July 2016

OPTIONS FOR DATA REPORTING – EITI STANDARD, 2016

The Good, The Better and The Best

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ACKNOWLEDGEMENTS AND BRIEF

This report is an update of a previous scoping study (February, 2016)[1] commissioned to review and recommend formats and categories for data that are required or encouraged under the Extractive Industries Transparency Initiative (EITI) Standard.

These updates correspond to the 2016 EITI Standard.

The team would like to acknowledge valuable input from Martin Lokanc, Andrew Brian Schloeffel and Sridar Padmanabhan Kannan at the World Bank and Anders Tunold Kråkenes and Sam Bartlett at the EITI International Secretariat.

[1] https://openknowledge.worldbank.org/bitstream/handle/10986/23779/Options0for0Ex00better0and0the0best.pdf?sequence=1

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EXECUTIVE SUMMARY

The Extractive Industries Transparency Initiative (EITI) is an international standard to 'promote open and accountable management of natural resources'. By encouraging governments, extractive companies, civil society and the public to engage in discourse around transparency of the extractive sector, it aims to facilitate the management of a country's natural resource wealth to benefit all its citizens. The EITI is implemented at the national level. As of June 2016, 51 countries are implementing the EITI in accordance with the 2016 EITI Standard. Since its inception, EITI implementing countries have published EITI Reports covering more than 300 fiscal years.

In December 2015, the EITI adopted an Open Data Policy[2]. To facilitate the utilization of the rich data generated by a country's EITI process, this report provides recommendations in a standardized format to allow for improved understanding, analysis and accountability of the extractive sector.

The options for data categories presented here are recommendations only and are not meant to be prescriptive. Nor should they be considered as a 'reporting template'. The decision on which data categories are to be included for reporting, remains the domain of the individual country's Multi Stakeholder Group (MSG).

This report provides format options and recommendations for data output for EITI Requirements listed under the 2016 EITI Standard. These recommendations are based on identifying commonly used and evolving data categories under each Requirement and spell out qualitative and quantitative data formats. Where international standards are available and where these are emerging, the report uses these as its basis of recommendations. The recommendations for data outputs are meant to compliment the narrative provided within the 'Country Report', and is not to be considered a replacement for other reporting requirements under the EITI.

These format options and recommendations are proposed by the research team. They are not sanctioned by the EITI Board nor the World Bank, and following them will not necessarily lead to EITI compliance. Administrators of the EITI are advised to review the '2016 EITI Standard' and guidance notes for assistance on following the 'EITI Requirements'.

The member countries and extractive companies that are signatories to and participants of the EITI, have a wide range of capabilities and resources. The capacity at the government and extractive company level to provide information differs, as well as for civil society and community partner. To facilitate data reporting from each group, this report takes a good, better and best approach to standards for data formats. These are classifications developed by the research team and do not pertain to EITI compliance.

A *good* level of reporting focuses on meeting the minimum level of disclosures set by each EITI Requirement; better and best approaches build further on these basic standards. As the EITI is an evolving process, the better and best approaches are meant to encourage participants interested in further standardization of disclosures, where increased information and data commitments are being made by the MSG. The three levels of recommendations should not be seen as a three tier reporting system.

'Good' refers to reporting standards that meet the minimum data to be provided under each EITI Requirement. The recommendations take into consideration the differing capacity of stakeholders and include data formats that are already in common usage in different EITI Country Reports.

'Better' typically refers to reporting standards that are enhancements of data covered under the good category. These recommendations differ by EITI Requirement; in some cases they provide more disaggregated reporting within a data category and in others they refer to additional data categories that can be included, where deemed appropriate by the MSG.

'Best' refers to standard formats for reporting data that represent the highest international benchmarks and are considered to provide comprehensive information, beyond the minimum data requirements. These also include suggestions for data categories increasingly emerging in more common usage within transparency reporting.

Recommendations under better/best include, in some cases, suggestions for reporting on data categories that encapsulate emerging trends in transparency and governance. In other cases, there may be just one standard that is considered suitable and therefore no differentiation will be made between the different levels of recommendations. International standards are still developing for some data categories, and the recommendations reflect evolving trends rather than set benchmarks.

[2] https://beta.eiti.org/standard/open-data-policy

The objective of this report is to present, in a structured form, data categories and their reporting formats, that can be used to standardize information generated under each EITI Requirement. The review conducted for this study included a sample of recent EITI Country Reports, as well as other initiatives and industry standards.

These recommendations should be considered as a contribution in the efforts towards standardizing data reporting under EITI Requirements, and need to be tested to identify issues with data collection under the headings as categorized in this report.

The research team recommends a step by step approach to this, starting with a specific set of Requirements, across a number of countries. This would allow the EITI to develop a set of comparable statistics for various reporting entities, as well as start constructing guidelines for EITI implementers.

The table below summarizes the type of data output for each EITI Requirement, which are then presented in more detail in the main text.

TABLE: SUMMARY OF DATA OUTPUT UNDER EITI REQUIREMENTS

	EITI Requirement	Qualitative data	Quantitative data	International standard available	Page number
2.1a+b	Legal framework				14
	Legal codes, regulations and reforms	✓	✓		
	Government agencies	✓			
	Ownership over natural resources	✓	✓		
	Licensing regulations	✓			
	International codes of conduct/signatory to treaties	✓		Emerging	
2.1a	Fiscal regime				18
	Fiscal regime	✓	✓		
	Fiscal devolution	✓	✓		
	Investment		✓		
	Customs/trade	✓	✓		
2.2	Licence allocations				23
	Allocation process	✓	✓		
	Bidding process	✓	✓		
2.3	Register of licenses				24
	Property details		✓	Emerging	
	Geospatial data		✓		
	Ownership details		✓		
	License details		✓		
2.4	Contracts				26
	Title/ description/ status	✓		Emerging	
	Items	✓			
	Signatory details	✓			
	Documentation	✓			
2.5	Beneficial ownership				28
	Details on board members	✓			
	Politically exposed persons	✓			
2.6	State participation				30
	Rules governing state participation	✓			
	Tool for state participation	✓	✓		
	Equity ownership		✓		
	How is state controlled exercised	✓	✓		
	Payments to the state		✓		
	SOE finances		✓		
	SOE beneficiaries		✓		

TABLE: SUMMARY OF DATA OUTPUT UNDER EITI REQUIREMENTS

	EITI Requirement	Qualitative data	Quantitative data	International standard available	Page number
3.1	Exploration				32
	Project stages		✓	Emerging	
	Activity status		✓		
	Reserves and Resources		✓		
3.2	Production				35
	Production volume		✓	✓	
	Production value		✓	✓	
3.3	Exports		✓	✓	37
	Export volume		✓	✓	
	Export value		✓	✓	
4.1	Comprehensive disclosure of taxes and revenues				39
	License and concession fees		✓	✓	
	Profits taxes		✓	✓	
	Royalties & bonuses		✓	✓	
	Trade related revenue flows		✓	✓	
	Grants and donations		✓	✓	
4.2	Sale of the state's share of production and other revenues collected in-kind				41
	Dividends & state entitlements		✓	✓	
4.3	Infrastructure provisions and barter arrangements				42
	Relevant infrastructure agreements and contracts	✓	✓		
4.4	Transportation revenues				42
	Relevant transport taxes	✓	✓		
5.1	Distribution of extractive industry revenues				43
	Receipt and allocation process		✓		
	Allocation and distribution of revenues		✓		
	Accounting for allocation	✓			
5.2	Sub-national transfers				43
	Share of total revenues going directly to local communities/governments	✓	✓		
	Governance of local community payments	✓	✓		
6.1	Social expenditures by extractive companies				45
	Allocation of funds/ in kind projects	✓	✓		
	Extractive companies commitments to local communities	✓	✓		
6.3	Contribution of extractive sector to the economy				46
	Share of GDP		✓	✓	
	Share of government revenues		✓	✓	
	Extractive industries and exports		✓	✓	
	Extractive industries and employment		✓	✓	

SECTION 1: INTRODUCTION AND METHODOLOGY

The Extractive Industries Transparency Initiative (EITI) is an international standard to 'promote open and accountable management of natural resources'. By encouraging governments, extractive companies, civil society and the public to engage in discourse around transparency of the extractive sector, it aims to facilitate the management of a country's natural resource wealth to benefit all its citizens.

An EITI Country Report contains a wealth of information on regimes affecting the country's extractive sector and its people. The generation of information, both in the narrative and data format, is meant to facilitate the engagement between various stakeholders in the EITI process. As this process has matured over the years, the need for making this information more accessible and comprehensive has arisen.

To facilitate the utilization of the rich data generated by a country's EITI review process, this report makes recommendations on reporting formats for data, with the aim of standardizing information across a country's timeline and between countries.

A number of stakeholders are involved within the EITI data generation process, from the country Multi Stakeholder Group (MSG), to government agencies, extractive companies, local communities and civil society groups. The recommendations in this report are meant to facilitate these stakeholders in reporting data (qualitative and quantitative) in a standardized format to allow for improved understanding, analysis and accountability of the extractive sector.

The data format standards presented here are recommendations only and are not meant to be prescriptive. Nor should they be considered as a 'reporting template'; the decision on what to report remains the domain of the country's MSG. The recommendations apply to data output and are not meant to replace the larger reporting requirements under the EITI process.

These options and recommendations are proposed by the research team. They are not sanctioned by the EITI nor the World Bank, and following them will not necessarily lead to EITI compliance. Implementers of the EITI are advised to review the EITI Standard and guidance notes for assistance on following the EITI Requirements.

The report is based on a review of the format and categories of data currently being reported by international extractive revenue transparency initiatives, supplemented by the research team's own experiences in managing extractive sector data for over three decades.

The report starts by outlining the methodology and definition of terms employed, before turning to each particular EITI Requirement. Within each Requirement, the report recommends standards for data categories and formats that may be employed by administrators of the EITI. A sub-section on visualization of the particular data set is also recommended where applicable.

The final sections of the report turn to the data accessibility aspects of EITI data such as reporting languages, and the open data policy advocated in the 2016 Standards.

TERMINOLOGY

The following terminology is used within this report.

Data: Unless specified as quantitative, qualitative or spatial, the term is used to refer generally to information being collected or made available for an EITI Requirement.

Data Category: Refers to a data heading, for which information is presented (such as data under 'Corporate Tax Rate').

Data Format: Refers specifically to the units of reporting for data points. The following terms are used to classify formats:

- Qualitative data has been broken down into three categories:
  - Narrative: This refers to descriptive reporting, where the implementer chronicles the information to be provided
  - Text: This refers to information that is provided in text format, but should not be used for descriptive purposes. It is used to refer to titles of legal regimes or names of government agencies etc
  - Classification: Refers to data points that must be within pre-defined classifications and require a 'tick-mark' approach
- Quantitative: Where information is presented in a numerical value, in appropriate units
- Spatial: Where information relevant to spatial co-ordinates is presented, in appropriate units.

Data Point: Refers to a single data entity/point (such as percentage or dollar value).

EITI Requirement: Refers to a Requirement, and applicable heading and subheading, as stated in the EITI Standard, published by the EITI International Secretariat on February 23, 2016[3]. For each

[3] https://eiti.org/document/standard

Requirement, the report initially states whether it is 'required' or 'encouraged', but makes no further distinctions within the text. Within the EITI Standard document, the Requirements identified for data output standards are listed in Table 1.

Government: The term government, unless specified, refers to the Federal government. Where a distinction is required, State government is used to refer to the provincial/state government.

Local Currency: When the report recommends reporting local currency, this refers to using the 3-letter ISO 4217[4] format, e.g. AED, AFN etc.

Standard: The term is used to refer to a benchmark or a customary measure, and unless specifically stated, does not refer to the EITI Standard as published by the International Secretariat.

CLASSIFICATION OF RECOMMENDATIONS

The member countries and extractive companies that are signatories to and participants of the EITI cover a wide range of capabilities and resources. The capacity at the government and company level to provide information differs, as well for civil society and community partners. To facilitate data reporting in a harmonised format from each group, this report takes a good, better and best approach to data standards. These are classifications developed by the research team and do not pertain to EITI compliance.

The approach allows three levels of recommendations to be made; the 'good' focuses on meeting the minimum requirements set by an EITI Requirement; 'better' and 'best' approaches build further on the basic standards. The latter two categories also include/refer to data categories coming into greater use in EITI Country Reports and other extractive transparency initiatives.

As EITI is an evolving process, the better and best approaches are meant to encourage participants to standardize reporting where increased information and data commitments are being made by the MSG. The three levels of recommendations should not be seen as a three tier reporting system, but are meant to allow participants with varying capacities to report their data.

Good refers to standards for the data categories and the format in which data should be presented, that meet the minimum data to be provided under each EITI Requirement. The recommendations take into consideration differing capacity for stakeholders and include data formats and categories that are already in common usage in different EITI Country Reports.

Better refers to standards (data format and categories) that are enhancements of data covered under the good category. These recommendations differ by EITI Requirement; in some cases they provide standards for more disaggregated reporting within a data category and in others they refer to more details being provided for each category. In some cases, there may be just one standard that is considered suitable and therefore no differentiation will be made between the different levels of recommendations.

Best refers to standards (data format and categories) that represent the highest international benchmarks and standards and are considered to provide comprehensive information, beyond the minimum data requirements. For some categories international standards are beginning to emerge, and the recommendations reflect evolving trends rather than set standards. In some cases data categories include terminology and issues being increasingly reported in EITI Country Reports and other assessments. Recommendations under this grouping are not prescriptive but should be explored by EITI participants to enhance their reporting standards.

METHODOLOGY

Data under each EITI Requirement, as stated under the EITI Standard, were first classified on the basis of qualitative, quantitative and spatial data. Two judgments were used here, first what the EITI Requirement naturally lends itself to and second whether data points of a different nature can be identified. For example, coverage of the Legal Framework naturally lends itself to a narrative description, but specific issues (such as ownership of resources) can be added as a binary/single data point within this field.

Second, data were marked for those that are more likely to follow international data standards and those more likely to have more specific national standards. The main principle in establishing the distinction was the likelihood of a data category to be comparable across countries. For example quantitative data on production volume for oil is considered more likely to allow for cross-country comparisons relative to a narrative on contracts and licenses[5].

[4] http://www.iso.org/iso/home/standards/currency_codes.htm

[5] This does not assume national level data cannot be compared across countries, but that the norm for such comparison is not clearly established.

Third, a distinction between data requiring disaggregation relative to data requiring details was made. The main principle was whether data can be 'summed up', in which case it is open for disaggregation. Where it cannot be summed up, it is more likely to fall in the latter category. For example, license data is one that requires details (name of company, date of permission etc.) while Revenue Flows to the government is one of disaggregation (where the components can be summed up to the larger sum). The results of this assessment are shown in Table 1.

The table was also used to identify the EITI Requirements where commonly used data categories were easy to identify and those that required further investigation. The latter headings were further investigated within industry standards and research analysis, weighing the advantage/disadvantages between different options, where common standards were not in use. The recommendations in this report are based on the culmination of these findings.

Once the primary profile for each EITI Requirement was established, a review of data reported by international transparency initiatives, international data bases and industry reporting standards was undertaken. EITI Country Reports for Ghana, Indonesia, Kazakhstan, Mongolia, Norway, Peru, Solomon Islands, and Zambia, were also reviewed. The countries were selected as they cover varying geographies, have recently published reports (2012-15) and some include coverage of both mineral and oil production. Additionally the countries reflect varying levels of state capacity.

The review looked at the data format/information contained for each data category relevant to the EITI Requirements, and the level of disaggregation and detail. Commonly used data reporting categories and formats were identified.

In addition, stakeholders from a number of transparency initiatives were interviewed about their experiences with EITI Requirement data and the wider data issues in the sector.

The following section builds upon the requirements for each EITI Requirement listed under Table 1. The first step was to establish the data categories that would be applicable, the format for each category and then the recommendations for good, better and best practices. The recommendation for formats within each data category should be considered applicable when the particular data category is being used. The data categories themselves are not meant to be prescriptive. The standards are recommended by the research team. Some data categories, such as State Participation can be covered under two EITI Requirements. These are listed only once, with a full list of data categories covered available in Annex V.

TABLE 1 DATA PROFILE FOR EITI REQUIREMENTS

	EITI Requirement	Qualitative data	Quantitative data	Spatial data	International standard available?	Data disaggregation	Data detail
2.1a	Fiscal regime	✓	✗		✗		✓
2.1a+b	Legal framework	✓	✗		✗		✓
2.2	License allocations	✓			✗		✓
2.3	Register of licenses	✓		✓	✗		✓
2.4	Contracts	✓	✓		✗		
2.5	Beneficial ownership		✗		✗		
2.6	State participation	✓	✓		✗	✗	
3.1	Exploration		✓	✓	✗		✓
3.2	Production		✓	✓	✓	✓	
3.3	Exports		✓		✓	✓	
4.1	Disclosure of taxes & revenues	✓	✓		✓		
4.2	Sale of state's share of production or other revenues collected in kind	✓	✓		✓	✓	
4.3	Infrastructure provisions and barter arrangements	✓	✓			✗	✓
4.4	Transportation revenues	✓	✓		✓	✗	✓
5.1	Distribution of revenues	✓	✓		✓	✓	
5.2	Subnational transfers	✓	✓		✗	✓	✓
6.1	Social expenditure by extractive companies	✓	✓		✗	✗	✓
6.3	Contribution of extractives to economy		✓		✓	✓	✓

Key: ✓: applicable to category
✗: further investigation undertaken by research team

SECTION 2: LEGAL AND INSTITUTIONAL FRAMEWORK

2.1 LEGAL AND FISCAL REGIME GOVERNING THE EXTRACTIVE INDUSTRIES

EITI Requirement 2.1 (required) is defined as follows:

*a) Information **must** include a summary description of the fiscal regime, including the level of fiscal devolution, an overview of the relevant laws and regulations, and information on the roles and responsibilities of the relevant government agencies.*

*b) Where the government is undertaking reforms, the multi-stake holder group is **encouraged** to ensure that these are documented in the EITI report.*

The overview of the legal and fiscal regimes can cover legislation, proclamations and regulations, the departments, offices or agencies that exercise this authority and reforms under consideration.

A review of a sample of recent EITI Country Reports shows a spectrum of reporting streams that provide a context for the legal and fiscal regimes. For example, in the case of legal regimes, the Kazakhstan Country Report 2013[6] states the titles of the legal codes applicable to the extractive sector, whereas the Solomon Islands Country Report 2013[7] provides a brief discussion on the state of the legal regime.

The following data categories have been identified under this EITI Requirement. Data categories/formats for each are then discussed in detail.

- Legal Regime:
  - Legal codes, regulations and reforms
  - Ownership over natural resources
  - Licensing regulations
  - International codes of conduct/signatory to treaties
- Fiscal Regime:
  - Fiscal transactions
  - Fiscal devolution
- Government Agencies

LEGAL CODES, REGULATIONS AND REFORM

Data output: Narrative + quantitative data

The information required under this EITI Requirement can take two forms; the first is a narrative description of the legal codes and regulations that govern the extractive sector and the second is quantitative data that provides an overview of these codes.

Good practice under this EITI Requirement should cover information for the major legal, regulatory and policy documents, listed in Table 2. These data categories refer to extractive specific legislation. The title for each applicable legislation, regulation and directive should be provided, where the document can be located, its year of drafting and when it was last updated/amended. Additionally, if the legal framework is under reform, it should be clarified what stage the reform is at.

[6] https://eiti.org/files/EITI-2013-Report-Kazakhstan_Annex.pdf
[7] https://eiti.org/files/SIEITI%202013%20Reconcilation%20Report.pdf

TABLE 2 DATA OUTPUT FOR LEGAL CODES AND REGULATIONS

Category	Name/title	Available in/from	Original draft incorporation/issue	Last updated/ amended	Reform on going
Good					
Legislation • *Mines and Minerals Act* • *Petroleum/ Hydrocarbon Act.* • *Official Model Contracts*	Text	Name of dept./gazette URL link where available	YYYY	MM-YYYY	Yes/No If yes, specify: • Under discussion • In parliament/senate • Awaiting final approval by authority
Regulation(s) directives	Text		YYYY	MM-YYYY	
Policy document	Text		YYYY	MM-YYYY	
Better/Best					
Others legislation considered relevant	For e.g. If community engagement is included under environmental legislation	Name of dept./gazette URL link where available			

Within the **better/best** recommendations, the research team proposes the inclusion of other legal frameworks that include references to the extractive sector. Mining and Hydro-Carbon codes will differ from country to country, and may be all inclusive or for certain regulations refer to other codes. For example, environmental legislation or labour laws may have specific sub-clauses and regulations applicable to the extractive industry. Where this is the case, references and links can be included.

An extensive list of other legislation is not provided here, as depending on the structuring of mining codes and regulations, these will differ from country to country. The recommended data categories include all relevant legal/regulatory documents and the data points for these. The discussion on fiscal regulations/codes is discussed in a sub-heading later in this section.

Table 2 also includes a column addressing information on ongoing reform. 'Under discussion' refers to political dialogue taking place but where no procedural changes to mining codes have been undertaken yet. 'In parliament' (or as appropriate) signifies that a bill has been drafted for consideration. 'Awaiting final approval' signifies that the bill has been passed by the parliament and is awaiting final authorization, before it can be considered as law.

As there can be a number of agencies/departments responsible for enforcing a single legislation, for the sake of clarity, information on the responsible agency or statutory authority for legal codes and regulations has been omitted from the required data categories here. Information on the relevant agencies and statutory authorities are provided under 'government agencies'.

OWNERSHIP OVER NATURAL RESOURCES

Data output: Narrative + classification

In a majority of jurisdictions, mineral and oil resources are considered to belong to the country and the rights of extraction are administered by the Federal or State governments. In some cases (such as Papua New Guinea) the legal framework gives this right to the landowners. In other cases (such as the United States) the ownership rights may differ, depending on the location of resource (public or private land). In yet others, landowners do not have sub-surface rights, but have the right to allow access to their lands for extractive companies. It is therefore considered useful to deliver this information specifically whilst providing the context of the legal regime.

It is considered **good** practice to specify the entity that has the ownership over natural resources, the authority to grant the right of extraction, and the legal document that provides this right. The examples provided in Table 3 are for illustrative purposes and should not be taken as a comprehensive list.

A greater level of detail would be considered **better** practice, where more information is provided by breaking down these rights by minerals/oil & gas and classifying whether they are administered by federal and the state governments etc.

Finally, **best** practice would include any other legal frameworks that may be applicable to the ownership/administration of the extractive sector. These would comprise individual legal agreements with indigenous communities, where the latter have the right of refusal to extractive activity on their land. Other laws that may fall into this category include any that specify areas that are not open for extractive activity (such as protected reserves, national parks, heritage sites etc.), and those that classify a particular natural resource as a strategic resource[8] etc. The list provided in this category is for guidance only.

LICENSING REGULATIONS

Data output: Narrative + quantitative

While definitions of licenses are usually included in mineral and petroleum codes and regulations, we recommend that this information be provided separately from the narrative on legal codes and regulations.

Good practices focus on including the basic categories for license data that will be present in the legal framework governing licenses (Table 4). In different jurisdictions, different terminology may be used, such as permits, leases or licenses. In addition, some countries may use a larger number of categories than others.

Within the mining sector, the following are the commonly used classifications for licenses:

- **Claim:** The ground covered by the polygon has been set aside for an activity to take place. Minerals have been found in this area but no mining related activity has taken place.
- **Exploration Lease/License, Prospecting:** The ground covered by the polygon has been leased or licensed to be explored. No mining activity.

[8] A deposit of strategic importance can be defined as 'a deposit of size which may have a potential impact on national security or the economy and social development of the country, as the national or regional levels, or which is producing or has the immediate potential to produce more than 5% of total GDP in a given year'.

TABLE 3 QUALITATIVE INFORMATION FOR OWNERSHIP OF RESOURCES

Category	Information provided		Data format
Good			
Ownership of the country's natural resources	Legal owner: • *Federal/State government* • *Land owner (Private)* • *Hybrid*	Specify: Reference to legal document that grants this right	Narrative URL link where possible
Authority that grants the right of extraction	Right of extraction granted by: • *Constitution* • *Regulations* *Individual contracts*	Specify: Reference to legal document that grants this right	Narrative URL link where possible
Better			
Are these rights specified by mineral type/oil & gas	List specification: • *Precious metals by federal government* • *Quarry material by local government*	Specify: Reference to legal document that grants this	Narrative URL link where possible
Best			
Other legal frameworks impacting ownership over resources	*Specification of strategic deposits* *Right of refusal by local community (similar to Free, Prior and Informed Consent (FPIC))*	Specify: Reference to legal document that governs this	Narrative URL link where possible

- **Exploration Permit:** The owner of this ground covered by the polygon has a permit for exploration of minerals to occur. No mining activity.
- **Mining Lease/License:** The ground covered by the polygon has been put aside for a mining activity or mining activity is currently taking place.
- **Quarrying License:** The owner is granted a quarry license for a clearly defined area, where material for construction purposes, such as construction sand, gravel, and quarry rock is extracted.
- **Artisanal Mining License:** These pertain to mining activities done manually, without the use of machinery.
- **Other:** Any other lease type not assigned to the other types, for example Infrastructure leases.

Within the oil and gas sector the following classifications are commonly used:

- **Seismic/Exploration Licenses:** Allows the authorized to carry out exploration and seismic surveys of a given areas (whether on/off shore). This may also take the form of special access authorization for exploration activity.
- **Retention Lease:** Allows the holder to retain certain rights to a petroleum discovery, which is not currently ready for commercial exploitation, but may be in the next decade or so (time for lease will vary by country/license).
- **Exploitation/Production Licenses:** The area covered by this block has been put aside for oil extraction.

These blocks may also be referred to as concessions.

Depending on the country, the EITI implementer should describe these mineral or energy rights, as listed in the country regulations, and include the above suggested categories where available and appropriate.

Better practices focus on disaggregating the data categories under license profiles further by type of mineral or energy right. There is no specific recommendation for best practice for this category, other than to provide all information considered relevant, that is not already included in the previous two recommendations. These can take a narrative form. Some suggestions for consideration are provided in Table 4.

Table 4 addresses the legal context for licensing only and is not meant to address the data output for EITI Requirement (2.2 and 2.3) on register and allocation of licenses. These two Requirements are addressed later in the report.

TABLE 4 LEGAL PROFILE OF LICENSES BY TYPE

Category	Description	Granted by: *Name of authority*	Available in/from	Duration	Area	Application fee (per license)	Annual fee (if applicable)
Good							
License title: Mineral resources							
Claim	Text	Text	Name of dept./ gazette URL link where available	No. of years	Specify unit (in hectares) for each license	US$ Value/ hectare Local currency / hectare	US$ Value/license Local currency / license
Exploration lease	Text	Text					
Exploration license	Text	Text					
Prospecting license	Text	Text					
Operating license	Text	Text					
Closure/rehabilitation	Text	Text					
Artisanal mining	Text	Text					
License title: Oil/gas							
Seismic survey	Text	Text	Name of dept./ gazette URL link where available	No of years Specify if they differ by license	Specify the block dimensions by km^2 x km^2	Area fees per km^2	US$ Value/license Local currency / license
Exploration	Text	Text					
Exploitation	Text	Text				US$ value/ Local currency	
Concessions (Include any signing bonuses)	Text	Text					
Better: For each license title listed above, disaggregate information further by							
Scale of licenses							
Small scale	Narrative	Text	Name of dept./ gazette URL link where available	No of years	Min – Max size (In hectares)	Local currency/ US$ value – per license	Fee applicable by year 1, year 2 and year 3
Medium scale							
Large scale							
Type of mineral[a] (*applicable if licenses differ by mineral*)							
Precious	Narrative	Text	Name of dept./ gazette	No of years URL link where available			
Base metals							
Industrial minerals							
Environmental bonds							
Environmental bonds	Narrative	Text	Name of dept./ gazette			US$ Value/ project	
Environmental fund	Narrative	Text	URL link where available			% of value of project/ revenue as appropriate	
Underlying rights							
Is the right to explore exclusive/ non-exclusive?	Exclusive/ non-exclusive	Text					
Can the right to explore be converted to include the right to extract?	Yes/No	URL link where available					
Best: Provide additional legal frameworks specific to licensing							
Limits on ownership by type of license	Are there any legal limitations on who can own a license (narrative) Are there limitations on the number of licenses one entity can have (narrative) Are certain areas reserved for the government (narrative)						
Requirements for holding license	Minimum spend on license areas (narrative + qualitative) Reporting requirements from companies - monthly, quarterly, annual (narrative + qualitative) Regulations with regards to transfer and relinquishing of licenses (narrative)						
Other	As deemed appropriate to county by MSG						

a: for a full list of minerals, see Annex III

INTERNATIONAL CODES OF CONDUCT/TREATIES

Data output: Narrative

There are a number of international codes of conduct for the extractive sector, to which countries and companies are signatories. These can affect the legal environment and compliance requirements for a country as well as company. Some of these are listed below and may be considered in the 'additional information' category. The research team has not provided a good/better/best recommendation for the inclusion of these as narrative data, but research for this report has shown that these codes are often included in discussions around governance and transparency of the extractive sector. Therefore the mention of international conventions or treaties a government is signatory to, in the narrative form, can be considered. Examples of these codes include:

- Conflict Minerals in the great lakes region
- Convention on Biological Diversity (Biodiversity Treaty)
- Convention on the Law of the Sea
- Double Taxation Treaties
- ILO Code - Safety and health in the iron and steel industry
- ILO Code - Safety and health in underground coalmines
- ILO Convention 169, concerning Indigenous and Tribal Peoples in Independent Countries
- ILO Conventions and Recommendations for Human Rights and Labour Issues
- International Covenant on Civil and Political Rights (UN)
- International Cyanide Management Code
- Kimberly Process
- Ramsar Convention on Wetlands of International Importance
- Stockholm Declaration
- UNESCO Convention for the Protection of the World Cultural and Natural Heritage
- WTO trade measures on local content

FISCAL REGIME

Data output: Classification + qualitative + narrative.

There are a number of data points that can provide the context of the fiscal regime for the country's extractive sector. These relate to providing information on the type of fiscal transactions that are applicable to the sector (from taxes to social security contributions etc).
This section provides options for an overview of the contextual setting of a fiscal regime only. A detailed description and data categories for revenue flows is covered under the EITI Requirement (4.1-4.6) 'Revenue Collection'.

Table 5, in addition to the review of other initiatives and EITI Country Reports, is informed by publications from PricewaterhouseCoopers, E&Y and Deloitte, who regularly report on fiscal regimes in the extractive sector. Recommendations are provided for each of the data categories the EITI administrators may choose to report on, and there is no good/better/best distinction made. Within this table, binary answers (Yes/No) are listed as quantitative data.

TABLE 5 FISCAL REGIME COUNTRY PROFILE

Category	Information included	Data format
Corporate Income Tax (CIT)		
Top rate of CIT	% rate	Quantitative
Level at which applied	• Federal • State	Classification
Restriction on use of tax losses	Yes/No By % rate or No. of Years	Quantitative
Special allowances/contracts	Yes/No	Quantitative
Mineral taxes		
Mineral tax name	Title	Text
Level	• Federal • Provincial • Other (if applicable)	

TABLE 5 FISCAL REGIME COUNTRY PROFILE

Category	Information included	Data format
Basis	• Ad-valorem (% of product value) • Ad-valorem progressive with price • Ad-valorem progressive with production • Ad-valorem progressive with operating ratio/profit • Royalty applied to operating margin (net profits royalty) • Other (sliding scale, formula, etc. specify)	Classification
Rates for top 5 extractive products based on value of production, for example:	(will depend on basis)	
Copper	% or US$/tonne	Quantitative
Gold	% or US$/oz.	Quantitative
Petroleum	% of revenue	Quantitative
Bulk Mineral	$/tonne	Quantitative
Deductible in CIT calculation	Yes/No	Quantitative
Oil and gas taxes		
Oil and gas tax name	Title • State production tax • Production handling fee • Net revenue/operating fee • Lease costs/fee • Other (specify)	Text Classification
Level	• Federal • Provincial • Other (Progressive/regressive, if applicable)	Classification
Basis	• Wellhead • Production based royalty • Production based tax on revenues • Rate of return based profit oil sharing • Excess profits/extraordinary income • Price based resource tax • Other (sliding scale, production bonuses etc.)	Classification
Other taxes & payments		
Name of other tax	• VAT • Sales revenue • Windfall tax • Capital gains tax	Quantitative
Basis of other taxes	• Price of mineral/oil/gas • Gross revenue • Turnover	Quantitative
Rate of other taxes	% rate	Quantitative
Tax on exports (Minerals)		
Ore extracted	Yes/No	Quantitative
Processed ore	% rate	
Refined metal		
Other (if applicable)		
Tax on exports (Oil/gas)		
Crude oil		
Natural Gas/LPG		
VAT charged on exports	Yes/No	Quantitative
Withholding tax		
Dividends	% rate	Quantitative
Interest	% rate	Quantitative
Royalties	% rate	Quantitative
Service fees	% rate	Quantitative

TABLE 5 FISCAL REGIME COUNTRY PROFILE

Category	Information included	Data format
Fiscal provisions		
Tax holidays	Yes/No Particulars	Quantitative Narrative
Reduced royalties fees	Yes/No Particulars	Quantitative Narrative
Waiving of corporation tax	Yes/No Particulars	Quantitative Narrative
Customs duty exemptions	Yes/No Particulars	Quantitative Narrative
Other comments		
Fiscal stability agreements	Yes/No Duration (no. of years)	Quantitative
Social contributions	Yes/No Voluntary or mandatory	Quantitative
Government equity	Specify which categories are applicable: • Paid-up equity on commercial terms • Paid-up equity on concessional terms • Carried interest • Tax swap • Equity in exchange • Other	Classification
Production sharing	Basis of application: • Cost minerals/oil • Profit minerals/oil % share	Classification Quantitative
Transfer pricing	Yes/No Particulars	Quantitative Narrative
Ring-fencing	Yes/No Particulars	Quantitative Narrative
Thin capitalization	Yes/No Particulars	Quantitative Narrative
Special economic zones	Yes/No Particulars (fiscal incentives)	Quantitative Narrative

FISCAL DEVOLUTION

Data output: Narrative

The information for fiscal devolution can be provided in a narrative, which should cover the following information. Additional information on data for fiscal devolution is covered under the section on Distribution of Revenues (5.1) and Subnational transfers (5.2) in Table 16.

- Governed by legislation/regulations
- Specific to extractives
  - Specify basis for legal regime for devolution
  - Which of these concepts is being used for devolution; fiscal equivalence/responsibility
  - What is the status of the subsidiary
  - What autonomy is granted to sub-regions and on what legal/fiscal basis
  - How is the expenditure assignment for sub-regions governed
  - How is the revenue assignment for sub-regions governed
  - What is the intergovernmental transfers/grants design
  - Is there a revenue sharing formula between the Federal and State governments
  - What are the level of sub-national government that receive revenue
  - Are these paid directly to the sub-regions or through federal government

GOVERNMENT AGENCIES

Data output: Narrative

A good approach would be to provide a list of government departments, offices and agencies that engage with the extractives sector, with a narrative text to outline their primary function, and the authority they exercise. This is recommended as good practice, as it allows for the simplest level of reporting. The list of departments provided in Table 6 is for illustrative purposes only and the agencies and department titles will tend to differ from country to country.

A better/best approach would be to offer greater details regarding these departments and their functionalities in relation to the extractive chain. The World Bank 'Extractive Industries Value Chain' can be used as guidance for this approach, and by each phase, all agencies involved could be listed. This would greatly benefit from visualization. No distinction between better/best is made for this recommendation as the level of detail by phase of extractive value chain is considered to be adequate.

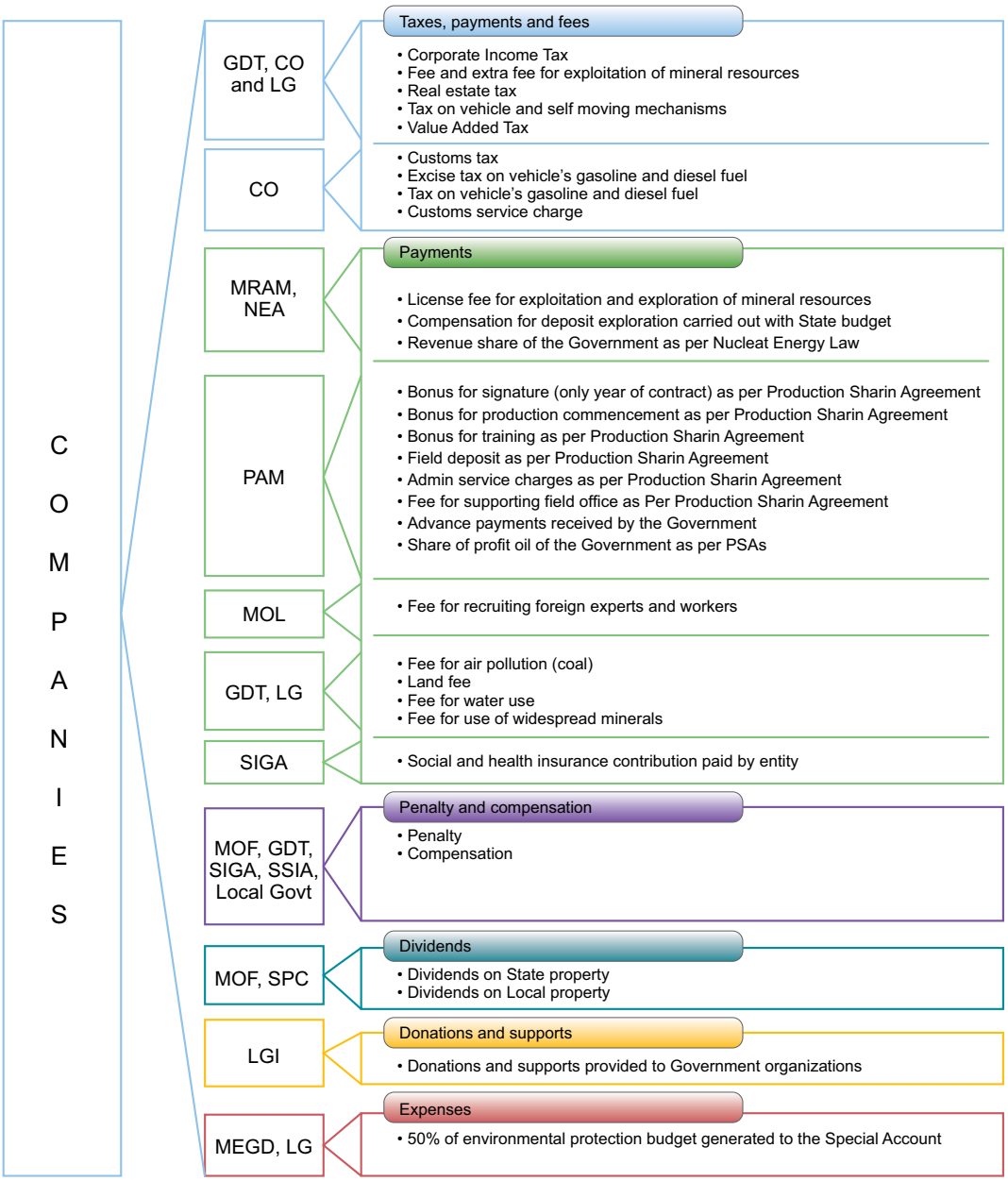
TABLE 6 LISTING OF GOVERNMENT AGENCIES

Category	Information included	Data format
Good		
Department/ agency	Text	Narrative URL link where possible
Primary function (for each agency)	Narrative	Narrative
Level of authority (for each agency)	Specify: • Authorizing/determining bodies • Exemption granting • Revenue collection • Auditing/expenditure	Classification
Better/Best		
Awards of contracts and licenses	• Department/ agency title Specify: • Authorizing/determining bodies • Exemption granting • Revenue collection • Auditing/expenditure	Narrative URL link where possible Classification
Regulation & monitoring of operations		
Collection of taxes and royalties		
Revenue management and allocation		
Implementation of sustainable development policies and projects		

VISUALIZATION

A flow chart using revenue flows as the foundation, where additional layers are added to show what legal and fiscal regimes and the authorities who exercise control over these flows. A good example is provided by the Mongolia Report (2013, pg. 68). The visualization clearly outlines the agencies involved and the category of revenue flow they are responsible for.

FIGURE 1 FISCAL AND LEGAL REGIME CONTEXT FOR MONGOLIA



Source: EITI country report for Mongolia (2013)

Key

CO	Mongolian Customs Office	MRAM	The Mineral Resources Authority of Mongolia
GDT	General Department of Taxation	NEA	Nuclear Energy Authority
LG	Local government	PAM	Petroleum Authority of Mongolia
MEGD	Ministry of Environment and Green Development	SIGA	General Authority for Social Insurance
MOF	Ministry of Finance	SPC	State Property Committee
MOL	Ministry of Labour	SSIA	The State Specialized Inspecting Agency

2.2 LICENSE ALLOCATIONS

The EITI Requirement 2.2 (required) is defined as follows:

*a) Implementing countries are **required** to disclose information related to the award or transfer of licenses pertaining to the companies covered in the EITI Report, including: a description of the process for transferring or awarding the license; the technical and financial criteria used; information about the recipient(s) of the license that has been transferred or awarded, including consortium members where applicable; and any non-trivial deviations from the applicable legal and regulatory framework governing license transfers and awards.*

*b) Where companies covered in the EITI Report hold licenses that were allocated prior to the accounting period of the EITI Report, implementing countries are **encouraged**, if feasible, to disclose the information set out in 2.2(a) for these licenses.*

*c) Where licenses are awarded through a bidding process during the accounting period covered by the EITI Report, the government is **required** to disclose the list of applicants and the bid criteria.*

d) Where the requisite information set out in 2.2(a-c) is already publicly available, it is sufficient to include a reference or link in the EITI Report.

*e) The multi-stakeholder group **may** wish to include additional information on the allocation of licenses in the EITI Report, including commentary on the efficiency and effectiveness of licensing procedures.*

Data output: Narrative + quantitative

The data categories within this Requirement refer to the specifications of area, duration, limitations and any financial payments required for the allocation of licenses [9].

[9] For additional information, please refer to EITI's guidance note on license allocations, found here: https://beta.eiti.org/GN4

TABLE 7 DATA OUTPUT UNDER ALLOCATION OF LICENSES

Category	Information included	Data format
Allocation process		
Is there a minimum evaluation criterion applicable	Yes/No Narrative describing the criterion	Qualitative URL link if available
Allocation criterion	Specify: • First come first served • Open bidding • Selection board • Hybrid • Preference/barter arrangements	Classification
Is there a limit on number of licenses that can be granted to one entity	Yes/No Narrative on what governs such limitations	Qualitative
Can minister/executive authority overrule decisions from licensing board	Yes/No Narrative on what governs this decision making	Qualitative
Are there limitations on transfer of licenses?	Yes/No Narrative on how transfers can take place	Qualitative
Disputes over license allocation	Narrative if appeals have been filed against license allocations	Qualitative
Details for bidding process		
Name Title for bid, as advertised Bid criterion Date of advertisement for bid Date for opening of bids Date for announcement of bid winner	Text DD-MM-YYYY	URL link if available
Licence allocation disclosure		
Are there any significant legal or practical barriers to the disclosure of information on licence allocations?	If yes, provide information on the nature of the barrier and how the government plans to overcome this, including anticipated timescale for achieving this	Narrative

Countries may have different titles for licenses/ permits, but they will generally fall under the categories listed in the previous section (Table 4). A narrative should be provided to cover the information required for:

- The award or transfer of licenses pertaining to the companies covered in the EITI Report
- If licenses are awarded through bidding process; the list of applicants and the bid criteria
- Commentary on the efficiency and effectiveness of these systems (encouraged).

In addition there are particular data categories that can be generated for this EITI Requirement, listed in Table 7.

No specific good, better and best recommendations have been provided within this table, as this information can both be covered under the narrative as well as a data category. At the minimum, good practice would be to outline the allocation process and the criterion.

2.3 REGISTER OF LICENSES

The data under EITI Requirement 2.3 (required) is defined as follows:

a) License defined as "any license, lease, title, permit, or concession by which the government confers on a company(ies) or individual(s) rights to explore or exploit oil, gas and/or mineral resources".

b) Register of licenses defined as "a publicly available register or cadastre system(s) with the following timely and comprehensive information regarding each of the licenses pertaining to companies covered in the EITI Report"

Data output: Quantitative + spatial + narrative

The data categories for this Requirement comprise of information to be drawn from the government's register of licenses (whether online or a paper register). Data includes information on ID numbers for allocated licenses, the owner of these licenses and their location. The information covered includes details on the property, its location (geospatial data), the registered owners and details of the license itself[10].

The possible data categories are provided in Table 8 with recommendations on what information can be provided and the format this should take. The good/better/ best recommendations for this EITI Requirement are based on provision of greater detail within each category.

Additional information:

Other information that could be provided through spatial data and/or a narrative could include the following:

- Information on restricted/reserved areas where extractive activity is not permitted
- Overlapping land use designations i.e. national park, ancestral lands etc
- Whether previously available areas have been withdrawn, and why
- Major water bodies in the area (such as lakes and rivers)
- For off-shore oil extraction, country boundaries and whether there any international boundary disputes issues exist for the area.

[10] For additional information, please refer to EITI's guidance note on license registers, found here: https://beta.eiti.org/GN3

TABLE 8 DATA OUTPUT FOR REGISTER OF LICENSES

Category	Information included	Data format	Recommendation
Property details			
Property identifiers	Property name License number Block id number	Narrative Text Text	Good
Location	State/Province District	Text	Good
Commodities	List commodities for which license is applicable	Text	Good
Area	Area held under license in hectares	Hectares Up to 2 decimal points	Good
Geospatial data (license polygons represented on map/online cadastre)			
Coordinate system	Local Coordinate System	Yes/No Yes: Spatial data file No: Provide description	Better
Coordinate system	WGS84, Latitude, Longitude (geographic coordinate system) EPSG:4326 European Petroleum Survey Group Code for the coordinate reference system	Spatial data file	Best
Ownership details			
Owner(s)	Registered owners Company registration no Tax registration number	Text	Good
Contractor	For construction/production sites, list contractor if different from owner	Text	Best
Share of holdings if jointly held	% share of each owner	Quantitative	Better
Other claims owned by the same owner	List property name/id number of property	Text Number format	Best
Previous owner, if transferred in last two years	Name of previous owner	Text	Best
License details			
License type	Title[a]	Text	Good
Application date	Registered application date	DD-MM-YYYY	Good
Date granted	Registered grant date	DD-MM-YYYY	Good
Expiry/ first renewal date	Indicate original expire date Include if renewal has been granted Duration (no of years)	DD-MM-YYYY Yes/No Quantitative	Better
Date of refusal	Registered refusal date	DD-MM-YYYY	Better
Reason for refusal	Description	Narrative	Best
Current status	Describes status of activity [b]: • Active • On-hold • Inactive	Classification	Better
Information last updated	Date	DD-MM-YYYY	Best
Any exemptions offered	Narrative	Qualitative	Best
Work to be performed as License requirement	Narrative	Qualitative	Best
Source of data	• *datasets extracted/exported from the registry database* • *the licenses held by a particular company*	Classification	Good

a: this should closely follow the titles laid out in Table 5 under EITI Requirement on Legal and Fiscal Regime Context.
b: should closely follow the activity status as laid out in Table 12.

Online Cadastre systems have gained popularity in recent years, and a number of countries employ such portals to display license information. Information from such systems can be utilised to populate the above table.

FlexiCadastre[11] (provided by Spatial Dimensions) is used by a number of African and other countries; Botswana, DRC, Kenya, Namibia, Mozambique, Papua New Guinea, Rwanda, South Sudan, Tanzania, Uganda and Zambia. None of these portals provide download functionality, however users do not need to register to use the portal. Annex II provides a comparison of data and format displayed for these countries within the FlexiCadastre systems.

Mining Cadastre Administration System (MCAS)[12] is the other emerging used online system. It is provided by Revenue Development Foundation (RDF) and is currently operational in the following countries: Ghana, Liberia, Mali and Sierra Leone.

Of these countries, none of the portals currently provide download functionality; RDF is currently developing an application program interface (API) that will enable greater access to this data, this system is currently in its pilot phase and development is ongoing. Users need to register to access the system.

In general, on-line systems may require the user to register before access is granted. Depending on the system, free access may be restricted to just visualizing the data and downloading of data may not be available. On-line systems will also tend to have limited historical information on transfer of licenses. The advantage is these systems are updated at regular intervals and in general they will have the latest information available.

2.4 CONTRACTS

The EITI Requirement 2.4 is defined as follows:

*a) Implementing countries are **encouraged** to publicly disclose any contracts and licenses that provide the terms attached to the exploitation of oil, gas and minerals.*

*b) It is a **requirement** that the EITI Report documents the government's policy on disclosure of contracts and licenses that govern the exploration and exploitation of oil, gas and minerals. This should include relevant legal provisions, actual disclosure practices and any reforms that are planned or underway. Where applicable, the EITI Report should provide an overview of the contracts and licenses that are publicly available, and include a reference or link to the location where these are published.*

c) The term contract in 2.4(a) means:

- *the full text of any contract, concession, production-sharing agreement or other agreement granted by, or entered into by, the government which provides the terms attached to the exploitation of oil gas and mineral resources;*
- *the full text of any annex, addendum or rider which establishes details relevant to the exploitation rights described in 2.4(c)(i) or the execution thereof; and*
- *the full text of any alteration or amendment to the documents described in 2.4(c)(i) and 2.4(c)(ii).*

d) The term license in 2.4(a) means:

- *the full text of any license, lease, title or permit by which a government confers on a company(ies) or individual(s) rights to exploit oil, gas and/or mineral resources;*
- *the full text of any annex, addendum or rider that establishes details relevant to the exploitation rights described in in 2.4(d)(i) or the execution thereof; and*
- *the full text of any alteration or amendment to the documents described in 2.4 (d)(i) and 2.4 (d)(ii).*

Data output: Narrative + quantitative

This EITI Requirement pertains to the disclosure of contract information in a comparable and accessible format and is relevant only for countries that chose to include contract disclosure in their reporting. Table 9 details how relevant contract information should be reported; drawing upon the frameworks outlined in the Open Contracting data standard project[13] and the Model Mining Development Agreement[14], and includes recommendations from the research team.

Good practice for this EITI Requirement entails disclosing quantitative and narrative data that provides an overview of any contracts between the government and extractive companies, where made available in the public domain. The information required, detailed in Table 9, includes descriptive data, information on the

[11] http://www.spatialdimension.com/Products/FlexiCadastre-Overview
[12] https://revenuedevelopment.org/page/mcas-mining-licensing-system
[13] http://standard.open-contracting.org/
[14] https://www.iisd.org/sites/default/files/pdf/2013/mmda_transparency_report.pdf

contract status, start and end date, its value, the company with whom it was entered into, and the date it was signed. Most data required under these categories does not necessarily constitute confidential information.

In some countries, extractive transactions may not be based on contracts, but general standard licensing agreements. Where this is the case, links should be provided to the legal frameworks that cover these arrangements.

TABLE 9 CONTRACT REPORTING OPTIONS

Category	Description	Information included	Data format
Good			
Title	Contract title	The full title of the contract	Text
	Contract context	Is the contract part of a larger package transaction? If yes, brief description of the role of this contract within the larger package	Yes/no Narrative
Description	Contract description	A brief description of the contract	Narrative
Status	The current status of the contract	**Pending** - This contract has been proposed, but is not yet in force. It may be awaiting signature	Classification
		Active - This contract has been signed by all the parties, and is now legally in force	
		Cancelled - This contract has been cancelled prior to being signed	
		Terminated - This contract was signed and in force, and has now come to a close. This may be due to successful completion of the contract, or may be early termination due to some non-completion	
Contract start date		DD-MM-YYYY	Quantitative
Contract end date (or term)		DD-MM-YYYY	Quantitative
Contract provisions	Obligations	Description on obligations on the extractive company/ government (may include expenditure, infrastructure and local employment requirements etc.)	Narrative
	Fiscal provisions	The fiscal elements detailed within the contract (these may include license and area fees, taxes, royalties, signing bonuses; tax exemptions etc.)	Narrative
Signatories	Extractive company identification	Name User registration number Tax identification number	Text
	Address and contact point of the Extractive company	Street address Locality/Region Postal code Country name Phone Web address	Text
	State	The government department/agency that authorizes the contract	Text
Date signed		DD-MM-YYYY	Quantitative
Better/best			
Documents	All documents and attachments related to the contract, including any notices	Document type e.g. – • Feasibility study • Environmental Impact Assessment • Social Impact Assessment	Classification
	Short description of the attachments	Narrative	URL Link
	Date Published	DD-MM-YYYY	Quantitative
	Date the document was last modified	DD-MM-YYYY	Quantitative

2.5 BENEFICIAL OWNERSHIP

The EITI Requirement 2.5 (required) is defined as follows:

(1) recommended that implementing countries maintain a publicly available register of the beneficial owners;

(2) requires that the EITI Report documents the government's policy and MSG's discussion on disclosure of beneficial ownership; and

(3) By of 1 January 2017, it is required that the multi-stakeholder group publish a roadmap for disclosing beneficial ownership.

(4) As of 1 January 2020, it is required that implementing countries request, and companies disclose, beneficial ownership information for inclusion in the EITI Report

(5) Information about the identity of the beneficial owner should include the name of the beneficial owner, the nationality, and the country of residence, as well as identifying any politically exposed persons.

Definition of Beneficial ownership:

A beneficial owner in respect of a company means the natural person(s) who directly or indirectly ultimately owns or controls the corporate entity.

As of the 2016 Standard, the Requirement for beneficial ownership has been agreed by the EITI Board, including the timeline for implementation. The Requirement now stipulates that by 1 January 2017 the MSG should publish a roadmap for disclosing the required beneficial ownership information and that as of 1 January 2020, beneficial ownership information will need to be included in the EITI report.

Discussions within the EITI on beneficial ownership remain ongoing and further clarity and consensus is expected to emerge[15]. Therefore the recommendations below are based on the developing international standards, and as a result may require revision in the future when greater consensus is reached in this area.

Data output: Narrative + quantitative

The EITI Requirement offers a definition of beneficial ownership and encourages MSG to agree on an appropriate definition, taking into account international norms and relevant national laws

If the legal framework/regulations for the country define levels of beneficial ownership, these should be used. The report should provide a link to where such definitions are sourced.

The MSG may set its own criterion for what it considers 'beneficial ownership', depending on the size of the extractive industry sector. Where limits are not provided within legal frameworks, the following thresholds can be considered:

- An individual or company holding more than a certain percentage (as set by the MSG) of the company shares will be considered a beneficial owner. This threshold will differ from country to country, for example in Democratic Republic of Congo, the threshold is set at 25% while in Honduras it is 5%.
- Cumulative share criterion is where private/public limited companies shall disclose their 20 largest shareholders and ownership stakes held by them. Information on anyone holding less than 1% of the shares/stakes can be omitted. For small enterprises, this can be dropped to the top 10 shareholders and omission of anyone with less than 5% of ownership.
- A combination of the above can also be employed. For example a person is deemed to have control over the company if they hold 50% or more of the firm's shares, and/or can accept or decline appointments of half/more than half of the board.

Where a small number of large projects account for more than 60% of production value, it is advisable to use the ownership criterion.

Where a larger number of medium to small sized operations account for more than 50% of total production value, it may be more useful to use the cumulative share criterion.

It is difficult to quantify the threshold for 'number' of projects here, as country cases will differ. In some countries one to four large projects may account for a significant proportion of the country's mineral production. The EITI administrator should discuss the threshold to be used with the MSG. As these thresholds will vary from country to country, the report should define the agreed limit in the text.

Once the definition of beneficial ownership has been agreed upon, data within the recommended categories can be generated. Table 10 provides recommendations for the disclosure of information that will be required as of 1 January 2020. The better and best

[15] For additional information, please refer to EITI's guidance note on beneficial ownership, found here: https://beta.eiti.org/standard/GN22

recommendations are based on providing a greater level of disaggregation for each data category.

Good practice would be to first identify whether there are any beneficial owners, and if these owners are individuals or firms. Additionally, if any of the beneficial owners have been identified as politically exposed persons, these should be indicated here[16].

Better practice would be to provide details on the beneficial owners and the extent of their stake in the business. Finally, **best** practice would be to provide information on whether these individuals have political exposure.

[16] For example, Ukraine operates a website that lists politically exposed persons: http://pep.org.ua/en/. EITI Ukraine: https://eiti.org/ukraine

TABLE 10 DATA OUTPUT FOR BENEFICIAL OWNERSHIP

Category	Information included	Data format
Good		
Company name	Text	Text URL link to company website
Registration number	Number	Text
Type of entity	Specify legal registration: • Sole ownership • Private/public listed • Joint Venture • Other (specify)	Classification
Activity by business sectors	• Minerals • Oil and Gas • Larger business conglomerate with other non-extractive businesses • Other (specify)	Classification
List of board members	Text Name and position on board % share of holding	Text URL link to corporate register
Is there incidence of beneficial ownership?	Yes/No	Quantitative
Is there incidence of politically exposed person?	Yes/No	Quantitative
List of shareholders with beneficial ownership • Individuals • Holding companies	Text % share of holding	Text Quantitative
Better		
For each listed beneficial owner (individual)	Name Nationality Country of residence Licence information Tax payer ID number	Text URL link to public register of beneficial owners
For each listed beneficial owner (firms)	% share of holding company in entity List of board members of holding company	Quantitative Text URL link to corporate register
Best		
For each listed politically exposed person (individual)	When beneficial ownership was acquired Position and role Name Nationality Licence information Tax payer ID number	Text URL link to public register of beneficial owners

2.6 STATE PARTICIPATION

The EITI Requirement 2.6 (required) is defined as follows:

Where state participation in the extractive industries gives rise to material revenue payments.

Disclosures from the government and SOE(s) 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. This information should include details regarding the terms attached to their equity stake, including their level of responsibility to cover expenses at various phases of the project cycle, e.g., full-paid equity, free equity, carried interest. Where there have been changes in the level of government and SOE(s) ownership during the EITI reporting period, the government and SOE(s) are expected to disclose the terms of the transaction, including details regarding valuation and revenues. Where the government and SOE(s) have provided loans or loan guarantees to mining, oil and gas companies operating within the country, details on these transactions should be disclosed.

Data output: Narrative + quantitative

When the extractive firm is a publicly-owned entity, the firm should follow the same data category recommendations, as for private firms, as laid out under Revenue Collection (4.1 – 4.6) and Register of Licenses Requirements (2.3) in the report. A notation should be made to indicate if the firm is a state owned enterprise.

The data formats and categories discussed here are those which relate to revenue flows where the government is both the receiver and the payee of revenues, i.e. flows (whether in cash or in-kind) from the extractive entity owned by the state, to other state departments. These recommendations are applicable for categories where the information has been made available to the EITI administrators. Table 11 outlines these recommendations.

Providing the context for state participation is recommended as good practice[17]. Inclusion of percentage equity share of the government in extractive enterprises, as well as clarification on how government participation is undertaken (through equity, contracts etc) is recommended.

In addition, information, on the level of state control is also recommended in the narrative as good practice. Control over a company can be exerted through different means, ownership being the most common avenue used. However, with state participation, two major situations may exist. The first is when the state has majority ownership but leaves management decision to professionals. The second is when the state may have a minority ownership but can intervene in management and finance decisions.

Ownership is easier to define/measure than control as it refers to share holdings of the company. Control is more difficult to measure as it refers to the government's ability to act decisively on management issues. It can be defined as[18]:

To be in control is to have the possibility to act decisively on strategically important issues. Such issues include the broad policies of a company, decisions on large investments, buying or selling of subsidiaries and power to appoint or dismiss management. To be in control of a company does not necessarily include having day-to-day influence over all its decisions.

Additional information on the assets of the company are considered as better/best practice, including information on the State Owned Enterprises (SOEs) finances themselves, and where available, information on who are SOE beneficiaries, i.e. revenue flows from the SOE to other entities. The data category recommendations cover flows from the SOEs to the government and other beneficiaries, including data on what loans have been made, to which entity and under what agreement.

[17] For additional information, please refer to EITI guidance notes for SOE participation, can be found here: https://eiti.org/guidance-notes-and-standard-terms-reference#GN18

[18] http://siteresources.worldbank.org/INTOGMC/Resources/GlobalMiningIndustry-Overview.pdf

TABLE 11 DATA OUTPUT RECOMMENDATIONS FOR STATE PARTICIPATION

Category	Information provided	Data format
Good		
Rules governing state participation	Granted by: • By legislation or regulation • By contract • Other	Narrative URL link to document where available
Mode of state participation	Equity ownership SOE subsidiary Production Sharing Agreement (Concessions governed by Tax Code) Concession (Production Sharing Agreements negotiated separately) Concession and Production Sharing Agreement (Hybrid) Production Sharing Agreement (Standalone) Licensing Regime: JV between IOC and Government Contractual regime: Risk Service Contracts and Production Sharing Contracts Service Agreement Mixed Company Structure Production Sharing Contract, Joint Venture, Other Agreement	Classification using one or more of these response options
Equity ownership	% share	Quantitative
Type of equity participation	• Full paid equity • Free equity • Carried interest	Classification
Has equity ownership changed in previous year?	Yes/No By what extent?	Classification Quantitative
How is state control exercised	Through board of directors, investment decisions, dividend decisions etc.	Narrative /document
Payments to State		
Retained earnings	US$ value	Quantitative
Reinvestment	US$ value	Quantitative
Dividends	Total value of payment In-kind*	Quantitative
Royalty (commercial)	US$ value In-kind	Quantitative
NPI - Net profit interest	% rate of interest US$ value	Quantitative
NSR - Net smelter returns	% rate of return US$ value	Quantitative
Royalty holder	US$ value	Quantitative
Better/Best		
SOE finances		
Total assets		
Cash equivalent	US$ value	Quantitative
Other current financial assets	US$ value	Quantitative
Accounts receivables from related companies	US$ value	Quantitative
Investment property	US$ value	Quantitative
SOE beneficiaries		
Intercompany loans	% of interest rate US$ value of capital amount	Quantitative
Third-party loans	% of interest rate US$ value of capital amount	Quantitative
Terms of transaction	narrative / document	Narrative
Donations/grants to other institutions	US$ value of grant	Quantitative

*In-kind payments should be reported with volume sold in units or revenue received in US$ value.

SECTION 3: EXPLORATION AND PRODUCTION

3.1 EXPLORATION

The EITI Requirement 3.1 (required) is defined as follows:

Implementing countries should disclose an overview of the extractive industries, including any significant exploration activity.

The data provided under this EITI Requirement should illustrate the profile of the extractive sector. While overall contribution to the economy is covered under Requirement 6.3 (Contribution of extractive sector to the economy), recommendations in this section demonstrate the level of activity at a more granular level.

There is a global discussion underway as to what should be the definition of a 'project'; including in legislation in various countries and within industry associations and civil society. EITI administrators can refer to these discussions as well as to guidance from their respective MSGs. They may also consider using the definition of 'project' as used by the government ministry in-charge of the extractive sector. Whichever definition of project is agreed to by the MSG, it should be clearly noted in the text.

Table 12 provides recommendations on data category and formats that can be used to report on the profile of the extractive sector. These categories are commonly used in Country Reports. In addition, due to the cyclic nature of the extractive sector, information should be provided on the status of these projects to provide a more comprehensive overview of the extractive sector.

TABLE 12 ESTABLISHING (LSM) PROFILE OF EXTRACTIVE SECTOR

Primary commodity	Project stage	No of projects	Number of companies	Data format
By commodity: *Copper* *Gold* *Iron ore* *Mineral sands*	Early stage exploration	As a number	As a number	Quantitative
	Late stage exploration			
	Construction			
	Operational			
	Closure in 2 years			
Oil Natural gas	Seismic exploration			
	Site surveys			
	Exploration drilling			
	Appraisal drilling			
	Construction			
	Producing wells			
	Closure in 2 years			
Better/Best				
Minerals	Primary reserves and resources	Volume as identified by company for primary commodity		Quantitative (volume unit as listed in Annex III)
Oil and gas	Proven reserves	• Volumetric (early phase) • Materials balance (operational phase)		Quantitative (total barrels)

The information required under Table 12 should be available from the ministry that grants licenses for the extractive sector. Countries employing on-line cadastre systems can extract this information from their data repositories.

In countries where such information may not be available, extractive companies (as listed in the register of licenses) should be able to provide the required information. There are also a number of commercial organizations, which provide such data.

Good practice would be to provide this data at the national level and in aggregate. This would include providing information on the number of projects as well as the number of companies operating. Breaking this down by commodity is recommended.

Better/Best practice would include detailed information on resources and reserves. Detailed resources and reserves information can be considered proprietary/ commercial information. Where such information is available in the public domain, it should be included.

Detailed information will be collected under EITI Requirements for Production and Register of Licenses, which can be used to populate this table.

IDENTIFYING PROJECT STAGE (MINING SECTOR)

The following project stages are based on accepted practice in the mining industry:

Early Stage Exploration: A project that does not have a defined resource[19] estimate. A further distinction can be drawn between Grassroots (preliminary license allocated and reconnaissance has been carried out) and Exploration (preliminary testing is underway, including mapping, sampling and some level of drilling).

Late Stage Exploration: A project that does have a defined resource estimate, but a decision to go-ahead with production has not been reached. This stage can be further disaggregated between:

Reserves Development: Where an initial resource/reserve has been calculated, with additional drilling being undertaken to further define the project

Prefeasibility/Scoping study: Where an in-house assessment to determine mining and processing methods, capital costs, net present value, internal rate of return, etc. has been undertaken

Feasibility study: Where a bankable study is being undertaken to determine the economic viability of the project. This stage will also consider broader issues such as an environmental assessment, local community engagement, legal and permitting requirements.

Construction: Where the decision to go-ahead has been reached, and the mine site is being readied for production. This will include development construction plans for the property, and planning/constructing supporting infrastructure.

Operations: The mine begins to produce output that is saleable and/or ready for processing. Where exiting operations are being expanded, for expediency, these can also be listed as operational mines.

Mine Closure: When a mine is coming to the end of its mine life, and is expected to cease production within two years or less.

IDENTIFYING PROJECT STAGE (OIL & GAS SECTOR)

For oil and gas, the following stages apply:

Early Stage Exploration: Seismic exploration and site surveys are the two earliest stages of exploration and are conducted after the award of a license. If the exploration results in an indication of potential hydrocarbon reservoirs, the next stage of surveys are carried out. Site surveys require more in-depth exploration activity. Positive results, will lead to a structured drilling programme. While these two stages may be considered separately within the oil and gas industry, these are very early phases and projects may be lumped together for ease of reporting.

Late Stage Exploration: Exploration drilling is where one or more exploration wells are drilled to determine if the prospect exists and whether the reservoir is viable for production. The next stage is appraisal drilling; this phase of the lifecycle of the oil/gas field is used to establish the size of the field, and whether the project will have commercial value. Information on flow rates, temperatures and pressures will be established during this phase. The value of the oil/gas asset is likely to be determined at this point[20].

Construction: Commonly referred to as development, during this phase the technical and production viability of the project has been established. Equipment, services and materials will be procured, including a system for the transport of the oil and gas. Once the facility has been tested to achieve a stable production level, the project then moves into production.

Production: The project is in production and an output for export or processing is available.

IDENTIFYING ACTIVITY STATUS

Activity status, for both mineral and the oil/gas sector, are defined in this report as follows:

Active: Currently being explored, developed, or mined.

On-hold: Activity has been suspended for any number of reasons; technical, labour, environmental or political reasons, lack of funds etc. However, activity is expected to resume once the underlying factor has changed.

Inactive: All project activity has come to an end. Projects that are under care and maintenance can be listed here.

CALCULATING RESERVES AND THEIR VALUE

Calculations of reserves can be fairly complex and expertise is required to reach correct valuations. The research team strongly recommends that data points under these categories should be as reported by the

[19] Resource estimates should only be considered if they meet an international standards as specified by JORC equivalent (www.Jorc.org) or CRIRSCO (www.crirsco.com) compliant standards.

[20] Guidance on oil & gas reserves can be found here: http://www.opec.org/library/Annual%20Statistical%20Bulletin/interactive/2006/FileZ/definition.htm

extractive company[21] or experts are engaged to make these calculations.

Reporting Primary Resources[22]: Resource estimates, exclusive of reserves, should only be considered if they meet international standards, such as specified by JORC[23] or an equivalent standard.

Proven Reserves for Oil and Gas[24]: An estimated quantity of all hydrocarbons statistically defined as crude oil or natural gas, which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions. Reservoirs are considered proven if economic viability is supported by either actual production or conclusive formation testing.

The area of an oil reservoir considered proven includes those portions delineated by drilling and defined by gas-oil or oil-water contacts, if any, and the immediately adjoining portions not yet drilled, but which can be reasonably judged as economically productive on the basis of available geological and engineering data. In the absence of information on fluid contacts, the lowest known structural occurrence of hydrocarbons controls the lower proven limit of the reservoir.

Volumetric method: Based on the size of reservoir and the physical properties of the reservoir, more suitable at the early stages of the oil/gas production cycle as there is no established production history at this time of operation.

Materials balance method: Based on data from production history, change in reservoir pressure is used to estimate the remaining oil in the basin.

VISUALIZATION

The tables recommended above provide the data categories for this particular EITI requirement, but given the level of information contained, they can be difficult to read.

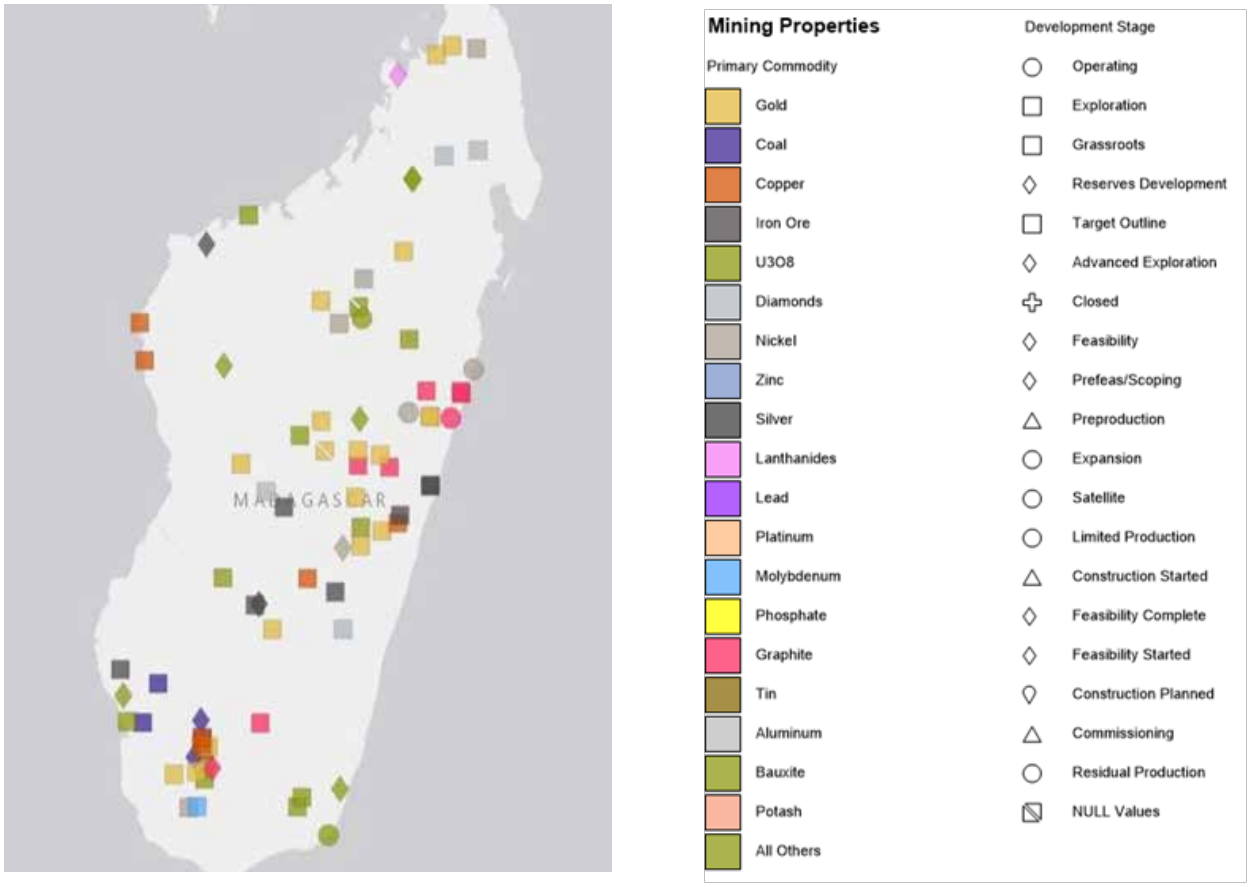
Therefore the recommended visualization is to present the information as a map (which can be in a simple JPEG format). Figure 2 illustrates an example of the 'best' standard recommended for visualization. Such graphics can be easily produced by using an online cadastre system if available.

Note:

- A good standard would be to provide locations for each project
- A better standard would be to provide colour coding by stage of activity
- The best standard would be to provide an additional layer of coding that allows for projects to be distinguishable by commodity and project stage.

[21] Internationally listed extractive companies will provide resources and reserves information in their annual reports.
[22] Detailed definitions of reserves and resources by the USGS can be found here: http://minerals.usgs.gov/minerals/pubs/mcs/2015/mcsapp2015.pdf
[23] http://www.jorc.org/
[24] Based on OPEC's definition: http://www.opec.org/library/Annual%20Statistical%20Bulletin/interactive/2004/FileZ/definition.htm

FIGURE 2 MINING PROPERTIES IN MADAGASCAR



Source: SNL.Com

3.2 PRODUCTION

The EITI Requirement 3.2 (required) is defined as follows:

Implementing countries must disclose production data for the fiscal year covered by the EITI Report, including total production volumes and the value of production by commodity, and, when relevant, by state/region.

Production value and volume should be reported in appropriate units, closely following international norms. These are provided in Annex III. This section provides guidelines on how such data may be recorded under the EITI.

PRODUCTION VOLUME AND VALUE OF MINERAL PRODUCTION

Production volume (i.e. quantity) is reported in tonnes for most bulk commodities (such as copper and iron ore), in ounces for precious metals (such as platinum and gold) and in carat for gemstones etc. SNL Financial has provided a comprehensive list of minerals, and their units of measurement, in Annex III. These data standards are based on the company's experience in managing extractive sector data.

While different regions and companies may report production quantity data in different units (lbs. vs oz.) it is recommended that all production quantity be converted into similar units at time of reporting. See Annex IV for how to convert units.

Production value should be reported in both US dollars, as well as local currency, where available. Production value should be based on the volume produced and should not reflect the revenue/income of the extractive company. The latter calculation includes a number of other costs and revenues that are not related to production volume.

Production value ($ value of mined output) = Quantity (mine gate concentrate) x Benchmark Price

International benchmark prices for most metallic mineral products can be sourced from the IMF[25], which reports these on a monthly basis. The coverage tends to be limited to commodities quoted on international stock exchanges. Annex III lists, by source and type, the recommended price formats to be used.

For other minerals, particularly industrial minerals, international benchmarks are not easy to find, as these tend to be traded mainly through contracts, rather than international exchanges. There are three options which can be used:

- **Good:** Request price from operating extractive companies in the country
- **Better:** Use international prices, as quoted by the United States Geological Survey
- **Best:** Subscribe to a professional service, such as Thomson Reuters or Industrial Minerals[26] for price feeds.

There are concerns that the first two recommendations may not be the most appropriate benchmark with regards to accuracy of international price levels, but they are available free of charge. The best recommendation will result in more accurate price levels, but does require a subscription fee.

To facilitate standardization across countries, and to ensure cost efficiency, the research team would suggest that the EITI International Secretariat provide a repository of benchmark price services for all EITI implementers. The International Secretariat would be better placed to negotiate access for price provision from services that require a subscription fee. The International Secretariat will not establish benchmark prices itself, but act as a repository of existing benchmark price subscription services that EITI implementers can utilize.

An annualized price average should be employed where possible.

When quantity is provided as final metal and not mineral production: For calculating production value, for metallic minerals in particular, the EITI implementer must be aware of differences between the international benchmark price and the category of the product for which the quantity is being reported. For example, production quantity will likely be reported for copper concentrate, while the international price is for refined copper metal. A conversion factor is therefore needed to strip away the 'refined' value contained in price.

Conversion factors can differ from mine to mine, as some concentrates will have higher purity than others, and no explicit international system can be recommended for constructing these factors, they will always be estimates. However, based on the research team's experience in using conversion factors at the international level, recommendations are provided for select metallic minerals in Annex III. Therefore production value can be calculated as follows:

Production Value ($ value of mineral output) = Quantity (when reported as concentrate/ore) x Conversion Factor[27] x Annual Realized Price ($/unit of final metal)[28]

PRODUCTION QUANTITY AND VALUE OF OIL AND GAS PRODUCTION

Crude oil production is reported as 1,000 barrels/day. Oil production is also occasionally reported by weight; however we recommend that these be converted into barrels in the final format. Conversion rates are provided Annex IV. While it is possible to further disaggregate oil production by crude and refined petroleum products, the latter tend to be refinery products and are not included in this report.

Natural Gas is reported as Natural Gas Processed (Million cubic meters). Natural gas production figures will normally exclude associated (flared and recycled gas), but include gas-to-liquid transformation.

For natural gas, it may be prudent to consider data for flared gas separately, as this portion of production is disposed of by burning it at point of extraction and does not contribute to revenue figures. The recommendations provided in Table 13 are based on those used by OPEC to report oil and gas production and value data[29].

Where required, the value of production can be calculated by using an international price bench mark; the Spot Crude Average of U.K. Brent, Dubai and West

[25] http://www.imf.org/external/np/res/commod/index.aspx
[26] http://www.indmin.com/

[27] The "conversion factor" refers to an overall recovery factor to transform the raw ore to a recovered final product that the annual realized price relates to. The conversion factor can also be used to adjust the value from a final sales value (of metal) to that which is relevant for domestic sales (mineral component). See Annex III for typical conversion factors at the international level for select minerals.
[28] The "annual realized price" refers to the weighted-average annual realized price received by the producer
[29] http://www.opec.org/opec_web/en/publications/202.htm

Texas Intermediate is the recommended price. There are varying international benchmark for Natural Gas. The two most commonly used benchmarks are 'Russian in Germany' for natural gas (piped) and Indonesian in Japan (LNG.) Monthly prices for both oil and gas are available at IMF's Commodity price website[30].

[30] http://www.imf.org/external/np/res/commod/index.aspx

TABLE 13 OIL AND GAS PRODUCTION VOLUME AND VALUE FORMAT

Category	Volume	Price	Price benchmark	Value
Crude oil	barrels/day	US$/barrel	Spot Crude Average of U.K. Brent, Dubai, and West Texas Intermediate, equally weighted*	Volume x price In US$
Natural gas				
Gross production	Million standard cubic meters	US$/MMBTU	Benchmark price: Russian in Germany*	Volume x price In US$
Marketed production		US$/MMBTU	Benchmark price: Russian in Germany*	
Flaring			NA	
Reinjection			NA	
Shrinkage			NA	
Natural gas liquids	Million standard cubic meters	US$/MMBTU	Benchmark price: Indonesian in Japan (LNG)*	Volume x price In US$

*available from the IMF Commodity Price Statistics

OTHER CONSIDERATIONS

Differing Fiscal Years: While an EITI report specifies the years for which it presents data, companies may follow differing practices for their fiscal and tax years, depending on their jurisdiction. Some may be aligned to the calendar year (January to December) while others may use October to September reporting. Where confusion over fiscal years may occur, it is recommended to use quarterly production data and align it with the reporting year.

Currency: It is recommended that all data be reported in local currency as well as US dollar. The conversion between local and foreign exchange rates should be done using an annualized exchange rate. The World Bank provides official exchange rates for most countries on the World Development Indicator[31]. These are the recommended exchange rates to be used. Where data is not available from the World Bank, implementers can source this information from the country's central bank.

Metal Content vs. Refined Metal: Some firms may choose to provide production data on refined metal as opposed to metal content of mined production, as their operations are vertically integrated. While not extremely accurate, it is possible to remove the value of the 'refined' metal from the cost of ore, by using a conversion factor. These conversion factors will estimate the value added to the refined metal by the refining process. As stated earlier, these factors will differ from country to country and it is advisable to ask companies to report metal contained, rather than attempt a conversion.

[31] http://data.worldbank.org/indicator/PA.NUS.FCRF

3.3 EXPORTS

The EITI Requirement 3.3 (required) is defined as follows:

Implementing countries must disclose export data for the fiscal year covered by the EITI Report, including total export volumes and the value of exports by commodity, and, when relevant, by state/region of origin

The Standard International Trade Classification (SITC) Rev. 3 is the recommended international classification for reporting trade in products. The classification is provided by the United Nations Statistics Division[32] and data can be disaggregated from 2 to a 5 digit level. SITC is recommended as it is a commonly used data reporting standard, and international data is available under this classification at the UN-COMTRADE[33] for a large number of countries.

[32] http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=14&Lg=1
[33] http://comtrade.un.org/data/

SITC categorization and coding are used commonly in both academic research and other commercial databases. The categorization also benefits from being easily converted into other trade reporting formats (such as those used by the EU or USA), with conversion codes available on the UNStat[34] website.

The appropriate SITC code for each mineral is provided in Annex III. The data format for reporting export value is US dollar and for volume data, the same format as production volume should be employed. Specific trade codes are not available for all the listed minerals in Annex III; some minerals tend to be internationally traded in such small quantities, that they do not warrant a unique code. In these cases, they are usually categorized under 'other' and EITI implementers should refer to the national customs officials for reporting the export value.

[34] http://unstats.un.org/unsd/cr/registry/regdnld.asp?Lg=1

4.1 COMPREHENSIVE DISCLOSURE OF TAXES AND REVENUES

The data categories under EITI Requirements 4.1 (required) are defined as follows:

- *Describe the taxes and revenues from the extractive industries*
- *Definition of 'materiality'*
- *Description of each revenue stream*

Data output: Quantitative + narrative

The definition for materiality, to be used within an EITI Country Report, is set by the MSG and should be provided as a narrative[35]. The following thresholds were noted in the sample of EITI Reports surveyed for this project:

- All specific payments related/mentioned in the mining code were included
- Any flow that exceeds a threshold level of total extractive revenue flows to government, either set as dollar value or cumulative share (as a percentage). For example:
  - All companies where payments cumulatively constitute 95% of total revenues in the previous year
  - All companies that paid in excess of US$2.5 million of royalties in the previous report. Cumulatively 90% of all royalty payments
- Where revenue payments may be less than 1-5% but the impact of the companies actions are deemed to be important, the company was included.

For defining the data categories for revenue streams, the research team first constructed data categories that include the most commonly referred to/used revenue streams as reported in EITI Country Reports and in other transparency initiatives. These were then reconciled with revenue categories provided by the IMF in its Government Finance Statistics Manual (2014)[36], IMF's Fiscal Analysis of Resource Industries[37] and suggestions presented in IMF (2014) Template to Collect Data on Government Revenues from Natural Resources[38]. EITI International Secretariat has published an EITI Summary Data Template[39] which can also be used for reference.

The two sets are largely compatible; however the IMF schema is better suited to aggregate levels of revenue data reporting. For the nuances that are regularly reported in EITI Country Reports, a greater level of disaggregation is warranted; particularly for contributions to local communities, whether in cash or in-kind. The latter are not found in the IMF schema.

Table 14 presents the formats for data categories commonly used in EITI Country Reports, with the last column indicating the equivalent IMF GFSM (2014) coding and description. In some categories, an equivalent GFSM code could not be identified. As the data for this EITI Requirement focuses on the value of the revenue stream, all data should be reported in both US Dollars and the local currency.

The format for the data points presented provides descriptions for the quantitative data only. A narrative explaining each of these data headers is recommended. In addition, each category in column one should be read as those applicable to the natural resource enterprises.

The tax category identified under 'dividends and state entitlements' also include references to state's share of production (both as revenue and as in-kind).

[35] For additional information, please refer to EITI guidance notes on materiality, found here: https://beta.eiti.org/standard/gn13
[36] http://www.imf.org/external/Pubs/FT/GFS/Manual/2014/gfsfinal.pdf
[37] http://www.imf.org/external/np/fad/news/fadtools.pdf
[38] https://www.imf.org/external/np/sec/pr/2014/pr1454.htm
[39] https://eiti.org/document/eiti-summary-data-template

TABLE 14 DATA OUTPUT FOR FISCAL REGIME BY REVENUE CATEGORY

Category	GFSM (2014) Code	Description in GFSM
License and concession fees		
Application fees	11452	Other taxes on use of goods and on permission to use goods or perform activities
Annual fees		
Acreage fee (oil & gas)		
Transit fee (oil & gas)		
Rental fee		
Transportation and terminal operations fee		
Environment related		
water use		
land use		
Entry fees		
Service charges (for government services)	1422	Administrative fees
Service fees (to government)		
Profits taxes		
Corporate income tax	1112	Taxes on income, profits, and capital gains (payable by corporations and other enterprises)
Profit tax		
Variable income tax		
Withholding tax (dividends, interest and fees)*		
Windfall tax	1112	Extraordinary profits
Personal income tax	112	Taxes on payroll and workforce
VAT/Sales tax (net)	1141	General taxes on goods and services
VAT	11411	Value added tax
Sales	11412	Sales tax
Excise duty	1142	Excises
Real estate tax	1415	Rent
Penalties	1161	Other taxes payable solely by business
Social security contributions	12	Social contributions
Employee contributions	1211	Social security employee contributions
Employer contributions	1212	Social security employer contributions
Stamp duties	11457	Other taxes on use of goods and on permission to use goods or perform activities
Land tax	1415	Rent
Tax on vehicles and self-moving mechanisms	11451	Motor vehicle taxes
Local/district taxes		*No equivalent identified*
Capital gains tax	111	Taxes on income, profits, and capital gains
Royalties and bonuses		
Resource rent tax	1112	Taxes on income, profits, and capital gains (payable by corporations and other enterprises)
Royalties (as applicable)	1415	Rent
Ad-valorem (percentage of product value)		
Ad-valorem progressive with price		
Ad-valorem progressive with production		
Ad-valorem progressive with operating ratio/profit		
Royalty applied to operating margin (net profits royalty)		
Production tax	1415	Rent
Bonuses	1415	Rent
Signature bonuses		
Discovery bonuses		

TABLE 14 DATA OUTPUT FOR FISCAL REGIME BY REVENUE CATEGORY

Category	GFSM (2014) Code	Description in GFSM
Production bonuses		
Production entitlements enterprises		
Compulsory social infrastructure payable		
Payments to landowners (where applicable)	1415	Rent
Pollution tax	114522	Pollution taxes
Trade related revenue flows		
Import/customs duty	1151	Customs and other import duties (import taxes)
Import duties		
Import taxes		
Customs office and service fees	1151	Customs and other import duties
Export duties/tariffs	1152	Taxes on exports
Export duties		
Export taxes		
Grants and donations		
Donation to support to state owned organizations	13	Grants
Grants from foreign governments	131	From foreign governments
Grants from international organizations	132	From international organizations
Investment in construction and maintenance of infrastructure	144	Voluntary transfers other than grants
Local community development expenditure by companies	13	Grants

* While 'withholding taxes' have been included as a category, it is understood that these are a means for collecting taxation and not a tax in themselves. Where withholding taxes are reported, they should be clearly referenced to indicate if they pertain to dividends, interest, wages etc.

4.2 SALE OF THE STATE'S SHARES OF PRODUCTION OR OTHER REVENUES COLLECTED IN-KIND

The data required under EITI Requirements 4.2 (required) is defined as follows:

- *Revenue from sales of state's share of production*
- *Revenue from sales broken down by transaction*

Data output: Quantitative

The major data categories for reporting state's share of production or other revenues have been presented under EITI Requirement 2.6 (Table 11). Table 15 provides these data categories as presented within GFSM (2014) codes.

TABLE 15 DATA OUTPUT FOR STATE'S REVENUE

Category	GFSM (2014) Code	Description in GFSM
Dividends and state entitlements		
Profit tax if state owned company	1143	Profits of fiscal monopolies
Dividends from government owned natural resource enterprises	1412	Dividends
Dividends from government participation in natural resource enterprises	1412	Dividends
Withdrawal of income from quasi - corporations*	1143	Profits of fiscal monopolies
Profit remitted to government by SOEs	1153	Profits of export or import monopolies
Sales of state's share of production or other revenues collected in kind: • Volume sold - unit • Revenue received - US$ value	1415	Rent

* Quasi corporations are defined as "unincorporated enterprises that function as if they were corporations, and which have complete sets of accounts, including balance sheets" OECD Glossary of Statistical Terms: https://stats.oecd.org/glossary/detail.asp?ID=2225

4.3 INFRASTRUCTURE PROVISIONS AND BARTER AGREEMENTS

The data categories under EITI Requirements 4.3 (required) are defined as follows:

- *the terms of the relevant agreements and contract*
- *the parties involved*
- *the resources which have been pledged by the state*
- *the value of the balancing benefit stream (e.g. infrastructure works)*
- *the materiality of these agreements relative to conventional contracts*

Data output: Quantitative + narrative

A narrative is required, where the MSG has determined that infrastructure or barter agreements meet a materiality threshold, to outline the provisions of such agreements.

The date categories under this Requirement have been considered under the EITI Requirement for contracts (2.4) and Table 9 provides specific guidelines on reporting data.

4.4 TRANSPORTATION REVENUES

The data categories under EITI Requirements 4.4 (encouraged) are defined as follows:

- definitions of the relevant transportation taxes, tariffs or other relevant payments, and the methodologies used to calculate them.
- disclosure of tariff rates and volume of the transported commodities.
- *disclosure of revenues received by government entities and SOE(s), in relation to transportation of oil, gas and minerals*

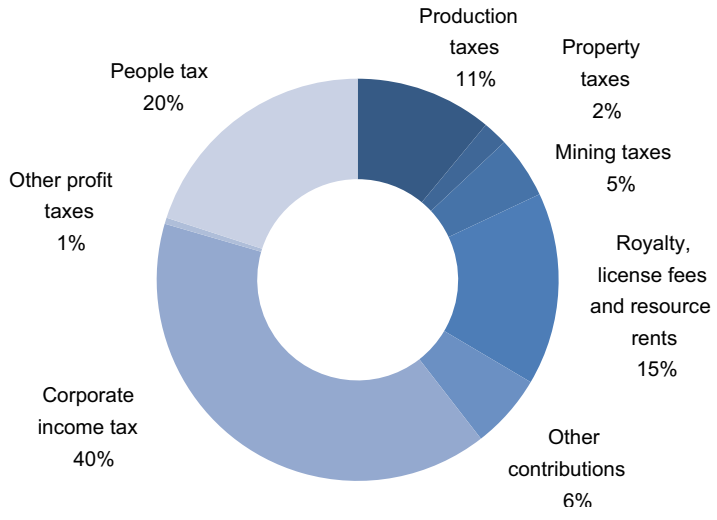
Data output: Quantitative + narrative

The definitions for relevant transportation taxes, tariffs etc. should be provided as a narrative, as would be done under EITI Requirement 4.1 where comprehensive disclosure of revenue streams is undertaken. Table 14 provides data categories for reporting tariff rates, Annex III provides data standards for reporting volumes and Table 11 provides data standards for disclosing revenues received by the state.

VISUALIZATION

The visualization of this data is recommended through graphs, as these can quickly present the share of each revenue category to the total pool. Figure 3 is an example to illustrate this.

FIGURE 3 TAXES AND CONTRIBUTIONS BORN



Source: PricewaterhouseCoopers (2012)

SECTION 5: REVENUE ALLOCATIONS

5.1 DISTRIBUTION OF REVENUES

The EITI Requirement 5.1 (required) is defined as follows:

Describe the distribution of revenues from the extractive industries.

Data output: Narrative + quantitative

The data needs to illustrate where resource revenues, once received, are being allocated and document whether the allocation is being delivered. This data will contain both narrative and quantitative elements.

The good, better and best practices for data categories recommended for this EITI Requirement, are based on tracing the flow of these revenues. **Good** practices would refer to how the federal government receives and allocates this revenue, **better** reporting would focus on the distribution from the federal to state or provincial level. **Best** practice refers to tracking these payments to the community level. Table 16 outlines how these data can be reported.

5.2 SUBNATIONAL TRANSFERS

The data categories within this requirement refer to documenting and reconciling national and subnational transfers[40].

Data output: Narrative + Quantitative

The narrative describing the governance of subnational transfer was discussed earlier under EITI Requirement 2.1, under fiscal devolution. Data standards for describing subnational transfers are indicated in Table 16, under the best category. The recommendations made for this requirement are most applicable where the country has specific legislation around subnational transfers. The recommendations may provide useful guidance in countries where oil, gas and mineral revenues are comingled with other revenue sources and subnational transfers are determined through the national budget allocation process.

[40] For additional information, please refer to EITI guidance note on subnational reporting, found here: https://beta.eiti.org/standard/GN10

TABLE 16 DATA OUTPUT FOR DISTRIBUTION OF REVENUES

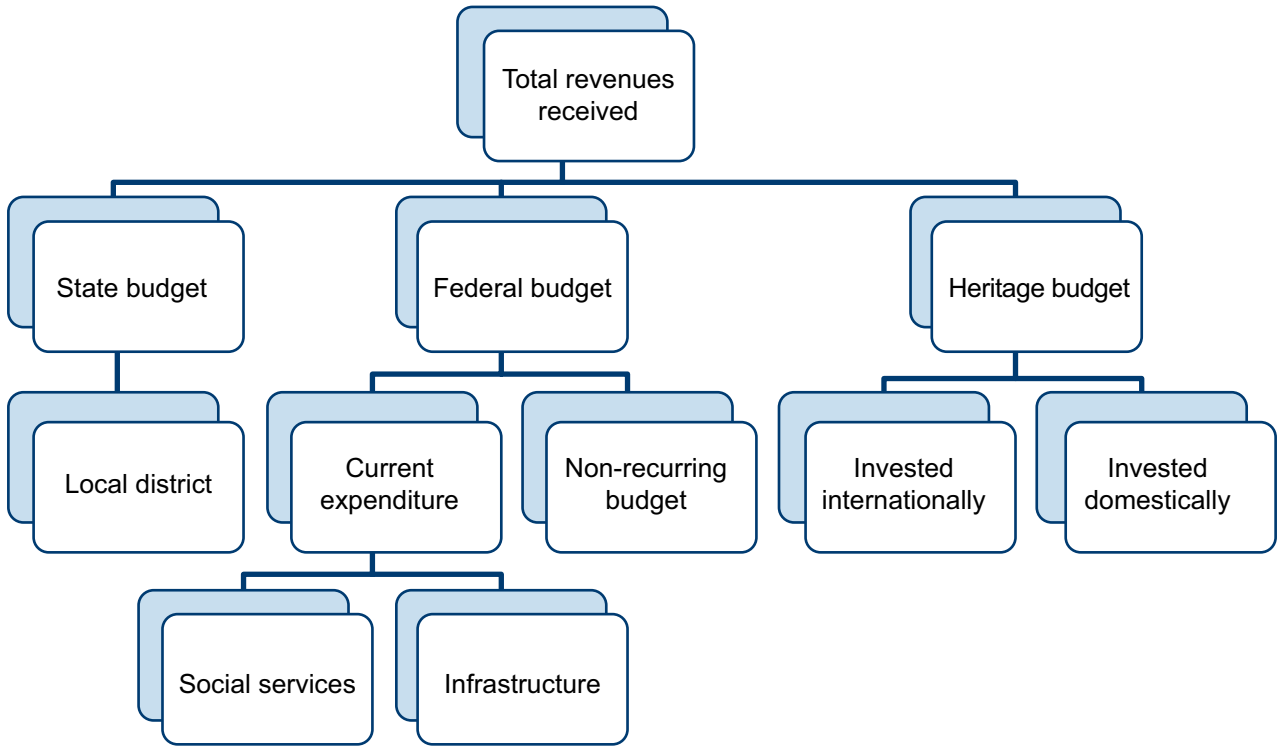
Category	Information required	Data format
Good		
Is there a separate resource revenue account (RRA) in which extractive revenues are deposited?	Yes/No	Quantitative
Is there a specific extractive revenue management law?	Yes/No Description URL link to legal framework if available	Quantitative Narrative
Is there a separate investment committee for establishing an extractive revenues investment strategy?	Yes/No	Quantitative
Are extractive revenue distributions allocated (within budgets) on a discretionary basis or through a specific legal framework?	Description URL link to legal framework if available	Narrative
Is there a next generation/sovereign wealth fund for extractive revenue? If yes, is there a legal framework governing its administration?	Yes/No Description URL link to legal framework if available	Quantitative Narrative
What is the current value of the Sovereign Wealth Fund (or equivalent)? Report for the most recent five years	US$ value / local currency	Quantitative
Have there been any allocations (payments) or withdrawals from the fund over year?	Yes/No US$ value / local currency	Quantitative
Better		
How are extractive revenues distributed between federal, district and local governments? Is there a legal framework governing this distribution?	% share of allocation Description URL link to legal framework if available	Quantitative
Narrative		
Is information on the extractive revenue's contribution to the government net wealth included in the budget document?	Yes/No	Quantitative
Is information on the extractive revenues contribution to financing the budget deficit included in the budget document?	Yes/No	Quantitative

TABLE 16 DATA OUTPUT FOR DISTRIBUTION OF REVENUES		
Category	**Information required**	**Data format**
Is a long-term assessment of extractive revenues included in the budget document?	Yes/No	Quantitative
Are there direct revenue payments to local communities?	Yes/No	Quantitative
If yes, how is the level of payments determined?	Description URL link to legal framework if available	Narrative
Best		
What is the value of allocation of revenue between the federal and regional governments	US$ value / local currency	Quantitative
To what extent has this allocation been carried out?	% of allocation that has been transferred	Quantitative
What share of total revenues received from the mine/firm go directly to local communities/government?	% share of total revenues US$ value / local currency	Quantitative
How are the payments to local communities governed? (legal or contractual agreement)	Description	Narrative

VISUALIZATION

The data for distribution of revenues should reflect how the total extractive revenues received by the government filter through the rest of the economy. This can be done effectively by using a flow chart as illustrated in Figure 4.

FIGURE 4 FLOW CHART ILLUSTRATING DISTRIBUTION OF REVENUES ($ VALUE OR LOCAL CURRENCY)



SECTION 6: SOCIAL AND ECONOMIC SPENDING

6.1 SOCIAL EXPENDITURES BY EXTRACTIVE COMPANIES

The EITI Requirement 6.1 (required) is defined as follows:

*a) Where material social expenditures by companies are mandated by law or the contract with the government that governs the extractive investment, implementing countries **must** disclose and, where possible, reconcile these transactions. Where such benefits are provided in kind, it is required that implementing countries disclose the nature and the deemed value of the in kind transaction. Where the beneficiary of the mandated social expenditure is a third party, i.e. not a government agency, it is required that the name and function of the beneficiary be disclosed. Where reconciliation is not feasible, countries should provide unilateral company and/or government disclosures of these transactions.*

*b) Where the multi-stakeholder group agrees that discretionary social expenditures and transfers are material, the multi-stakeholder group is **encouraged** to develop a reporting process with a view to achieving transparency commensurate with the disclosure of other payments and revenue streams to government entities. Where reconciliation of key transactions is not possible, e.g., where company payments are in kind or to a non-governmental third party, the multi-stakeholder group may wish to agree an approach for voluntary unilateral company and/or government disclosures.*

Data output: Narrative

Reporting is required for this Requirement when mandated by law and is expected largely in the narrative form. The criterion for what is to be included under this heading is determined by the deliberations of the multi-stakeholder group and will therefore differ from country to country[41]. The recommendations for this requirement are informed by the Global Reporting Initiatives' sustainability reporting guidelines for companies in the extractive industries[42].

Good practice would be to document the avenues for contributions to social expenditures, focusing on the processes that allocate funds/in-kind projects and the monitoring whether allocated funds/in-kind projects are transferred/delivered as scheduled.

Better practice could include data with regards to extractive firm commitments with local communities. Table 17 is provided for illustration, to suggest ways of generating data to support the narrative reporting for this Requirement.

[41] For additional information, please refer to EITI guidance note on social expenditures, found here: https://beta.eiti.org/standard/GN17

[42] Detailed guidelines for mining, oil & gas sectors can be found at www.globalreporting.org

TABLE 17 DATA OUTPUT FOR REPORTING ON COMMUNITY PROJECTS

Data category	Information included	Data format
Good		
Extractive company	Name and location	Text
Local communities	Specify which communities are the recipients	Narrative
Commitment made	Description of the nature of project/in-kind payment etc. that has been agreed	Narrative
Duration of investment	The time schedule for the delivery of the agreed project and duration Start and end date No of years	Quantitative
Better/Best		
Investment	Value of the project: *Can be based on the expenditure made by the extractive company* • $ value/ local currency • In-kind payment	Quantitative
Delivery	Is the delivery on schedule? Have there been delays or disputes	Narrative
Post-delivery ownership	Has an agreement been reached over the ownership and responsibility of upkeep of the project, once it has been delivered?	Narrative

6.3 CONTRIBUTION OF EXTRACTIVE INDUSTRIES TO THE ECONOMY

The EITI Requirement 6.3 (required) is defined as follows:

a) Size of the extractive industries in absolute terms and as a percentage of GDP as well as an estimate of informal sector activity, including but not necessarily limited to artisanal and small scale mining

b) Total government revenues generated by the extractive industries (including taxes, royalties, bonuses, fees and other payments) in absolute terms and as a percentage of total government revenues

c) Exports from the extractive industries in absolute terms and as a percentage of total exports

d) Employment in the extractive industries in absolute terms and as a percentage of total employment

The data covered under this Requirement should address how large the extractive sector is, in relation to the rest of the economy, as well as its importance for employment and revenue to the government. Importance is differentiated separately, as the extractive sector may be smaller than other sectors, but is the primary source of investment or formal employment.

Recommendations are also provided for ways in which the contribution of the informal sector, predominately artisanal and small scale mining (ASM), could be captured in the EITI report. When considering how to report the contribution of ASM to the economy, the MSG should consider proportionality in the level of effort required and whether it is appropriate for the utility of the information collected.

Many of the recommendations under this EITI Requirement are based on developing a standardized format for presenting data that already exists in many of the EITI Country Reports as well as incorporating other data that is publicly accessible via the internet. For the data categories listed below, a distinction between good/ better/ best recommendations is not made, as these are based on well-established statistics and reporting practices.

EXTRACTIVE INDUSTRIES VALUE AND PERCENTAGE SHARE OF GDP

Data output: Quantitative

This requires the value for GDP and the extractive industry. The GDP value can be taken from the World Bank *World Development Indicators* and is usually provided in US dollar format. Other international financial institutions, such as the IMF also provide this information in local currency for some countries.

For the value of the extractive sector, the following approaches can be considered.

International practices for measuring extractive industries value

Three systems of extractive industry classification were reviewed; UNIDO's International Standard Industrial Classification (ISIC) of All Economic Activities (Rev 4)[43], North American NIAC[44] codes and the European Union's Nomenclature of Economic Activities (NACE)[45].

Following the NACE codes is considered a good option, as these classifications are an output-based criterion. This would require adding up the value of the commodity production in the country as well as including estimates for missing values (i.e. where companies have not reported production).

Gross Output by industry considers the output of the sector without making allowances for input costs. *Gross output* can be subdivided into:

- Oil and gas extraction
- Coal mining
- Metal and mineral ore mining (large and small scale, including gemstones)
- Stone mining and quarrying

Using the NIAC codes is considered as a **better** option, as these classifications are an activity based criterion and focus on the Value Added by the extractive sector. These allow for a more comprehensive tracking of the contribution to the economy. However, this requires capacity within the national statistical centre to calculate and compile.

Value Added for both the mining and oil and gas extraction includes:

- Compensation of employees
- Taxes on production and imports less subsidies
- Gross operating surplus

In addition, support activities for the extractive sector should be considered:

- Drilling oil and gas wells
- Support activities for oil and gas operators
- Support activities for coal mining
- Support activities for metal mining
- Support activities for non-metallic minerals (excluding fuels) mining

[43] http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27
[44] http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2012
[45] http://ec.europa.eu/competition/mergers/cases/index/nace_all.html

The best option recommended would be to use the ISIC classification. This classification, which allows for an international standard to be followed, has been in operation since 2008. Conversion of ISIC codes into Trade codes is also readily available. The advantage of using an UN-based classification system allows for cross-country comparisons and can benefit from the regular data collection activities of the government.

The three data streams (ISIC, NIAC and NACE) have their advantages and disadvantages and are mainly related to country capacity to collect such data.

Data for artisanal and small scale mining production is often difficult to obtain, as these tend to be largely informal and occasionally illegal operations[46]. One approach for determining production volume from ASM is to assign the value of 'un-accounted' production to artisanal and small scale mining. By subtracting the know production volume (from regulated and reported volumes by companies) from the total country exports, the un-accounted production is assigned to artisanal and small scale mining operations. This estimate is not assumed to be accurate, as some artisanal production is generally expected to 'leak' through smuggling.

If, however, collecting quantitative data is not feasible, an implementing country could initially focus on providing a descriptive overview of its ASM sector and the types of commodities that are known to be produced.

If possible, gross output from artisanal mining should be included here. Reporting of gross output for artisanal mining will differ amongst countries and by metals. For precious metals, such as gold, production figures are usually a combination of data reported by traders and estimations. In other cases, the data may be purely estimates. Either approach is acceptable as long as the EITI report chronicles clearly how these figures were reached.

EXTRACTIVE INDUSTRIES AND GOVERNMENT REVENUES

Data output: Quantitative

The data categories should quantitatively demonstrate the importance of the extractive industries to the country's economy relative to other industries. Total government revenue is available as an indicator in the IMF World Economic Outlook Database [47] and can be used to calculate the contribution that extractive revenues makes to overall government revenues (Table 1819).

The disclosure of government revenues from ASM activity is an important step in understanding and quantifying its contribution to the economy. Reconciled revenue figures, like those produced for large scale mining, can however be infeasible for ASM due to the dispersed and small-scale nature of revenues ASM activity typically generates. Where possible, the government should disclose a unilateral declaration of the revenues received from ASM activity.

EXTRACTIVE INDUSTRIES AND EXPORTS

Data output: Quantitative

The data categories detail the contribution of the extractive industries to the country's export portfolio. This includes total exports in goods and services (available from UNCTADStat[48]) and can be used to calculate the size of the extractive industries exports as a percentage of the total exports of the country. Where contributions from individual minerals/oil and gas is known, these can be shown separately as a share of exports (Table 18).

EXTRACTIVE INDUSTRIES AND EMPLOYMENT

Data output: Quantitative

These data categories are intended to detail the employment created by the extractive industries within the country. The International Standard Classification of Occupations (ISLO)[49] can be used to standardize the inclusion of employment data.

Classifications that may be relevant to the extractive industries include ISCO 08 Codes 9311 and 1322 which correspond to mining and quarrying labourers and mining managers respectively. The ILOSTAT[50] formats can be used as a source of total employment figures and offers breakdowns by gender, occupation, education and geographic coverage. These two indicators can be used to calculate the level of employment in the extractive industries as a percentage of employment in the country as a whole.

These data recommendations do not apply to artisanal and small scale mining (ASM) employment. Given that

[46] For additional information, please refer to EITI guidance notes, found here: https://eiti.org/guidance-notes-and-standard-terms-reference

[47] https://www.imf.org/external/pubs/ft/weo/2014/02/weodata/index.aspx
[48] http://unctadstat.unctad.org/CountryProfile/home/Indexen.html
[49] http://www.ilo.org/public/english/bureau/stat/isco/index.htm
[50] http://www.ilo.org/ilostat

such activity is often informal and illegal in nature, it can be resource and time intensive to accurately capture ASM employment figures. Estimations can be used; however the EITI report must clearly state how these estimates were reached.

There are two ways in which an estimation for ASM employment figures can be generated.

The first method requires the volume of un-accounted production attributed to ASM activity (see Requirements 3.2 and 3.3). Given the volume of un-accounted production, the labour required to produce said production is then estimated. This estimate will differ by country; given the ease or difficulty of its geology, the geographical accessibility to possible artisanal mining locations to the general population, the nature of the mineral being mined and the general access of such miners to technology (for example panning for gold or dredging rivers).

Once an estimate is formed of the per capita production potential, the total volume assigned to artisanal and small scale mining is then used to estimate the number of artisanal miners in the country. This is a rough estimate at best, but has very little cost.

The second alternative is to perform base line surveys; investigate the regions where artisanal miners are likely to be found and tally workers. This can be a costly exercise. When the status of artisanal miners may be illegal, or not clearly defined within the law, there will be operational challenges in carrying out such a survey.

TABLE 18 CONTRIBUTION OF EXTRACTIVE INDUSTRIES TO THE ECONOMY

Category	Source	Detail/definition	Data format	Data type
Extractive industries value and percentage share of GDP				
Production value	Gov.	Production volume x price per unit	US$/LC	Quantitative
GDP	WB	GDP (current US$)/ Local currency	US$/LC	Quantitative
Extractive revenues (% GDP)	WB, Gov.	Extractive government revenue as a percentage of GDP	%	Quantitative
Government revenues				
Extractive government revenue	Gov.	Government revenues from the extractive industries	US$	Quantitative
Total government revenue	IMF	Government revenues from all sources	US$	Quantitative
Extractive revenues (% total government revenues)	Gov.	Extractive government revenue as a percentage of total government revenue	%	Quantitative
Extractive industries and exports				
Extractive exports	UNCTAD	Total exports from the extractive industries	US$	Quantitative
Total exports in goods and services	UNCTAD	Total exports from all industries	US$	Quantitative
Extractive exports (% total exports)	UNCTAD	Total extractive industries exports as a percentage of total exports from all industries	%	Quantitative
Extractive industries and employment				
Employment in the extractive industries	ISCO	Measure the number of people in the extractive industries using the ISCO occupations classifications*	As a number	Quantitative
Total employment	ILO	The total number of people recognized as employed by the ILO	As a number	Quantitative
Employment in the extractive industries (% of total employment)	Gov.	Extractive Industries employment as a percentage of total employment	%	Quantitative

* http://www.ilo.org/public/english/bureau/stat/isco/index.htm

VISUALIZATION

Clustered bar charts can be used to visualize the data relating to the extractive industries percentage share of GDP, government revenues and exports.

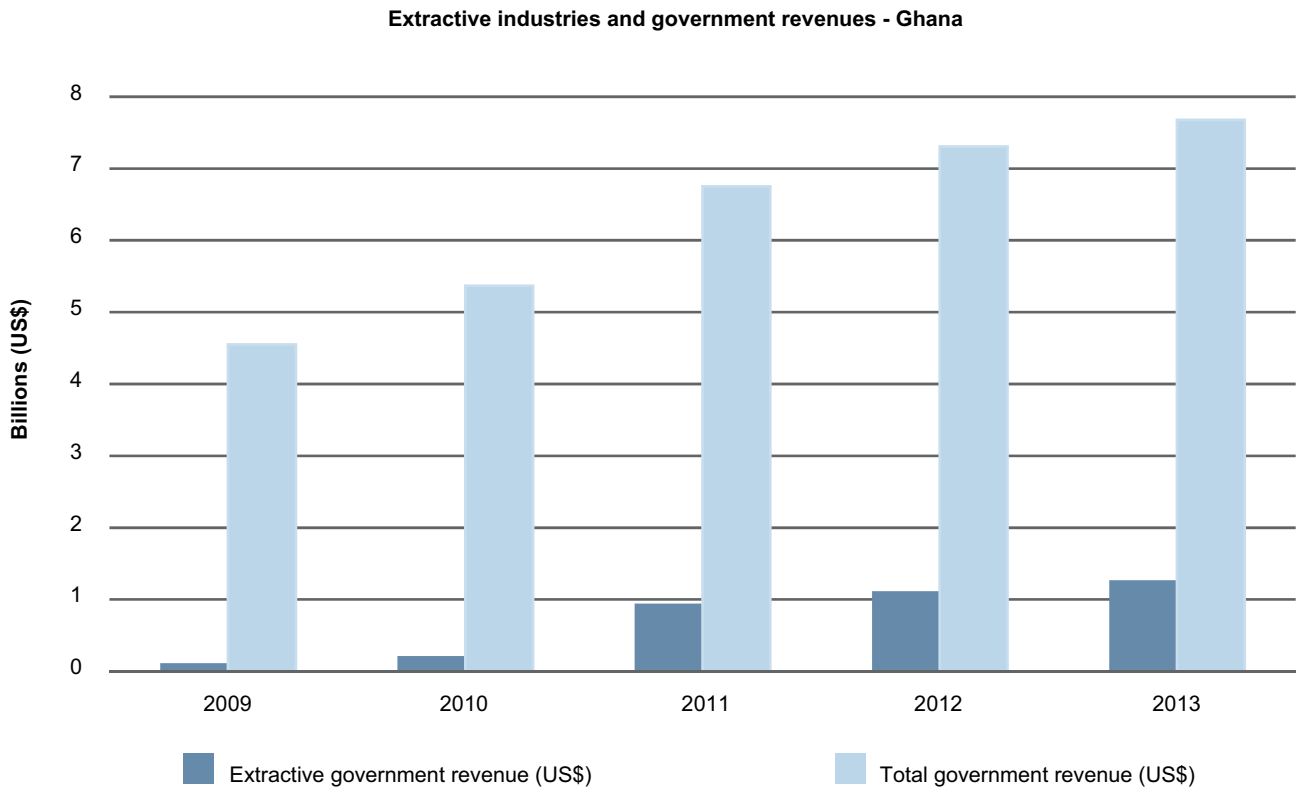
In the instance of extractive industries and the percentage share of GDP, a clustered bar chart should be produced that clusters extractive government revenue and GDP.

For visualizing government revenues data, extractive government revenue and total government revenue should be clustered.

Finally, for presenting extractive industries and exports data, extractive exports and total exports in goods and services should be clustered.

Extractive industries and employment data does not lend itself to this form of visualization and should instead be presented in a tabular format.

FIGURE 5 VISUALIZATION OF CONTRIBUTION TO ECONOMY DATA



Source: Based on data from NRGI 'Unlocking EITI Data for Meaningful Reform' database (2015)

7.2 DATA ACCESSIBILITY

The EITI Requirement 7.2 (encouraged) is defined as follows:

The multi-stakeholder group is encouraged to make EITI Reports machine readable, and to code or tag EITI Reports and data files so that the information can be compared with other publicly available data by adopting Board-approved EITI data standards.

Machine readable or coded/tag data refers to the submission of EITI data in formats that can be easily processed through the use of technology, rather than a manual approach. The basic process of data access is presented, in Table 19.

TABLE 19 STEPS IN DEVELOPING DATA ACCESS

	Product	Characteristic	Determined by
1	Report (data/ narrative)	Non-automated analysis	Word, Excel, Pdf
2	Machine readable document	Structured for computational processing	Reporting languages based
3	Data exchange	Incoming data is restructured to conform to outgoing data	Responds to/ determined by reporting languages
4	Content management systems	Programming that allows for publishing, editing and modification of data stored in its repository	Uses incoming information, stores and redeploys it, usually to provide a user interface.

The first stage is a simple document/file that can be processed by commonly used computer software programs, such as Microsoft Office etc. These files are easy to produce and upload, and are meant for human consumption, i.e. the ability for machines to read these products are limited.

Such files can be converted into machine readable documents, i.e. computers can process the data (whether narrative or otherwise) contained, as these are structured (coded) for processing. There are a number of 'reporting languages' that can be used to construct machine readable documents. Machine readable documents can be opened by common programs such as Microsoft Office.

Machine readable documents can then be used as 'incoming information' into data exchanges, which will have the capacity to take these documents and convert the contained information into 'outgoing' information. As the name suggests, these programs function as an exchange for incoming and outgoing information.

This outgoing information can then be picked up by content management systems, which can act as a repository and/or stream data from other sources. The function of the content management system is to be able to display this information in whatever format is chosen. Any user interface will have a content management system working behind to support the information that is being displayed.

The entire process can then be understood, for example, as taking a Word document, converting it into a machine readable format, allowing the information stored within the document to go through a data exchange standard, which will allow a multitude of other programs to access and publish the information contained. A detailed description of how to develop data access options is available in section three of the February, 2016 version of this report, available from the World Bank open knowledge repository[51].

EITI reporting is currently at the first stage of the process illustrated in Table 19, i.e. as PDFs and Excel sheets. The next step would be to 'upgrade' these reports into machine readable formats. The following factors should be considered for choosing a machine readable format:

- The reporting language must be in wide usage and easy/free to access.
- The language format must be easy to use and not require extensive training and capacity for the formatter.
- The reporting language must allow for simple and complex tagging, so more complex information can be formatted over time.
- Languages already commonly in use would offer the advantage of having a tagging/label list ready, that can be used/modified for EITI purposes.
- The language must be supported further down the access chain, i.e. data exchange standards etc. should be able to use the language.
- The language must not be exclusive, i.e., once coded the information must be usable by a multitude of computer programs rather than restricted to a few platforms.

The languages available for machine readable formats include XML and XBRL. These languages are for guidance only and should not be considered as recommendations by either the EITI or World Bank.

Extensible Mark-up Language (XML): This is the most commonly used reporting language, that allows for encoding documents, by a set of rules, which has the

[51] http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/CTR/2016/02/25/090224b0841b02d1/2_0/Rendered/PDF/Options0for0Ex00better0and0the0best.pdf

advantage of being both machine and human readable. The language was primarily designed to describe data and not so much to display data. Describing data refers to XMLs ability to tag data, allowing users to define their own tags and document structure.

XML is freely available and can be read by a large number of programs, particularly websites, as well as applicable programming interfaces (APIs).

Extensible Business Reporting Language (XBRL): XBRL is an XML-based vocabulary for electronic transmission of business and financial data, which builds further on the qualities and capabilities of XML reporting languages. XBRL is freely available, used by a multitude of institutions and is used by a large number of platforms. It is considered effective reporting language as it list used by a large range of users.

The advantage of using XBRL over XML, is that it allows for multiple relationships to be tagged. For example in XML an entry can only be tagged once, and it cannot be made clear that the latter is a subheading of the former. XBRL allows for such relationships to be specified, with double or more tagging allowed.

OPEN DATA POLICY

The second measure to increase access to data is through an Open Data Policy, to assist in the public understanding of government revenues and expenditures over time.

Open data or open content is defined as "data and content [that] can be freely used, modified, and shared by anyone for any purpose"[52]. It has three components; availability and access, reuse and redistribution and universal participation.

Availability and access refers to making data available, at a reasonable reproduction cost if necessary. Access is normally granted via the internet. In addition to making the data available, it should be presented in a manner allowing for ease of use. For example, while making pdf documents available on line can fulfil one criterion for availability, if these documents are not clearly titled or organized by content, it hampers the ability of stakeholders to access the information contained.

Reuse and redistribution refers to providing the data under a license or terms that allows users to freely reuse and redistribute the data, without requiring copy right or reproduction permission. Reuse is also facilitated by making this information available in machine readable formats, so that the information can be easily transmitted between data exchanges and content management systems.

Universal participation refers to no distinction being made amongst the users of the information or the areas where such information can be used. For example, distinction between 'commercial' and 'non-commercial' use cannot be enforced on the use of the data.

Providing Open Data

Open data in its simplest form is about creating access. This can be achieved through providing a data portal, allowing access to all published information, such as government ministries, departments, companies and other stakeholders.

In some cases, such as Ukraine, more dedicated portals are being created to provide information for extractive specific data[53]. In other cases, such as the United Kingdom, a country wide open data access policy[54] is being practiced, including information for the extractive sector. The United Kingdom has been one of the leading countries championing open government data. As one of the founding members of the Open Government Partnership, the UK has made considerable progress in the development of open data, including in the extractives industry. The UK Open Government Network[55] (OGN) was established by civil society stakeholders in 2011 and is intended to provide the government with draft recommendations outlining areas where it should improve its openness, accountability and transparency. In the field of natural resource transparency, this has included a commitment that the government requires UK listed extractive companies to publish data under the EU transparency amending directive in an open and accessible format by March 2018[56].

The Natural Resource Governance Institute's Unlocking EITI Data for Meaningful Reform dataset[57] is also an example of effectively presenting EITI data. NRGI collected data from 223 existing EITI reports published by 37 countries before February 2015 and using this, as well as other data that is publicly

[52] http://opendefinition.org/

[53] Such as the register on politically exposed persons (http://pep.org.ua/en/) and open government tool (http://data.gov.ua/)

[54] https://www.gov.uk/service-manual/technology/open-data.html

[55] http://www.opengovernment.org.uk/

[56] http://www.opengovpartnership.org/sites/default/files/UK%20Open%20Government%20National%20Action%20Plan%202016-18.pdf

[57] http://www.resourcegovernance.org/sites/default/files/nrgi_EITIData-set_20150608.xlsx

accessible on the internet, developed indicators, such as extractive exports as a percentage of total exports, which demonstrate the contribution that the extractive industries have on a country's economy. NRGI extracted this data from the published Country Reports and presented it in both a country-level and project-level data format. This project demonstrated the vast amounts of data that has already been disclosed in the existing EITI reports, and in do so, highlighted the importance of standardizing data reporting practices in order to facilitate deeper and more meaningful.

Creating Open Data

At the government level, creating open data sets can be challenging and will depend on government resources and IT structures as well as where data is being currently held. For example, Papua New Guinea stores data manually across departments at the national and sub-national level, and therefore collecting this data in the first instance will be challenging in itself. Given differing capabilities across governments and other stakeholders, Tim Berners Lee (the founder of the internet), provides a useful set of practices that can be implemented together to create open data, accessible via the internet, under an open license.

The first step is to provide information, in any format that is available. Each successive step thereafter provides a more accessible format for open data, such as in Excel files, progressing to CSV files and finally to on-line navigation through web portals etc:

- → Provide data in whatever format is available (Pdf, word, scanned figures)
- → Provide data in a structured format (such as in Excel files)
- → Provide data in non-proprietary formats (use CSV files instead of Excel)
- → Provide information through URI (allows on line usability, rather than just download functions)
- → Provide information through on-line navigation (allows on line usability and interaction with other data resources).

Acknowledging that the creation and operation of an open data portal can be a considerably challenging task for some governments, and will require assistance, the following principles can be considered in the creation of a portal:

1. The entire data set does not need to be made available in the same instance; this can be managed by releasing one data set at a time.
2. Engage with intended end-consumers of the data from the very beginning of the process. The users may be citizens or other organisations (such as research institutions) that will analyse and redistribute the information. Such engagement should explore the types of questions that end-users will want to answer using the data. This can inform the data to be prioritised, its format for release, and what tools should be incorporated for possible visualization of the data.
3. It would also be beneficial to articulate to data providers the importance of open data, why the information is being made available and the purpose it serves. Making information available freely, while encouraging transparency, may make providers of such information uncomfortable. This hesitation may not necessarily be related to issues of corruption etc., but the change in tradition where information was previously kept closely guarded.

The Open Data Handbook, a guide set up by Open Knowledge International, provides assistance with the legal, social and technical challenges of developing open data[58]. The handbook advocates the following steps in producing data open:

1. Choose the dataset: decide on the data set to be made available.
2. Apply an open license: determine the intellectual property rights that may exist in the data, and apply a license that grants open access, reuse and redistribution rights to users. If there is confidential information contained in the chosen data set, it may be removed at this time.
3. Make the data available: depending on the data format available, the data can be provided on line as a bulk download or in a more sophisticated format.
4. Make the data discoverable: Develop a central platform that enables greater access to the data and communicate with potential users and other stakeholders that the data is now available online.

CASE STUDY - REVENUE DEVELOPMENT FOUNDATION

In context of data access options, the RDF model offers some interesting considerations. The technical focus of the project is to manage both incoming and outgoing data on revenues and income. The scope of the initiative

[58] http://opendatahandbook.org/guide/en/how-to-open-up-data/

is much larger than just the extractive sector, while the list of countries covered is still small; Cameroon, Liberia, Ghana, Mali, Sierra Leone and Zambia. Malawi is the only country that the initiative covers that does not overlap with the EITI.

The system works on three principles. First, the focus is to have revenue (and other) data generated by the system itself and not collected at a later date (as would happen with EITI reconciliation). For example when a license application is granted, the aim is to input the information into the system itself. Second, information is updated on a regular basis, allowing for up-to-date information to be available on a weekly basis. The system is cloud based and information from servers in different countries is uploaded weekly to the central repository. Third, the visualization allows for a number of different data streams to be interlinked, i.e. one entity can be tracked over a range of indicators such as license details and tax revenue.

RDF uses the Mining Cadastre Administration System (MCAS), which is a web-based software, available free of cost. MCAS uses XML, and is able to receive information in that format. On spatial data, RDF is using GeoServer servers, which includes ESRI, ArcGIS shape files for data exchange.

RDx, developed by the foundation will become an open source format for transfer of spatial data along with data related to revenues, payments, etc. Initial usage will be for making data available from government portals (Mining Cadastre Administration Systems) which other will be able to use via an API. The exchange currently uses XML, and is shared via a zipped file. The file has two section; definitions of classes (configurable parameters) and the data itself.

RDF suggests that using a data integration system approach would be a useful exercise. An integration system works on the principle that differing data streams, (such as license and revenue) can be condensed within the same system. Data exchanges rely on the ability of incoming information to be stored and then presented as outgoing information and there are likely to be pre-requisites on what reporting languages can be used. A data integration approach focuses on allowing differing third party systems to use the same data stream. RDF suggests that recommending one set of systems may be disadvantageous, while evolving to a shared system would be more useful. However, this process of evolution will be a slow process and will take time (in years).

There are three advantages of the RDF systems. First, it manages data at source, therefore the data will tend to be more up-to-date and generated quickly. This is because it avoids the need to wait for templates to be filled out by stakeholders and information to be put-together by different government departments.

Second, the systems allow for different government departments to exchange information. That allows information for a diverse range of categories (tax, production, exports) to be linked for a single entity, such as a mining company.

Third, coupled with geospatial data, the presentation of this information is easy to visualize and is user friendly.

The disadvantages are centred on capacity and cost. A substantial amount of training and effort is required to set up the system in the first place, with RDF specialists embedded with the client for a two-year period. There are a number of systems that require to be installed, in various government departments, to coordinate this data.

At this time, RDF is concentrating on government reporting, and is not focusing on company reporting, which is an essential component of EITI. Companies could be required to submit information in XML-based languages so that they are comparable to RDF based systems.

Lastly, the number of countries where RDF is operational is limited at this time. The ease of cross country comparison is not clear, but there is space for tracking historical changes for a single country.

The scope of the RDF systems is much larger than resource revenue data, and it upgrades the capacity of the entire government, rather than one particular sector. This would be very useful in extracting contextual information about the economy and the relevant performance of the extractive sector in relation to other sectors. An uptake by a larger number of countries would allow for data required for EITI standards to be available on similar formats, from a number of countries.

RDF languages, data exchanges and content management systems work well as they are being organized by a single entity for a number of different countries. This allows for consistency across the different countries. The fundamental advantage of the system comes from managing the data input stage. Data is standardized from the very start, and therefore each successive transfer of the data file up the access chain, maintains its integrity.

The objective of this report was to present, in structured form, data categories pertinent to EITI Reports and their reporting formats that can be used to standardize information generated under EITI Requirements. These recommendations should be considered as a contribution in the efforts towards standardizing data disclosure under EITI Requirements, and need to be tested with future EITI reporting to identify issues with data collection under the headings as categorized in this report. In December (2015) the EITI Board decided to form a Technical Working Group to develop data standards for consideration by the EITI Board.

The research team would recommend a step by step approach to this, starting with a specific set of EITI Requirements, across a number of countries. This will allow the EITI secretariat to develop a set of comparable statistics for various reporting entities, as well as start constructing guidelines for EITI implementers.

The following EITI Requirements are recommended for the first phase of this exercise, as the research team considers these to be the core of an EITI Country Report. Also, given the review of EITI reports, we believe these will be the easiest to standardize, as the most consistent data tends to be collected in these categories across Country Reports. These figures are more likely to lend themselves to cross-country comparisons, such as;

- Overview of extractive industries
- Contribution of extractive industries to the economy
- Production and exports
- Revenue streams.

Within this exercise, the data collection methods and process should be given special emphasis, so not only are the data categories standardized, but also the methodology for collecting/collating this information. The exercise should focus on taking information in the public domain (such as Annual Report and International Exchange filings) and creating equivalence with EITI data categories.

The eventual outcome would be the development of EITI reporting forms that implementers and MSGs can consider using for their Country Report preparations.

In the next phase, data on Legal and Fiscal context, and Licensing data should be consolidated. The third phase can focus on the remaining EITI Requirements, as they tend to be more complex and country specific.

Second, we consider data collection and its formats to be fundamentally linked to how this data will be presented; the user interface. As the World Bank and EITI Secretariat move forward in the data standardization exercise, the research team strongly emphasis the need to consider the user interfaces at an earlier rather than later stage in the process. This will also allow for data access issues to be addressed in a more structured form. The eventual user interface and how it interacts with other extractive transparency portals, will also impact how data is collected under various data categories outlined in this report.

Third, we would encourage the EITI International Secretariat and/or the World Bank to take on the responsibility of providing information to be included under some of the data categories, such as sponsoring international benchmark prices, macro-economic indicators such as GDP, total employment, total exports/ imports etc.

Within licensing, the report has found a number of cadastre projects are supported/funded by the World Bank in developing countries. As noted, FlexiCadastare systems tend to disallow the downloading of spatial data. An agreement may be reached with the service providers to allow such access to the EITI International Secretariat or country office as appropriate.

Fourth, the research team would caution against the development of a ‘big data’ approach, where large amounts of information are generated/collected without the tools to organizing and present this information. Given the slow access to internet facilities for some countries, access for country stakeholders may become more cumbersome if data is made available without accompanying tools for ease of use.

ANNEX I – COMPARATIVE INITIATIVES

METHODOLOGY

This section outlines the methodology adopted to review the data outputs published by other initiatives relevant to the EITI. Table 20 outlines the indicators and the nature of data outputs publicly available on these initiatives websites. It is important to note that many of these initiatives monitor various other indicators and that Table 20 addresses only the indicators they cover that are relevant to the EITI.

This information was obtained by examining an initiatives website and observing whether they have published data that covers/relates to any of the seven key EITI Requirements: Fiscal regime (2.1a), Legal framework (2.1.a+b), Register and Licence allocations (2.2 & 2.3), Contracts (2.4), Production and exports (3.2 & 3.3), Revenue streams (4.1 – 4.6) and Contribution of extractives industries to the economy (6.3).

These indicators were then categorized based on the nature of the data outputs into:

- narrative (QL),
- quantitative (QT)
- indexed (A) data.

Narrative data is defined as text, predominately in the form of annual reports, contracts and factsheets. Quantitative data is data points, either numeric (production volumes) or text (categorical survey data), often in the form of downloadable datasets or interactive visualizations.

Indexed data is where an initiative has analysed multiple data points to create a measurement relevant to the chosen indicator. These indexes are often presented in the form of an interactive visualization and may also include a downloadable dataset. If an initiative has published multiple data types relevant to a particular indicator, all are listed and the predominant type is listed in bold font.

There are two initiatives (Dodd-Frank 1504 and EU Accounting Directive) listed in Table 20 which have indicated the types of data they will cover but have not yet begun publishing this data. For these initiatives, the types of data they will cover have been noted in Table 20 and the reason for not publishing yet is also detailed. In instances where an initiative has no relevant data to the EITI's key indicators, the reason has also been noted in Table 20.

Three further variables have been added to Table 20 to add greater detail to the nature of data outputs being produced by these initiatives. The first of these variables indicates the spread of data being covered by these initiatives, outlining the number of countries covered by the data and, in instance of governmental initiatives, what entities the disclosure requirements apply to. The second variable details how interactive the data is, including whether any visualization is available on the website. The final variable highlights how frequently these initiatives update the data on their website in relation to the key indicators relevant to the EITI.

ANNEX I – COMPARATIVE INITIATIVES

continued

TABLE 20 DATA COVERED BY INITIATIVES RELEVANT TO THE EITI

	2.1 a	2.1 a+b	2.2 + 2.3	2.4	3.2 + 3.3	4.1 – 4.6	6.3	Spread of data	Presentation/ Visualization of data	How frequently they are updated	Reason for no data
A Good Deal Better – Global Witness Link: http://www.globalwitness.org/	QL	QL	QL	QL, QT	QT	QL, QT	QT, QL	Country specific; Uganda	Interactive visualizations	One off report - produced in 2014	
Dodd-Frank 1504 **(No data currently released, these are the expected data types)** Link: http://www.sec.gov/spotlight/dodd-frank/speccorpdisclosure.shtml	QL	QL		QL		QL, QT		Disclosure requirements will apply to all US and foreign private issuers (including those that are government owned) that operate in the extractive industries	Interactive data	Disclosures must be provided in an interactive data format with an annual report, the Commission must then make a compilation of the information available online	In June 2016, the SEC announced that it has officially adopted Section 1504. Resource extraction issuers are required to comply with the rules starting with their fiscal year ending no earlier than September 30, 2018.
EI Source Book Link: http://www.eisourcebook.org/initiatives/initiative.php?id=41											List of other transparency related sources - appears to not have any relevant published raw data of its own
EU Accounting Directive **(No data currently released, these are the expected data types)** Link: http://ec.europa.eu/finance/securities/transparency/index_en.htm	QL	QL		QL		QL, QT		The disclosure requirement will apply to large undertakings and public interest entities	Reporting will depend on implementation by each Member State	Disclosures will be required on an annual basis - how these disclosures will be published will depend on implementation by each Member State	The Directive has now been agreed and member states are in the process of deciding their implementation processes. The UK was the first to develop its implementation plan and the first disclosures will relate to financial years commencing on or after 1 January 2015.
Global Reporting Initiative Link: http://www.globalreporting.org/											Produces a database of sustainability reports - no relevant raw data
Guinee Contracts Miniers Link: http://www.contratsminiersguinee.org/	QL	QL		QL				Country specific; Guinea	All data presented in contracts published as images, as a result, content is not searchable	83 reports and contracts have been published dating from 1958 to present	
Index of Economic Freedom Link: http://www.heritage.org/index	A	A						The index covers the world with only a few countries not having any data, e.g. South Sudan	Interactive visualizations	Published annually by The Heritage Foundation	
Kimberly Process Link: http://www.kimberleyprocess.com/	QL	QL			QT, QL	QL	QT	Data from 81 countries (participants in the Kimberly Process)	Data is presented with the annual report, content is searchable	An annual report is published on the Kimberly Process website by each participating country	
Resource Governance Index Link: http://www.resourcegovernance.org/rgi	A, QT, QL	A, QT, QL	QT	QT	QT	QT	QT	Data from 58 countries (most of the biggest countries in the extractive industries)	Interactive visualizations, country profiles and downloadable dataset	Annual report and accompanying data published on the Natural Resource Governance Institute website	
Open Budget Survey Link: http://www.internationalbudget.org/what-we-do/open-budget-survey		A, QT						Data from 100 countries	Interactive visualizations, country profiles and downloadable dataset	Biennial reports published on the International Budget Partnership website from 2006 to 2012. The 2014 report has yet to be realized but an update to the data has been published.	
Open Budget Survey tracker Link: http://www.obstracker.org/		A, QT						Data from 100 countries	Interactive visualizations, country profiles and downloadable dataset	The data is updated monthly	
Open Contracting Link: http://www.open-contracting.org/											List of government contract repositories - no relevant raw data
Open Government Partnership Link: http://www.opengovpartnership.org/		QL						Data from 65 countries (participants in the Open Government Partnership)	Downloadable open data	Biannual independent progress reports published on the Open Government Partnership website	
Open Oil Link: http://www.openoil.net/		QL	QT	QT	QT	QT	QT	Data from 72 countries, with a detailed case study of Nigeria	Interactive visualizations and downloadable dataset	The contract repository is updated annually. The Nigeria case study is their first country case study and is still ongoing	
Publish What You Pay Link: http://www.publishwhatyoupay.org/	QL	QL	QL	QL, QT		QL, QT		Data from 35 countries	All data presented in reports and factsheets	One off reports realized based on research agenda	
Resource Contracts Link: http://www.resourcecontracts.org/	QL	QL		QL				Data from 58 countries (most of the biggest countries in the Extractive industries)	All data presented in reports and contracts	Multiple reports and contracts that have been disclosed by participating countries between 1958 to present have been published on the Resource Contracts website	
Resource Projects Link: http://www.resourceprojects.org/		QL			QT	QL		Data from 58 countries (most of the biggest countries in the Extractive industries)	All data presented in project reports	Multiple project reports disclosed by participating countries from 1958 to present will be published on the Resource Projects website	
Revenue Development Foundation Link: http://www.revenuedevelopment.org/											Has a management tool for governments - Does not publish raw data itself
Sierra Leone Link: http://www.sierraleone.revenuesystems.org/		QL	QL	QL		QL, QT	QL				
Transparency Initiative Link: http://www.transparency-initiative.org/	QL	QL						Data from 7 countries for the extractive industries	All data presented in reports and factsheets	One off reports realized based on research agenda	
Transparency International Link: http://www.transparency.org/		A		QT				Global coverage	Interactive visualizations, country profiles and downloadable dataset	The data and analysis are published annually on the Transparency International website	
UN Global Compact Link: http://www.unglobalcompact.org/											List of companies that are part of the initiative, no relevant raw data
World Justice Project – Rule of Law Index Link: http://www.worldjusticeproject.org/		A						Data from 102 countries	Interactive visualizations, country profiles and downloadable dataset	Annual report and accompanying data published on the World Justice Report website	

TABLE 21 COUNTRY COMPARISON OF FLEXICADASTRE DATA

	Mineral license commodity category (indicated by colour and a description)	Code	Type	Holder name	Date applied (DD/MM/YYYY)	Date granted (DD/MM/YYYY)	Date expires (DD/MM/YYYY)	Commodities	Area measure	District name	Active licenses and applications are in 2 separate layers	Other information layers able to be displayed
Botswana Link: http://portals.flexicadastre.com/botswana/	Precious stones; energy; industrial; petroleum	✗	✗	✗			✗	✗	Square km	✗		1. Administration 2. Farms 3. Satellite Imagery
DRC Link: http://portals.flexicadastre.com/drc/en/	13 polygon types including applications, reserved zones and restricted areas	✗	X	✗	✗	✗	✗	✗	Square km			
Kenya Link: http://map.miningcadastre.go.ke/map/	Exclusive and special prospecting leases; mining leases; location leases	✗	X	✗	✗	✗	✗	✗	Square km		✗	1. Administration 2. Geology 3. Mineral occurrences
Namibia Link: http://portals.flexicadastre.com/Namibia/	6 types of Active Licenses; Applications	✗	✗	✗	✗	✗	✗	✗	Ha		✗	1. Hydrocarbon Licenses 2. Administration 3. Farms 4. Geology 5. Mineral Occurrences 6. Satellite Imagery
Mozambique Link: http://portals.flexicadastre.com/mozambique/	Several license types, reserved areas, hydrocarbons, conservation areas	✗	✗	✗	✗	✗	✗	✗	Ha			
Papua New Guinea Link: http://portal.mra.gov.pg/Map/	Several active license types, applications, reserved areas, protected areas	✗		✗	✗	✗	✗		Number of sub blocks			
Rwanda Link: http://portals.flexicadastre.com/rwanda/	Mining licenses; quarry licenses; prospecting licenses, exploration licenses	✗	✗	✗	✗	✗	✗	✗	Ha		✗	1. Administration 2. Mine Sites
South Sudan Link: http://portals.flexicadastre.com/southsudan/	Large and small scale mining licenses, reconnaissance licenses, exploration licenses; applications	✗	✗	✗	✗	✗	✗	✗	Cadastral units		✗	1. Oil Concessions 2. Administration 3. Geology 4. Satellite Imagery
Uganda Link: http://portals.flexicadastre.com/uganda/	4 active license types; applications	✗	✗	✗	✗	✗	✗	✗	Square km		✗	1. Administration (protected Areas 2. Satellite Imagery
Tanzania Link: http://portal.mem.go.tz/map/	6 active license types; applications	✗	✗	✗	✗	✗	✗	✗	Square km		✗	1. Administration 2. Geophysics 3. Geology 4. ASM Centres 5. Mineral Occurrences 6. Mines 7.Satellite Imagery

ANNEX III – PRODUCTION DATA

Commodity	Production Data (Grade)	*Volume/ Quantity*	Price Data	*Source*	*Source for Price Data*	Conversion for Concentrate to refined	Export Value - Trade Code Trade Code Equivalent (SITC Rev 3)	Description
Alloying Metals								
Antimony	%	tonnes	$/tonne	US$/tonne	USGS	1.00	68993	Antimony/articles/waste
Ferrotitanium	%	tonnes	$/tonne				(HS 2002) - 720291	Ferrotitanium and ferrosilicotitanium
Ferrotungsten	%	tonnes	$/tonne	Ferro-tungsten, basis 75% W, Rotterdam, duty unpaid, in warehouse ($/kg)	UNCTAD - Stat		(HS 2002) - 720280	Ferrotungsten and ferrosilicotungsten
Ferrovanadium	%	tonnes	$/tonne				720292	Ferrovanadium
Tantalum	ppm	tonnes	$/tonne	US$/lb	USGS	1.00	68913	Tantalum unwrought/waste
Titanium	%	tonnes	$/tonne	US$/tonne	USGS fob Australia	1.00	28783	Titanium ore/concentrate
Titanium Sponge	N/A	tonnes	$/tonne				68983	Titanium unwrought/waste
Tungsten	%	tonnes	$/tonne	Tungsten ore, minimum content of Wo3 65%, CIF Europe ($/mtu Wo3)	UNCTAD - Stat	0.6	28792	Tungsten ore/concentrate
Vanadium	%	tonnes	$/tonne	US$/lb	USGS	0.83	68997	Vanadium/articles/waste
Base Metals								
Cobalt	%	tonnes	$/tonne	US$/lb	USGS	0.33	28793	Cobalt ore/concentrate
Copper	%	tonnes	$/tonne	Copper, grade A cathode, LME spot price, CIF European ports	IMF	0.77	283	Copper ores/concentrates
Ferromolybdenum	%	tonnes	$/tonne				(HS 2002) - 720270	Ferromolybdenum
Ferronickel	%	tonnes	$/tonne				(HS 2002) - 720260	Ferronickel
Lead	%	tonnes	$/tonne	Lead, 99.97% pure, LME spot price, CIF European Ports	IMF	0.77	2874	Lead ores/concentrates
Molybdenum	%	tonnes	$/tonne	US$/kg	USGS	1.00	28781	Molybdenum ore, roasted
Nickel	%	tonnes	$/tonne	Nickel, melting grade, LME spot price, CIF European ports	IMF	0.7	284	Nickel ores/concs/etc.
Nickel Pig Iron	%	tonnes	$/tonne					
Tin	%	tonnes	$/tonne	Tin, standard grade, LME spot price, US$ per metric ton	IMF	1.00	2876	Tin ores/concentrates
Zinc	%	tonnes	$/tonne	Zinc, high grade 98% pure, US$ per metric ton	IMF	0.63	2875	Zinc ores/concentrates
Zinc-Lead	%	tonnes	$/tonne					
Bauxite-Aluminium								
Alumina	%	tonnes	$/tonne				2852	Alumina(aluminium oxide)
Aluminium	%	tonnes	$/tonne	Aluminium, 99.5% minimum purity, LME spot price, CIF UK ports, US$ per metric ton	IMF		285	Aluminium ores/concs/etc.
Bauxite	%	tonnes	$/tonne	US$/tonne	USGS	1.00	(SITC Rev 1) -2833	Bauxite and concentrates of aluminium

ANNEX III – PRODUCTION DATA

continued

Commodity	Production Data (Grade)	*Volume/ Quantity*	Price Data	*Source*	*Source for Price Data*	Conversion for Concentrate to refined	Export Value - Trade Code Trade Code Equivalent (SITC Rev 3)	Description
Bulk Commodities								
Aggregates	N/A	tonnes	$/tonne				(SITC Rev 4) - 2734	Pebbles, gravel, broken/ crushed stone, of a kind commonly used for concrete aggregates, for road metalling/for railway/other ballast, shingle & flint, whether/not heat-treated; macadam of slag, dross/ similar industrial waste, whether or not incorporated
Coke	%	tonnes	$/tonne				325	Coke/semi-coke/retort c
Ferromanganese	%	tonnes	$/tonne				(SITC Rev 4) -67141	Ferromanganese containing by weight > 2% of carbon
Hematite	%	tonnes	$/tonne					
Iron	%	tonnes	$/tonne				676	Iron/steel bars/rods/etc
Iron Ore	%	tonnes	$/tonne	China import Iron Ore Fines 62% FE spot (CFR Tianjin port)	IMF	1.00	281	Iron ore/concentrates
Magnetite	%	tonnes	$/tonne				6714	Ferro-manganese
Manganese	%	tonnes	$/tonne	US$/tonne	Metal Bulletin	1.00	2877	Manganese ore/conc.
Manganese Ore	%	tonnes	$/tonne	Manganese 99.7% electrolytic manganese flake, free market, in warehouse	UNCTAD - Stat		2877	Manganese ore/conc.
Metallurgical/Coking Coal	N/A	tonnes	$/tonne					
Quarried products	N/A	tonnes	$/tonne				2731	Gravel/crushed stone/etc.
Sandstone	N/A	tonnes	$/tonne				27313	Granite/sandstone/etc
Silicomanganese	%	tonnes	$/tonne				(HS 2002) - 720230	Ferrosilicomanganese
Steel	N/A	tonnes	$/tonne				675	Flat rolled alloy steel
Bulk/Energy								
Bituminous coal	N/A	tonnes	$/tonne				270112	Bituminous coal
brown coal	N/A	tonnes	$/tonne					
Coal	N/A	tonnes	$/tonne	Australian thermal coal, 12,000- btu/pound, less than 1% sulfur, 14% ash, FOB Newcastle/Port Kembla	IMF		32	Coal/coke/briquettes
coked coal	N/A	tonnes	$/tonne				325	Coke/semicoke/retort c
concentrated coking coal	N/A	tonnes	$/tonne				325	Coke/semicoke/retort c
Fossil coal	N/A	tonnes	$/tonne				32	Coal/coke/briquettes
semi-coked coal	N/A	tonnes	$/tonne				325	Coke/semicoke/retort c

ANNEX III – PRODUCTION DATA

continued

Commodity	Production Data (Grade)	*Volume/ Quantity*	Price Data	*Source*	*Source for Price Data*	Conversion for Concentrate to refined	Export Value - Trade Code Trade Code Equivalent (SITC Rev 3)	Description
Chromite Group								
Chromite	%	tonnes	$/tonne	US$/tonne	USGS		681591	Containing magnesite, dolomite or chromite
Ferrochrome	%	tonnes	$/tonne					
Energy								
Thermal Coal	N/A	tonnes	$/tonne				32	Coal/coke/briquettes
Uranium (U3O8)	%	lbs.	$/lb	Uranium, NUEXCO, Restricted Price, Nuexco exchange spot	IMF		286	Uranium/thorium ore/conc
Fertilizers								
Ammonium Sulfate	%	tonnes	$/tonne					
Phosphate	%	tonnes	$/tonne	Phosphate rock, Khouribga, 70% BPL, contract, FAS Casablanca	UNCTAD - Stat	1.00	2723	Natural phosphates
Potash	%	tonnes	$/tonne	US$/tonne	USGS	1.00		
Potassium Chloride	%	tonnes	$/tonne				56231	Potassium chloride fert.
Potassium Nitrate	%	tonnes	$/tonne				52352	Potassium nitrate
Potassium Oxide	%	tonnes	$/tonne					
Potassium Sulfate	%	tonnes	$/tonne					
Gemstones								
Amethyst	ct/tonne	ct	$/ct				667	Pearls/precious stones
Beryl	ct/tonne	ct	$/ct					
Chrysoprase	ct/tonne	ct	$/ct					
Corundum	ct/tonne	ct	$/ct					
Diamonds	ct/tonne	ct	$/ct	US$/ct	Kimberley Process	1.00	6672	Diamonds unset
Emerald	ct/tonne	ct	$/ct				667	Pearls/precious stones
Garnet	%	tonnes	$/tonne				667	Pearls/precious stones
Jade	%	tonnes	$/tonne				667	Pearls/precious stones
Opal	ct/tonne	ct	$/ct				667	Pearls/precious stones
Ruby	ct/tonne	ct	$/ct				667	Pearls/precious stones
Sapphire	ct/tonne	ct	$/ct				667	Pearls/precious stones
Tanzanite	ct/tonne	ct	$/ct				667	Pearls/precious stones
Topaz	ct/tonne	ct	$/ct				667	Pearls/precious stones
Heavy Mineral Sands								
Heavy Mineral Sands	%	tonnes	$/tonne				2733	Sands, natural
Ilmenite	%	tonnes	$/tonne				2733	Sands, natural
Iron Sand	%	tonnes	$/tonne				2733	Sands, natural
Leucoxene	%	tonnes	$/tonne				2733	Sands, natural
Rutile	%	tonnes	$/tonne				2733	Sands, natural
Zircon	%	tonnes	$/tonne				2733	Sands, natural
Zirconium	%	tonnes	$/tonne	US$/tonne	USGS	1.00	28784	Zirconium ore/concentrate

ANNEX III – PRODUCTION DATA

continued

Commodity	Production Data (Grade)	*Volume/ Quantity*	Price Data	*Source*	*Source for Price Data*	Conversion for Concentrate to refined	Export Value - Trade Code Trade Code Equivalent (SITC Rev 3)	Description
Precious Metals								
3PGM+Au	g/tonne	troy oz.	$/oz.					
6PGM+Au	g/tonne	troy oz.	$/oz.					
Gold	g/tonne	troy oz.	$/oz.	Gold, 99.5% fine, afternoon fixing London	UNCTAD - Stat	1.00	96	Coin nongold non-current
Iridium	g/tonne	troy oz.	$/oz.					
Osmium	g/tonne	troy oz.	$/oz.					
Palladium	g/tonne	troy oz.	$/oz.			1.00	6812	Platinum etc
Platinum	g/tonne	troy oz.	$/ troy oz.			1.00	6812	Platinum etc
Platinum Group Metals	g/tonne	troy oz.	$/ troy oz.				6812	Platinum etc
Rhenium	g/tonne	troy oz.	$/ troy oz.	US$/kg	Metal Bulletin			
Rhodium	g/tonne	troy oz.	$/ troy oz.			1.00		
Ruthenium	g/tonne	troy oz.	$/ troy oz.					
Silver	g/tonne	troy oz.	c/ troy oz.	Silver, 99.9%, Handy & Harman, New York	UNCTAD - Stat	1.00	28911	Silver ore/concentrates
Rare Earth Elements								
Cerium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52595	Rare earth isotop/cmpds
Dysprosium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52596	Rare earth isotop/cmpds
Erbium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52597	Rare earth isotop/cmpds
Europium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52598	Rare earth isotop/cmpds
Ferroniobium	%	tonnes	$/tonne	US$/kg	USGS	1.00	52599	Rare earth isotop/cmpds
Gadolinium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52600	Rare earth isotop/cmpds
Heavy Rare Earths and Yttrium	%	tonnes	$/kg	US$/kg	USGS	1.00	52601	Rare earth isotop/cmpds
Holmium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52602	Rare earth isotop/cmpds
Indium	ppm	tonnes	$/tonne	US$/kg	USGS	1.00	52603	Rare earth isotop/cmpds
Lanthanides	%	tonnes	$/kg	US$/kg	USGS	1.00	52604	Rare earth isotop/cmpds
Lanthanum	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52605	Rare earth isotop/cmpds
Light Rare Earths	%	tonnes	$/kg	US$/kg	USGS	1.00	52606	Rare earth isotop/cmpds
Lutetium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52607	Rare earth isotop/cmpds
Neodymium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52608	Rare earth isotop/cmpds
Niobium	%	tonnes	$/tonne	US$/kg	USGS	1.00	52609	Rare earth isotop/cmpds
Praseodymium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52610	Rare earth isotop/cmpds
Promethium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52611	Rare earth isotop/cmpds
Rare Earth Elements	%	tonnes	$/kg	US$/kg	USGS	1.00	52612	Rare earth isotop/cmpds
Samarium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52613	Rare earth isotop/cmpds
Scandium	ppm	tonnes	$/tonne	US$/kg	USGS	1.00	52614	Rare earth isotop/cmpds
Terbium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52615	Rare earth isotop/cmpds
Thulium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52616	Rare earth isotop/cmpds
Ytterbium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52617	Rare earth isotop/cmpds
Yttrium	ppm	tonnes	$/kg	US$/kg	USGS	1.00	52618	Rare earth isotop/cmpds

ANNEX III – PRODUCTION DATA

continued

Commodity	Production Data (Grade)	*Volume/ Quantity*	Price Data	*Source*	*Source for Price Data*	Conversion for Concentrate to refined	Export Value - Trade Code Trade Code Equivalent (SITC Rev 3)	Description
Specialty/Industrial								
Wollastonite	%	tonnes	$/tonne					
Aluminous Clay	%	tonnes	$/tonne					
Arsenic	%	tonnes	$/tonne	US$/lb	Metal Bulletin		(HS 2002) - 280480	Arsenic
Asbestos	%	tonnes	$/tonne	US$/tonne	USGS	1.00	2784	Asbestos
Attapulgite	%	tonnes	$/tonne					
Barite	%	tonnes	$/tonne			1.00		
Bentonite	%	tonnes	$/tonne	US$/tonne	USGS	1.00	27827	Bentonite
Beryllium	%	tonnes	$/tonne				68991	Beryllium unwrght/waste
Bismuth	%	tonnes	$/tonne	US$/lb	Metal Bulletin		68992	Bismuth/articles/wast
Borates	%	tonnes	$/tonne				27894	Crude natural borates
Boron	%	tonnes	$/tonne	US$/tonne	USGS	1.00	(HS 2002) - 2810	Oxides of boron; boric acids.
Cadmium	%	tonnes	$/tonne	c/lb	Metal Bulletin		68982	Cadmium unwrought/waste
Caesium	%	tonnes	$/tonne					
Calcium Carbonate	%	tonnes	$/tonne				(HS 2002) - 283650	Calcium carbonate
Calcrete	%	tonnes	$/tonne					
Chromium	%	tonnes	$/tonne	US$/tonne	Metal Bulletin	1.00	28791	Chromium ore/concentrate
Clay	%	tonnes	$/tonne				662	Clay/refractory material
Diatomite	%	tonnes	$/tonne					
Dolomite	%	tonnes	$/tonne				27823	Dolomite
Felspar	%	tonnes	$/tonne	US$/tonne	USGS	1.00	27853	Felspar/leucite/syenite
Ferrosilicon	%	tonnes	$/tonne					
Fluorite (fluorspar)	%	tonnes	$/tonne	US$/tonne	USGS	1.00		
Fluorspar	%	tonnes	$/tonne	US$/tonne	USGS	1.00	27854	Fluorspar
Frac Sand	%	tonnes	$/tonne					
Gallium	%	tonnes	$/tonne	US$/kg	Metal Bulletin			
Germanium	%	tonnes	$/tonne	US$/kg	Metal Bulletin		68996	Germanium/articles/waste
Granite	%	tonnes	$/tonne				27313	Granite/sandstone/etc
Graphite	%	tonnes	$/tonne	US$/tonne	USGS	1.00	27822	Natural graphite
Gypsum	%	tonnes	$/tonne	US$/tonne	USGS	1.00	2732	Gypsum etc for cement mf
Hafnium	%	tonnes	$/tonne					
Iodine	%	tonnes	$/tonne				52225	Fluorine,bromine,iodine
Kaolin	%	tonnes	$/tonne	US$/tonne	USGS	1.00	27826	Kaolinic clays
Lime	%	tonnes	$/tonne				661	Lime/cement/constr matl
Lime Sands	%	tonnes	$/tonne				661	Lime/cement/constr matl
Limestone	%	tonnes	$/tonne				27322	Limestone etc. for cement
Lithium	%	tonnes	$/tonne				(HS 2002) - 282520	Lithium oxide and hydroxide
Magnesite	%	tonnes	$/tonne				27824	Magnesite
Magnesium	%	tonnes	$/tonne	US$/tonne	USGS	1.00	68915	Magnesium unwrought
Magnesium Chloride	%	tonnes	$/tonne					
Marble	%	tonnes	$/tonne				27312	Marble/etc slabs
Mercury	%	tonnes	$/tonne	US$/flask	USGS	1.00	52227	Mercury
Mica	%	tonnes	$/tonne	US$/tonne	USGS - Scrap and Flake	1.00	27852	Mica/mica waste
Monazite	%	tonnes	$/tonne					

ANNEX III – PRODUCTION DATA

continued

Commodity	Production Data (Grade)	*Volume/ Quantity*	Price Data	*Source*	*Source for Price Data*	Conversion for Concentrate to refined	Export Value - Trade Code Trade Code Equivalent (SITC Rev 3)	Description
Perlite	%	tonnes	$/tonne				27898	Vermiculite/perlite/chlo
Pyrite	%	tonnes	$/tonne					
Rubidium	%	tonnes	$/tonne					
Salt	%	tonnes	$/tonne	US$/tonne	USGS	1.00	2724	Ntrl potassium salts
Scheelite	%	tonnes	$/tonne					
Selenium	%	tonnes	$/tonne	US$/lb	Metal Bulletin			
Silica	%	tonnes	$/tonne				27331	Silica/quartz sands
Silica Sand	%	tonnes	$/tonne			1.00	27331	Silica/quartz sands
Sodium Bicarbonate	%	tonnes	$/tonne				52373	Sodium bicarbonate
Sodium Carbonate	%	tonnes	$/tonne	US$/short tons	USGS	1.00	52372	Neutral sodium carbonate
Sodium Sulfate	%	tonnes	$/tonne				52345	Sodium sulphates
Spodumene	%	tonnes	$/tonne					
Strontium	%	tonnes	$/tonne					
Sulfur	%	tonnes	$/tonne	US$/tonne	USGS	1.00	274	Sulphur/unroastd pyrites
Sulfuric Acid	%	tonnes	$/tonne					
Synthetic Rutile	%	tonnes	$/tonne				27853	Felspar/leucite/syenite
Talc	%	tonnes	$/tonne	US$/tonne	USGS	1.00	27893	Talc/natural steatite
Tellurium	%	tonnes	$/tonne	US$/kg	Metal Bulletin			
Thorium	%	tonnes	$/tonne				2862	Thorium ore/concentrates
Vermiculite	%	tonnes	$/tonne				27898	Vermiculite/perlite/chlo
Zeolites	%	tonnes	$/tonne					

OIL AND GAS PRODUCTION VOLUME AND VALUE FORMAT

Category	Volume	Price	Price benchmark	Value	Export Value - Trade Code Equivalent (SITC Rev 3)
Crude oil	barrels/day	US$/barrel	Spot Crude Average of U.K. Brent, Dubai, and West Texas Intermediate, equally weighted*	Volume x price	
In US$	3330				
Natural gas					
Gross production	Million standard cubic meters	US$/MMBTU	Benchmark price: Russian in Germany*	Volume x price In US$	
Marketed production		US$/MMBTU	Benchmark price: Russian in Germany*		3432
Flaring			NA		
Reinjection			NA		
Shrinkage			NA		
Natural gas liquids	Million standard cubic meters	US$/MMBTU	Benchmark price: Indonesian in Japan (LNG)*		3431

*available from the IMF Commodity Price Statistics

ANNEX IV – CONVERSION FACTORS

MINERAL MEASUREMENT CONVERSION		
Magnitude	**Magnitude To**	**Measurement Translation Rate**
$/ct	$/kg	5000
$/g	$/kg	1000
$/kg	$/ct	0.0002
$/kg	$/g	0.001
$/kg	$/lakhtonne	100000000
$/kg	$/lb	0.45359237
$/kg	$/longton	1016.046909
$/kg	$/MTU	10
$/kg	$/oz.	0.031103477
$/kg	$/ton	907.18474
$/kg	$/tonne	1000
$/lakhtonne	$/kg	1.00E-08
$/lakhtonne	$/tonne	1.00E-05
$/lb	$/kg	2.204622622
$/lb	$/ton	2000
$/lb	$/tonne	2204.622622
$/longton	$/kg	0.000984
$/longton	$/tonne	0.984206528
$/MTU	$/kg	0.1
$/MTU	$/tonne	100
$/oz.	$/kg	32.1507466
$/ton	$/kg	0.0011
$/ton	$/lb	0.0005
$/ton	$/tonne	1.102311311
$/tonne	$/kg	0.001
$/tonne	$/lakhtnne	100000
$/tonne	$/lb	0.000453592
$/tonne	$/longton	1.016046909
$/tonne	$/MTU	0.01
$/tonne	$/ton	0.90718474
%	ppb	10000000
%	ppm	10000
1000lbs.	1000oz	14.58333333
1000lbs.	ct	2267961.85
1000lbs.	kg	453.59237
1000lbs.	kilotonnes	0.000453592
1000lbs.	tonnes	0.453592
1000oz	1000lbs.	0.068571429
1000oz	ct	155517.384
1000oz	kg	31.1034768

MINERAL MEASUREMENT CONVERSION		
Magnitude	**Magnitude To**	**Measurement Translation Rate**
1000oz	kilotonnes	3.11E-05
1000oz	tonnes	0.031103477
ct	1000lbs.	4.41E-07
ct	1000oz	6.43E-06
ct	g	0.2
ct	kg	0.0002
ct	kilotonnes	2.00E-10
ct	lbs.	0.000440925
ct	oz.	0.006430149
ct	tonnes	2.00E-07
ct/ton	ct/tonne	1.102311311
ct/tonne	ct/ton	0.90718474
g	ct	5
g	kg	0.001
g	lbs.	0.002204623
g	oz.	0.032150747
g	tonnes	1.00E-06
g/m³	oz./m³	0.032150747
g/ton	g/tonne	1.102311311
g/tonne	g/ton	0.90718474
g/tonne	oz./ton	0.029166667
g/tonne	oz./tonne	0.032150747
g/tonne	ppb	1000
g/tonne	ppm	1
kg	1000lbs.	0.002204623
kg	1000oz	0.032150747
kg	ct	5000
kg	g	1000
kg	kg	1
kg	kilotonnes	1.00E-06
kg	lakhtonne	1.00E-08
kg	lbs.	2.204622622
kg	longtons	0.000984207
kg	MTU	0.1
kg	oz.	32.1507466
kg	tonnes	0.001
kg	tons	0.001102311
kilotonnes	1000lbs.	2204.622622
kilotonnes	1000oz	32150.74657
kilotonnes	ct	5000000000

ANNEX IV – CONVERSION FACTORS

continued

MINERAL MEASUREMENT CONVERSION

Magnitude	Magnitude To	Measurement Translation Rate
kilotonnes	kg	1000000
kilotonnes	tonnes	1000
lakhtonne	kg	100000000
lakhtonne	tonnes	100000
lakhtonne	tons	110231
lbs.	ct	2267.96185
lbs.	g	453.59237
lbs.	kg	0.45359237
lbs.	oz.	14.58333333
lbs.	tonnes	0.000453592
lbs.	tons	0.0005
longtons	kg	1016.046909
longtons	tonnes	1.016046909
longtons	tons	1.12
MTU	kg	10
MTU	tonnes	0.01
oz.	ct	155.517384
oz.	g	31.1034768
oz.	kg	0.031103477
oz.	lbs.	0.068571429
oz.	tonnes	3.11E-05
oz.	tons	3.43E-05
oz./m^3	g/m^3	31.1034768
oz./ton	g/tonne	34.28571429
oz./tonne	g/tonne	31.1034768
ppb	%	1.00E-07
ppb	g/tonne	0.001
ppm	%	0.0001
ppm	g/tonne	1
tonnes	1000lbs.	2.204622622
tonnes	1000oz	32.15074657
tonnes	ct	5000000
tonnes	g	1000000
tonnes	kg	1000
tonnes	kilotonnes	0.001
tonnes	lakhtonne	1.00E-05
tonnes	lbs.	2204.622622
tonnes	longtons	0.984206528

MINERAL MEASUREMENT CONVERSION

Magnitude	Magnitude To	Measurement Translation Rate
tonnes	MTU	100
tonnes	oz.	32150.74657
tonnes	tons	1.102311311
tons	kg	907.18474
tons	lakhtonne	9.07E-06
tons	lbs.	2000
tons	longtons	0.89285714
tons	oz.	29166.66667
tons	tonnes	0.90718474
bbl	litre	159
MMBtu	therm	0.1

OIL MEASUREMENT CONVERSION CRITERION

Standard factors	Metric tonne	Long ton	Barrels	Cubic meters (kilolitres)
Metric tonne	1	0.984	7.33	1.165
Long ton	1.016	1	7.45	1.128
Barrels	0.136	0.134	1	0.159
Cubic metres (kilolitres)	0.858	0.887	6.289	1

NATURAL GAS AND LNG MEASUREMENT CONVERSION CRITERION

Standard factors	billion cubic metres NG	billion cubic feet NG	million tonnes oil equivalent	million tonnes LNG	trillion British thermal units	million barrels oil equivalent
1 billion cubic metres NG	1	35.3	0.9	0.74	35.7	6.6
1 billion cubic feet NG	0.028	1	0.025	0.021	1.01	0.19
1 million tonnes oil equivalent	1.11	39.2	1	0.82	39.7	7.33
1 million tonnes LNG	1.36	48	1.22	1	48.6	8.97
1 trillion British thermal units	0.028	0.99	0.025	0.021	1	0.18
1 million barrels oil equivalent	0.15	5.35	0.14	0.11	5.41	1

ANNEX V – DATA CATEGORIES COVERED

(2.1a+b) Legal framework		
Data output for legal codes, regulations and reform		
• Legislation: Mineral, Oil/gas • Regulation(s) directives	• Environmental protection • Safety and Health • Labor	• Policy document • Others considered relevant
Legal profile of licenses by type		
• Scale of licenses/concessions • Type of mineral	• Requirements for holding license/concession	• Limits on ownership by type of license/ concession
(2.1a) Fiscal regime country profile		
• Mineral/ Oil and gas specific taxes	• Corporate Income Tax (CIT) • Other taxes & payments	• Tax holidays etc.
(2.2) License allocations		
Data output under allocation of licenses		
• Allocation process	• Details for bidding process	• License allocation disclosure
(2.3) Register of licenses		
• Property details, identifiers • Location, • Commodities • Area, Geospatial data • Coordinate system • Source of data	• Ownership details • Other claims owned by the same owner • License details and type	• Application date and Date granted • Expiry/ first renewal date • Date of refusal, Reason for refusal • Current status, Information last updated • Exemptions offered • Work to be performed as License requirement
(2.4) Contracts		
• Contract title, context and value • Description and current status of contract • Start, end and signature date • Address and contact point of the Extractive company • The government agency responsible for authorizing the contract	• Documents and attachments related to the contract, including any notices.	• Information related to the implementation of the contract.
(2.5) Beneficial ownership		
Data output for beneficial ownership		
• Company name/ Registration number • Type of entity and business sectors	• List of board members	• List of shareholders with beneficial ownership • For each listed beneficial owner (individual/firm)
(2.6) State participation		
Data output recommendations for State participation		
• Rules governing state participation • Tools for state participation	• SOE finances; Total assets and liability • Equity ownership and State control	• Controlling ownership • Payments to State / SOE beneficiaries
(3.1) Exploration		
• Mineral/oil/ natural gas projects by stage	• Property, Owner, Development stage, Activity status	• Primary and proven reserves and resources
(3.2) Production		
• Production/price data by commodity	• Conversion for concentrate to refined	
(3.3) Exports		
• Export value - Trade code		

ANNEX V – DATA CATEGORIES COVERED

continued

(4.1) Comprehensive disclosure of taxes and revenues		
• License, concession fees • Application /annual /rental fees • Acreage/transit fee (oil & gas) • Transportation and terminal operations fee • Environment related: Water use, land use • Entry fees • Service charges and fees • Profits/ windfall taxes • Corporate income tax	• Variable income tax • Withholding tax (dividends, interest and fees) • Personal income tax • Capital gains tax • Social security contributions • Royalties and bonuses • Import/ custom duties • Export Duties • VAT/Sales tax (net) • Excise duty	• Real estate tax • Local/district taxes • Stamp duties • Land tax • Tax on vehicles and self-moving mechanisms • Penalties • Investment in infrastructure • Local community development expenditure by companies
(4.2) Sale of the state's shares of production or other revenues collected in-kind		
• Dividends from government owned/ participation in natural resource enterprises	• Withdrawal of income from quasi – corporations • Profit remitted to government by SOEs	• Sales of state's share of production or other revenues collected in kind
(4.3) Infrastructure provisions and barter arrangements		
• Details of relevant infrastructure agreements and contracts		
(4.4) Transportation revenues		
• Relevant transport taxes		
(4.5) Transactions related to State-owned enterprises (SOEs)		
• Refer to 2.6 state participation		
(4.6) Sub-national payments		
• Refer to state participation (2.6) and Sub-national transfers (5.2)		
(5.1) Distribution of revenues		
Data output for distribution of revenues from the extractives sector		
• Resource revenue account (RRA) • Investment Committee for extractive revenues	• Resource revenue management law	• Information on extractive revenues management included in the budget document
(5.2) Sub-national transfers		
• Share of total revenues going directly to local communities/governments • How are the payments to local communities governed	• Allocation of revenue between the federal and regional governments	• Percentage of allocation that has been transferred
(5.3) Revenue management and expenditures		
• Refer to Social expenditures by extractive companies (6.1)		
(6.1) Social expenditures by extractive companies		
• Allocation of funds/ in-kind projects	• Extractive companies commitments to local communities	
(6.2) Quasi-fiscal expenditures		
• Refer to state participation (2.6)		
(6.3) Contribution of extractive industries to the economy		
• Value and percentage share of GDP • Value and percentage share of exports	• Value and share of contribution to government revenues	•Employment generation