforms.
- The EITI improves the investor's reputation.

#### **Relevance of the EITI to the SAI<sup>94</sup>**

The EITI process and reporting provide the following benefits to the SAI's auditors:

- Easy access to information: The EITI process provides alternative ways of accessing documents from companies. Auditors do not normally carry direct audit of the EI companies; their information can be sought through the national EITI secretariat.
- Identify discrepancies and recommendations that can be used by the EI auditors for planning (risk assessment).
- Encourages companies to disclose their beneficial ownership which is especially useful in assessing transfer pricing issues. A beneficial owner in respect of a company means the natural person(s) who directly or indirectly ultimately owns or controls the corporate entity. Ownership threshold(s), reporting obligations for politically exposed persons and publicly listed companies, including wholly owned subsidiaries, should be disclosed<sup>95</sup>. This information may be difficult to access through normal audit process.
- It enhances openness in reporting. Implementing countries are required to produce their first EITI Report within 18 months of being admitted as an EITI candidate. Thereafter, implementing countries are expected to produce EITI Reports on an annual basis.<sup>96</sup>

#### **SAI Responsibilities to the EITI Process**

The EITI standard requires an assessment of whether the payments and revenues are subject to credible, independent audit, applying international auditing standards<sup>97</sup>. In fulfilling this important requirement,

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<sup>93</sup> The EITI Standard 2016

<sup>94</sup> The EITI Standards 2016

<sup>95</sup> EITI Standards 2016- Requirement (2.5)

<sup>96</sup> EITI Standards 2016- Requirement (4.8)

<sup>97</sup> EITI Standards 2016- Requirement 4.9(a)

SAIs must ensure that the figures reported by government entities (national and sub-national) are free from fraud and error. In this regard, SAI must audit all public sector entities responsible for receiving revenues from the EI based on international auditing standards (ISSAIs).

In many African EITI implementing countries, the MSGs through the national secretariat collect reporting (disclosure) templates from the government entities and companies. The disclosures of the government entities are sent to the SAIs for certification while the EI companies' disclosures are sent to their private auditors for certification. The MSG then appoints independent administrators who carry out the reconciliation of the government receipts and the companies' payments<sup>98</sup>.

### High-level consideration

- The SAI plays an important role in the verification of the payments from EI reported by government entities.
- The SAI may use the EITI reports to gather essential information on the country's extractive industry and to better understand the flow of EI revenues, thereby attaining a holistic overview of the EI sector.
- **The names of the government entities** (national and sub-national) selected by the MSG for reporting purpose. The MSG is responsible for selecting the MDAs that should report for EITI purpose whether they are central government entities and local government entities. The auditor should determine the MDAs that report for EITI purpose. This information is useful to the auditor especially in planning.
- **The scope/period of the EITI report:** Auditors should consider the timeliness of receipt of revenues from the EI companies by government entities. The report is done for a financial year and in a cash basis. Date of application, date of award and duration of the licence are relevant factors to ensure that only receipts for that year are reconciled with the payments made by the companies in the same year.
- **The identified discrepancies and recommendations** in the EITI report can be used by SAI auditors in their audit planning and risk assessment.
- **The names of the EI companies selected by the MSG for reporting purpose.** It is important for the auditor to know the names of the EI companies selected by the MSG for reconciliation. This information will help the auditor to know which companies' payments were reconciled with government receipts.
- **The materiality level set for reporting purpose:** Materiality is an important concept and tool in auditing. Therefore, the auditors should know the materiality level set for the reconciliation and compare with his materiality to help them plan the audit properly.
- **The individual licences and contracts** for which revenues were received from the EI companies. EI companies sometimes obtain and maintain more than one operational licence. The auditor

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<sup>98</sup> EITI Standards 2016- Requirement 4.9(b)

should understand the different licences and contracts which were included in the reconciliation and the ones that were not included and the reasons for their exclusion.

- **The amount paid per licence or contract agreement.** The auditor should consider the amount paid by the EI companies to the government entities for each licence or contract held during the year under review. This information will help the auditor to get the complete knowledge of the revenues received from the EI sector.
- **The types of revenues received from each company** - verifying the EI revenues reported by the government. There are various forms of revenues received from the EI Sector by government entities such as royalty, corporation tax, surface rent, export duty, signature bonus, training fee, application fee, and so on. It all depends on the resources available to the country and the extractive activity. It is important for the auditor to have full understanding of all the type of revenues received from the EI companies.
- **The amount of revenues received by each government entity**  
The EITI reconciliation reports disaggregate revenues reported by government entities. This information will help the auditor to have comprehensive knowledge about the entities in terms of extractive industries revenues collected for the year under review.
- **The type of commodity** the company is carrying out exploration, production, or other activities for in the country. A country may have more than one extractive resource and some EI companies may engage in the exploration for or extraction of (minerals, oil or gas). Therefore, the auditor should have full knowledge of the resources/commodities the companies are carrying on EI activities.
- **The total production volumes and the value of production by commodity**, and, when relevant, by state/region. This could include sources of the production data and information on how the production volumes and values disclosed in the EITI Report have been calculated.
- **The type of work the company is carried out in the sector** (exploration, production, exporting, refinery, etc.). It is important for the auditor to know the type of work the companies are licensed to undertake in the sector. Whether in the mining sector or in the oil and gas sector, whether it is reconnaissance, exploration, production, exporting, etc.
- **The size or scale of the extractive company.** In the mining sector it is also necessary for the auditor to know the size or scale of the extractive company. Whether it is a large-scale company, a small-scale company or artisan miner. This information is important because there are various rates or fees charged depending on the scale of the company.
- **The level of ownership of Government and SOEs in the EI Companies.** The EITI requires disclosures from the government and state-owned enterprises (SOEs) of their level of ownership in mining, oil and gas companies operating within the country's oil, gas and mining sector, including those held by SOE subsidiaries and joint ventures, and any changes in the level of ownership during the reporting period.

### Box 5.3 Case example: Sierra Leone on the implementation of EITI process

The Sierra Leone Extractive Industries Transparency Initiative (SLEITI), like all other national EITI organisations has a tripartite composition i.e. government representatives, civil society organisations and the EI Companies' representatives that form the MSG. The SLEITI Secretariat is headed by the EITI National Coordinator and is supported by other administrative staff. Each government institution that has role/responsibilities to perform in the extractive sector nominates two staff (one substantive and an alternate) that represents the institution in the MSG. SAI Sierra Leone (also refers to as ASSL) is one of the institutions of government in the MSG because of its mandate to audit these government institutions.



The MSG also has sub-committees and one of them is the technical committee. It comprises MSG members with strong audit, accounting/finance, and geological, Civil Society and EI company background. Its main responsibilities among others are: review the annual work plan of the secretariat, setting materiality level (minimum amount and type of commodity, revenue stream, etc.) for reporting by government entities and companies, designing the reporting templates, selecting government entities and EI companies that should report, appointing/recruiting an independent reconciler/administrator, reviewing reconciliation reports, following up recommendations on the reconciliation reports, reviewing validation reports.

The ASSL's representative is a member of the technical committee. This committee highly rely on the ASSL's representative to provide professional guide/advice. The committee also carries out pre-reconciliation (also known as mock test or dry run) of the data collected.

Apart from the general participation of ASSL at MSG, it is charged with the responsibility to carrying out certification of the data (reporting templates) submitted by the government entities as a requirement of the EITI Standard. ASSL does this responsibility based on its audits of these institutions. For those government institutions who are yet to be audited before the certification and reconciliation of the templates, ASSL normally request for additional evidence to support the information reported by the entities for the year under review.

In case a reporting template(s) is not certified by ASSL, the reason for not certifying that template(s) will be stated in its report to the secretariat. The secretariat will communicate this information to the government entity and the entity makes frantic effort to provide additional evidence. If at all sufficient evidence is not provided, ASSL will not certify the reporting template(s). ASSL uses this report in subsequent audit planning and follow-up activities.

The independent administrator who prepares the SLEITI Reconciliation report contact the ASSL during the reconciliation process to confirm its procedures used to certify the reporting templates. In a similar vein, the validator of the SLEITI process do contact/request from ASSL to confirm its procedures used to certify the reporting templates submitted by the government entities and to explain its participation in the MSG. ASSL normally provides this confirmation in writing.

ASSL also seeks information from the SLEITI Secretariat through meetings or in writing especially at the planning stage of an EI audit. For instance, when ASSL wanted to conduct an audit of surface rent paid by mining companies to through government institutions and the Audit of Mining Royalties, meetings and

interviews were held with the SLAITI National Coordinator with the view of obtaining relevant information for planning purpose. ASSL also invites the SLEITI National Coordinator to participate in our in-house EI audit workshops, with the view of information sharing in the sector. Their presence in these workshops provided extremely useful information to the EI audit team.

ASSL and SLEITI are always willing to share information and to cooperate with each other. This has supported both institutions' work in the extractive industries sector. This collaboration and cooperation between ASSL and SLEITI; and the role of ASSL as an MSG member of SLEITI serve as a strong pillar of the EITI implementation process in Sierra Leone. It enhanced the success of SLEITI to attain an EITI compliant status in 2013. In launching the SLEITI Reconciliation report in 2013, the former Head of State of Sierra Leone, acknowledges the role of ASSL in supporting the EITI Process in Sierra Leone.

### Annex 3: Mapping the SDGs and Agenda 2063 to the extractive industries

The matrix<sup>99</sup> below illustrates how the 17 SDGs and Agenda 2063 issues can be addressed through extractive industries.

**Table 5.3 Mapping SDGs and Agenda 2063**

SDG	Agenda 2063	Extraction industry issue
1 – No poverty	1- A high standard of living, quality of life and well-being for all citizens	Extractive industries should invest in local development by providing incomes, jobs and decent work focusing on a high level of economic growth resulting in better quality of life and well-being for all citizens. They can increase access to affordable energy, ensure sustainable natural resource management and reduce vulnerabilities and exposure to climate change events and natural disasters.
	7- Environmentally sustainable and climate-resilient economies and communities	
2 – Zero hunger	1- A high standard of living, quality of life and well-being for all citizens	Extractive industries should collaborate with the local and neighbouring communities and farmers on land and fresh-water use, fisheries, forests and biodiversity resources, focusing on sustainable use of natural resources. Integrated planning and management of land resources for sustainable agricultural development and production is vital in alleviating hunger. Sharing EI infrastructure with local communities contributing to well-being of communities.
	3- Healthy and well-nourished citizens	
	4- Transformed economies	
	5- Modern agriculture for increased	

<sup>99</sup> The matrix draws from a project originated by the UNDP, IFC, IPIECA, and the Columbia Centre on Sustainable Investment (CCSI). The development of this mapping benefited significantly from the input and review of many AFROSAI-E stakeholders.

SDG	Agenda 2063	Extraction industry issue
	<p>productivity and production</p> <p>7- Environmentally sustainable and climate-resilient economies and communities</p> <p>8- United Africa (federal or confederate)</p>	<p>Extractive industries should provide local employment and invest in local development towards transforming economies.</p> <p>Extractive industries should contribute their knowledge to improve energy efficiency and reduce their GHG emissions in their value chain.</p>
3 – Good health and well-being	<p>3- Healthy and well-nourished citizens</p> <p>7- Environmentally sustainable and climate-resilient economies and communities</p> <p>17- Full gender equality in all spheres of life</p>	<p>Extractive industries can conduct health impact assessments to strengthen capacity to manage health risks as well as occupational risks.</p> <p>It is also important for EI to protect workers and community members against infectious diseases and non-communicable diseases.</p> <p>They can also implement programmes on mental health and substance abuse. Designing programmes with benefits for employees is important. Extraction industries should also prevent and mitigate the health impacts of air emissions and effluent discharges as well as improve road safety. Full gender equality with all health and well-being issues.</p>
4 – Quality education	<p>1- A high standard of living, quality of life and well-being for all citizens</p> <p>2- Well educated citizens and skills revolution underpinned by science. Technology and innovation</p> <p>16- African Cultural Renaissance is pre-eminent</p> <p>17- Full gender equality in all spheres of life</p> <p>18- Engaged and empowered youth and children</p>	<p>Extractive industries should establish a company strategy for local content to promote sustainable development by focusing on the entire value chain, especially regarding skills that are most needed and in short supply.</p> <p>Investment should be in workforce education, training and technical programmes by mapping existing capabilities and then assessing gaps, e.g. in-house training programmes focusing on technical as well as soft skills for locals. They can also offer scholarships/bursaries for studying towards formal qualifications.</p> <p>Promoting awareness and understanding of energy efficiency, environmental management, health/wellness and safety issues is critical, as empowering individuals with knowledge assists them to make better decisions.</p> <p>Supporting local schools (adopt a school) is important for creating awareness and educating the youth, especially regarding science, technology and innovation.</p>

SDG	Agenda 2063	Extraction industry issue
		Engaging and empowering youth, children and communities is essential.
5 – Gender equality	3- Healthy and well-nourished citizens	<p>Extractive industries can help to reduce discrimination and promote women’s participation in industry opportunities by producing local content policies that are gender sensitive and do not create any inequalities.</p> <p>There should be support for full and effective participation of females at all levels of decision making as well as increased employment opportunities for females including their representation in management positions.</p> <p>Extractive industries can assist with addressing negative social impacts like crime, alcoholism, domestic violence, prostitution, trafficking and sexual exploitation and sexually transmitted diseases in local communities by partnering with NGOs and governments.</p> <p>Programmes to empower women in the science, technology, engineering, environmental management, health and maths fields especially relevant to EI should be promoted.</p>
	7- Environmentally sustainable and climate-resilient economies and communities	
6 – Clean water and sanitation	1- A high standard of living, quality of life and well-being for all citizens	<p>Extractive industries must develop a company water strategy that accounts for the full impact of their operations on the local water resource and the possible impact of water scarcity on their operations as this could have severe implications for EI.</p> <p>Ensure that their communities always have access to safe, clean and reliable water resources as well as good sanitation facilities/infrastructure.</p> <p>They should also conduct risk assessments on the availability of water as well as focus on efficient water usage (reduce, re-use, recycle and replace) within their processes.</p> <p>Effective waste-water management focusing on pollution prevention involves appropriate treatment, discharge and monitoring.</p> <p>It is important for EI to understand the water: energy relationship as they are heavily interdependent. Desalination plants are also heavily dependent on energy which is produced by EI.</p>
	7- Environmentally sustainable and climate-resilient economies and communities	
	10- World-class infrastructure criss-crosses Africa	

SDG	Agenda 2063	Extraction industry issue
		<p>An integrated water management approach is required which includes government leaders as well participation from various stakeholders to oversee usage and protect supply.</p> <p>Opportunities for sharing water infrastructure for water usage, recycling or treatment should be explored by EI, as this could reduce freshwater usage by improving water efficiency and reducing costs and competition for water resources.</p>
7 – Affordable and clean energy	1- A high standard of living, quality of life and well-being for all citizens	<p>Opportunities for improving access to energy services through shared infrastructure between the communities and EI should be considered and measures to improve energy efficiency in EI operation and production should be implemented.</p> <p>Renewable energies and technologies like geothermal, solar, wind, hydropower and biofuels should be explored, as they support better health and environmental outcome than traditional fossil fuels.</p> <p>Extractive industries should collaborate and leverage on an integrated multistakeholder approach to address energy shortages and challenges.</p>
	7- Environmentally sustainable and climate-resilient economies and communities	
	10- World-class infrastructure criss-crosses Africa	
8 – Decent work and economic growth	1- A high standard of living, quality of life and well-being for all citizens	<p>Extractive industries must provide decent and safe work for their employees.</p> <p>Mineral ore resources/fossil fuels are finite resources and will eventually deplete, it is therefore important for mining companies and the local economy to be able to diversify their value chains and identify other income avenues.</p> <p>A robust strategy for avoiding over-reliance on a company’s mining operations includes enabling entrepreneurs to identify innovative opportunities in the supply chain or for value-adding projects, developing the capacities of micro, small and medium enterprises and otherwise expanding the local EI sector.</p> <p>Extractive industries should be accountable and corruption free.</p>
	2- Well educated citizens and skills revolution underpinned by science, technology and innovation	
	12- Capable institutions and transformative leadership in place	

SDG	Agenda 2063	Extraction industry issue
9 – Industry, innovation and infrastructure	1- A high standard of living, quality of life and well-being for all citizens	Extractive industries should ensure that infrastructure and technology are upgraded to make them sustainable, focusing on efficiency and avoiding/reducing environmental and social impacts and related risks.
	4- Transformed economies	Opportunities for sharing infrastructure like roads, power plants, water treatment facilities and ports and developing new infrastructure with host governments often result in cost savings and other benefits.
	6- Blue Ocean economy for accelerated economic growth	Extractive industries play a vital role in enhancing technological capabilities and knowledge transfer as the mineral, oil and gas industry requires a high level of technology and expertise. Capacity building to develop small and medium-sized enterprises (SMEs) is essential to integrate them into local procurement channels, which promotes inclusive industrialisation.
	8- United Africa (federal or confederate)	Opportunities for expanding off-grid energy access in rural and isolated areas should be considered by EI working in these areas. Micro-grids, cleaner fuels such as butane and renewable energy technologies like solar and wind power are solutions that can provide reliable and affordable energy needed for development while addressing important societal challenges such as climate change and poverty.
	10- World-class infrastructure criss-crosses Africa	
	19- Africa as a major partner in global affairs and peaceful co-existence.	
10 – Reduced inequalities	1- A high standard of living, quality of life and well-being for all citizens	Many governments depend heavily on revenue from EI; this revenue can fund many long-term investment projects, which is important for economic growth and reduction in inequality. Transparency in the processes regarding payments and transfers is critical in ensuring the integrity of accounting information and holding governments as well as EI to account. Therefore, full and transparent tax payment is imperative.
	8- United Africa (federal or confederate)	
	12- Capable institutions and transformative leadership in place	
	20- Africa takes full responsibility for financing her development	

SDG	Agenda 2063	Extraction industry issue
11 – Sustainable cities and communities	1- A high standard of living, quality of life and well-being for all citizens	<p>Mining activities can potentially affect the culture and traditions of local communities, particularly indigenous communities, by disrupting traditional practices or damaging areas of archaeological, historical, artistic or religious significance. Similarly, the industry can potentially impact natural heritage, which is equally important for people’s livelihoods and well-being. Policies should be developed to protect and safeguard the world’s cultural and natural heritage.</p> <p>Increased urban development can lead to urban encroachment on mining operations. To address the increased risks and costs that can be associated with mining operations located near urban centres, EI actors should be proactive in planning how to address such risks at the earliest stages of the development planning process.</p> <p>Traditionally mining projects in African locations attract job seekers and entrepreneurs from outside the area. This results in sudden population growth which can overrun existing communities and overwhelm local governments. Amenities such as health, clean water, education and traditional livelihoods are affected negatively. Inward migration can also bring a range of social issues including crime, breakdowns in established social networks and disproportionately negative impacts on women. Extractive industries actors should be proactive in planning how to support inclusive and sustainable urbanisation in communities near operations.</p>
	7- Environmentally sustainable and climate-resilient economies and communities	
	10- World-class infrastructure criss-crosses Africa	
	16- African Cultural Renaissance is pre-eminent	
12 – Responsible consumption and production	1- A high standard of living, quality of life and well-being for all citizens	<p>Extractive industries produce more than just the mined product. For example, the oil and gas industries produce important products such as lubricants, asphalt, paraffin wax and raw materials for other sectors, such as agriculture, chemicals and pharmaceuticals, of which the consumption also has an impact on the natural environment. It is therefore important to understand the impact of production and consumption throughout the value chain of any product on the natural environment. Incorporating the concept of product stewardship which</p>
	4- Transformed economies	
	5- Modern agriculture for increased productivity and production	

SDG	Agenda 2063	Extraction industry issue
	7- Environmentally sustainable and climate-resilient economies and communities	is an approach to understanding and managing the impacts of products throughout their lifecycle is imperative in the sustainable and responsible use of resources.
	12- Capable institutions and transformative leadership in place	Given their reliance on the inputs provided by suppliers and contractors, mining companies should typically ensure that, in addition to business requirements, the social, environmental, safety and quality standards of vendors throughout their supply chain align with those of the company. Co-ordinating supply chain logistics can shorten the supply chain, which improves environmental, social and economic sustainability.
13 – Climate action	7- Environmentally sustainable and climate-resilient economies and communities	The Paris Agreement or Paris Climate Agreement is an agreement within the United Nations Framework Convention on Climate Change (UNFCCC) dealing with GHG emissions mitigation, adaptation and finance. As per the aims of the Paris Agreement, it is important for governments to develop comprehensive national strategies to significantly reduce GHG emissions, as well as adaptation plans to deal with the impacts of climate. It is therefore critical for EI to decrease their GHG emissions as well as understand the risks and implications of climate change for their businesses, e.g. the impacts on their infrastructure and operations across a range of different climate scenarios including emergency preparedness and disaster management.  Addressing climate change will require collaboration and integration from all parts of society. Research is needed as well on current climate change issues and innovative low-GHG emission energy sources and emission reduction technologies will need to be advanced.
	12- Capable institutions and transformative leadership in place	
14 – Life below water	4- Transformed economies	It is important for EI to incorporate environmental management risks and mitigation plans into their overall operational and management plans across the value chain of its operations; this can include wastewater treatment and discharge, air emissions, waste management, oil spill prevention during drilling and transportation, decommissioning and rehabilitation operations etc.
	6- Blue Ocean economy for accelerated economic growth	
	7- Environmentally sustainable and climate-	

SDG	Agenda 2063	Extraction industry issue
	resilient economies and communities	<p>Accident prevention, preparedness and response strategies and procedures are important to prevent pollution and degradation of aquatic systems.</p> <p>Mining companies should identify their key stakeholders and should always keep well-informed by frequently collaborating with their stakeholders as well as partnering with academic experts, local scientists and communities to develop technologies and conduct studies to improve protection, understanding and knowledge of the aquatic environment.</p>
15 – Life on land	7- Environmentally sustainable and climate-resilient economies and communities	<p>Extractive companies should include environmental protection, biodiversity and ecosystem management strategies in their business management plans. They should be conversant with their operational value chain and the related cradle-to-grave impacts on the natural environment and society. Proper mitigation strategies to address pollution, degradation and rehabilitation should be implemented to ensure protection and sustainable management of natural resources. Proper safety and health procedures are imperative for a safe working environment with zero harm to all employees and the surrounding communities.</p> <p>Multistakeholder partnerships within EI provide opportunities to collaborate, share scientific knowledge and develop environmental management strategies for the protection of the natural environment.</p>
16 – Peace, justice and strong institutions	11- Democratic values, practices, universal principles of human rights, justice and the rule of law entrenched	<p>The UN Guiding Principles on Business and Human Rights recognise the responsibility of companies to respect human rights. It is important for EI to integrate human rights perspectives in their operational and strategic risks and impact assessments.</p>
	12- Capable institutions and transformative leadership in place	<p>There is increasing emphasis on the importance of meaningful engagement and involvement with local communities which enables companies to better understand and communicate more effectively with local communities, enhancing respect and reducing conflict.</p>
	13- Peace, security and stability are preserved	<p>Anti-corruption policies and compliance programmes should be integrated into core EI procedures as well as</p>

SDG	Agenda 2063	Extraction industry issue
		<p>encouraging stakeholders and subcontractors to implement their own anti-corruption policies.</p> <p>State-owned enterprises (SOEs) often partner with independent mining companies and these partnerships can contribute to enhancing SOEs' capabilities regarding operational experience and technology transfer as well as encouraging better management practices etc.</p> <p>Transparency regarding publication of payments made by companies to governments and revenues that governments receive from companies is important for promoting accountable management, good governance and ironing out corruption.</p>
17 – Partnerships for the goals	1- A high standard of living, quality of life and well-being for all citizens	Partnering with other stakeholders is important for ensuring more effective, higher-quality and sustainable outcomes. It is therefore important to EI to identify their key stakeholders and partner with them, e.g.
	4- Transformed economies and job creation	Government can build capacity by working with EI and EI can work with the governments of developing economies to help them with capacity building, sustainable development strategies and tools to monitor and effectively manage their revenues from the country's resource wealth. These collaboration and partnership efforts can contribute to poverty reduction, stronger government institutions, greater transparency and improved rule of law.
	12- Capable institutions and transformed leadership at all levels	
	19- Africa as a major partner in global affairs and peaceful co-existence	
	20- Africa takes full responsibility for financing her development	Participating in dialogue, strengthening co-ordination between initiatives, incorporating SDGs as well as Agenda 2063 goals into policies and applying the indicators are some of the opportunities and approaches for companies to work with stakeholders at global, national, regional and local levels to achieve the SDGs as well as the goals of Agenda 2063.

*NB: It is important to note that this mapping is just a guideline for the auditor/project leader/reader and there could be other relevant issues and goals that are applicable to EI but may have been omitted in this mapping.*

## Annex 4: Considerations on SOE's

Step	Consideration
Step 1: Agree a definition of SOEs	<ul style="list-style-type: none"> <li>• What is the adequate definition of SOEs in the national context, taking into consideration the minimum definition in the EITI Standard and domestic legislation?</li> <li>• Which companies are majority-owned by the government (50%+1 share)? In which companies does the state exercise an equivalent degree of control without holding majority equity ownership?</li> <li>• Are these companies primarily engaged in the extractive industries on behalf of government (i.e. holding extractives licenses, holding equity in extractives companies)? Consideration could also be paid to companies' non-commercial roles, such as acting as concessionaire on behalf of government.</li> </ul>
Step 2: Comprehensively list all state participations in extractives companies and projects	<ul style="list-style-type: none"> <li>• What are the government's direct equity interests in extractives companies, including minority interests and in SOEs?</li> <li>• What are SOEs' equity interests in subsidiaries, joint-ventures and other extractives companies?</li> <li>• What are SOEs' participating interests in PSCs and other extractives projects?</li> <li>• What are the terms associated with each of the equity interests held by the state or SOE?</li> </ul>
Step 3: Describe any changes in state participation in the year under review	<ul style="list-style-type: none"> <li>• What have been the changes in state or SOE ownership in extractives companies during the year under review?</li> <li>• What were the terms of the transaction for each change in state or SOE ownership in the year under review? (i.e. What was the valuation of the equity interest? What consideration was paid?)</li> </ul>
Step 4: Assess the materiality of SOEs' revenues and payments to government	<ul style="list-style-type: none"> <li>• Do SOEs collect any revenues (in cash or in-kind) from private companies or extractives subsidiaries/joint-ventures? What is the value of these revenues?</li> <li>• Do SOEs make payments or transfers to the government? What is the value of these payments/transfers?</li> <li>• What is the adequate reporting threshold for selecting SOEs to be required to disclose information given the national context?</li> </ul>
Step 5: Review and describe the statutory financial	<ul style="list-style-type: none"> <li>• What are the existing legislative and regulatory arrangements that govern state participation in the extractive industries?</li> <li>• Is the SOE entitled to receive budget transfers or subsidies?</li> <li>• Can the SOE's Board of Directors decide on its own dividends?</li> </ul>

Step	Consideration
relations between SOEs and government	<ul style="list-style-type: none"> <li>• Can the SOE retain earnings?</li> <li>• Can the SOE reinvest in its operations?</li> <li>• Can the SOE seek third-party financing (either debt or equity)?</li> <li>• Is the SOE entitled to receive budget transfers or subsidies?</li> <li>• Can the SOE's Board of Directors decide on its own dividends?</li> <li>• Can the SOE retain earnings?</li> <li>• Can the SOE reinvest in its operations?</li> <li>• Can the SOE seek third-party financing (either debt or equity)?</li> </ul>
Step 6: Describe the financial relations between SOEs and government in practice.	<ul style="list-style-type: none"> <li>• Overall, were the SOE's financial relations with government in line with the rules in the year under review (as described under Step 4)?</li> <li>• Did the SOE receive any budget transfers, subsidies or other capitalisations from the state in the year under review? If yes, what was the corresponding value?</li> <li>• Did the SOE declare and/or pay any dividends in the year under review? If yes, what was the corresponding value?</li> <li>• Did the SOE retain earnings in the year under review? If yes, what was the corresponding value?</li> <li>• Did the SOE reinvest in its operations in the year under review? If yes, what was the corresponding value?</li> </ul>
Step 7: Describe any state or SOE loans or loan guarantees to extractives companies	<ul style="list-style-type: none"> <li>• Did the SOE have any outstanding or new third-party financing (either debt or equity) in the year under review? If yes, what was the corresponding value?</li> <li>• Did the state have any outstanding loans or loan guarantees to any extractive's companies (including SOEs) or projects in the year under review?</li> <li>• Did the SOE have any outstanding loans or loan guarantees to any extractive's companies or projects in the year under review?</li> <li>• What are the terms of each loan and guarantee identified? E.g. Tenor, repayment terms, interest rate.</li> </ul>
Step 8: Liaise with each material SOEs on the publication of their financial statements	<ul style="list-style-type: none"> <li>• Does the SOE have financial statements? Are they audited? Are they prepared based on international accounting standards, such as International Financial Reporting Standards? Were they audited in line with international standard?</li> <li>• Are the SOE's financial statements published? If not, is there a reason?</li> <li>• If the publication of full financial statements by the SOE is not possible, is the SOE willing to publish a summary of its balance sheet, profit &amp; loss and cash flow statements? What other intermediary steps can be taken?</li> </ul>

Step	Consideration
	<ul style="list-style-type: none"> <li>• What are the rules and practices related to the SOE's expenditures management (operating and capital expenditures)?</li> </ul>
Step 9: Explore opportunities for improving SOEs' procurement, subcontracting and corporate governance	<ul style="list-style-type: none"> <li>• What are the rules and practices related to the SOE's procurement?</li> <li>• What are the rules and practices related to the SOE's subcontracting?</li> <li>• What are the rules and practices related to the SOE's corporate governance? E.g.: <i>Composition, appointment, mandate and Code of conduct of the Board of Directors and management</i></li> </ul>

Exposure Draft

## Annex 5: Useful links

AFROSAI-E <https://afrosai-e.org.za/>

Working Group of Extractive Industries <http://www.wgei.org>

African Tax Administration Forum (ATAF) <http://www.ataftax.org>

ATAF Model DTA - Transfer Pricing

[Toolkit for Transfer Pricing Risk Assessment in the African Mining Industry](#)

Bain & Company <http://www.bain.com/publications>

Contracts – Open oil <https://openoil.net>

Contract; oil, gas and mining <http://www.resourcecontracts.org>

EI Sourcebook <http://www.eisourcebook.org/>

Extractive Industries Transparency Initiative – EITI <https://www.eiti.org/>

International Monetary Fund <http://www.imf.org/external/index.htm>

IMF Primary Commodity Prices <http://www.imf.org/external/np/res/commod/index.aspx>

E-mail: [publications@imf.org](mailto:publications@imf.org)

Request a copy of “Administering Fiscal Regimes for Extractive Industries” A Handbook.

Author: Jack Calder. ISBN: 978-1-47557-517-0

Intergovernmental forum for mining of minerals <http://www.igfmining.org>

Natural Resource Governance Institute <http://www.resourcegovernance.org/>

OECD <http://www.oecd.org/>

<http://www.oecd.org/ctp/transfer-pricing/>

Rapaport Diamonds Price List <http://www.diamonds.net/Prices/RapaportPriceLists.aspx>

World Bank – Value Chain document

[http://siteresources.worldbank.org/INTOGMC/Resources/ei\\_for\\_development\\_3.pdf](http://siteresources.worldbank.org/INTOGMC/Resources/ei_for_development_3.pdf)

Public Energy Data:

- [www.eia.gov](http://www.eia.gov)
- [www.bp.com](http://www.bp.com)
- [www.opec.org](http://www.opec.org)
- [www.ieg.org](http://www.ieg.org)

Mining data:

- [www.ey.com/GL/en/Industries/Mining---Metals/Business-risks-in-mining-and-metals](http://www.ey.com/GL/en/Industries/Mining---Metals/Business-risks-in-mining-and-metals)
- [www.usgs.gov/](http://www.usgs.gov/)
- [www.bp.com](http://www.bp.com)

Some useful links for further reading on transfer pricing – tools and resources

- OECD Transfer Pricing Guidelines: [https://read.oecd-ilibrary.org/taxation/oecd-transfer-pricing-guidelines-for-multinational-enterprises-and-tax-administrations-2017\\_tpg-2017-en#page1](https://read.oecd-ilibrary.org/taxation/oecd-transfer-pricing-guidelines-for-multinational-enterprises-and-tax-administrations-2017_tpg-2017-en#page1)
- OECD on transfer pricing: <http://www.oecd.org/ctp/transfer-pricing/>
- Tax Justice Network on transfer pricing: <http://www.taxjustice.net/topics/corporate-tax/transfer-pricing/>

- PwC on international transfer pricing requirements and oil and gas review 2018.  
<https://www.pwc.com/gx/en/services/tax/publications/international-transfer-pricing.html>
- <https://www.pwc.co.za/en/assets/pdf/africa-oil-and-gas-review-2018.pdf>
- EU Joint Transfer Pricing Forum:  
[http://ec.europa.eu/taxation\\_customs/taxation/company\\_tax/transfer\\_pricing/forum/index\\_en.htm](http://ec.europa.eu/taxation_customs/taxation/company_tax/transfer_pricing/forum/index_en.htm)
- 2017-18 EY World Transfer Pricing Reference Guide:  
<http://www.ey.com/GL/en/Services/Tax/International-Tax/Transfer-Pricing-and-Tax-Effective-Supply-Chain-Management/Worldwide-Transfer-Pricing-Reference-Guide---Country-list>
- [RoyaltyRange database on transfer pricing: http://www.royaltyrange.com/home/royalty-rate-database/transfer-pricing?gclid=CN77hvyh3cYCFUTecgodDZAL4A](http://www.royaltyrange.com/home/royalty-rate-database/transfer-pricing?gclid=CN77hvyh3cYCFUTecgodDZAL4A)

Macroeconomic Management in Resource-Rich Countries:

<https://www.edx.org/course/macro-economic-management-in-resource-rich-countries-2>

EXPOSURE DRAFT

**Template 1: Risk identification matrix**

<b>Sector:</b>					<b>Date last updated:</b>		
<b>Prepared by:</b>					<b>Reviewed by:</b>		
<b>Value chain/ Risk management</b>	<b>Policies and Legal framework</b>	<b>Government activities/ decision to explore/ extract</b>	<b>Award of contracts and licences</b>	<b>Monitoring of operations</b>	<b>Assess- ment and collection of revenues</b>	<b>Revenue management and allocation</b>	<b>Implementation of sustainable policies</b>
Government activities							
Government entity(ties)							
Other stakeholders							
Risk factors/ indicators							
Risks							
Controls addressing risks							

**Template 2 : Risk mapping matrix**

<b>Sector:</b>						<b>Date:</b>			
<b>Prepared By:</b>						<b>Reviewed By:</b>			
<b>Value Chain/Risk Management</b>	<b>Risks</b>	<b>Risk factors</b>	<b>Risk Rating</b>		<b>Overall Assessment of Risk</b>	<b>Audit Topic</b>	<b>Audit type</b>	<b>Responsible Unit</b>	<b>When will the audit be done</b>
			<b>Likelihood</b>	<b>Impact</b>					
<b>Policies and Legal Framework</b>									
<b>Government activities/decision to explore/ extract</b>									
<b>Award of Contracts and Licences</b>									
<b>Monitoring of Operations</b>									
<b>Assessment and Collection of Revenues</b>									

<b>Revenue Management and Allocation</b>									
<b>Implementation of sustainable Policies</b>									

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EXPOSURE DRAFT