Extractive Industries
Transparency Initiative

Exploration activities and reserves

Requirement 3.1

Guidance note

2023 EITI Standard

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This note has been issued by the EITI International Secretariat to provide guidance to implementing countries on meeting the requirements in the EITI Standard. Readers are advised to refer to the EITI Standard directly, and to contact the International Secretariat to seek further clarification.

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Introduction

Resource-rich countries face complex decisions about how to manage their oil, gas and mineral wealth. In the context of fluctuating commodity prices and competition from other producers, countries must consider how to maximise domestic benefits from their resources, while mitigating potential impacts on people and the environment.

The imperative to address these challenges has gained further urgency in the context of the energy transition. The fluctuating demand for fossil fuels creates uncertainty about the long-term value of oil, gas and coal assets, increasing the risk that they may become commercially unviable "stranded assets". Simultaneously, demand for minerals used in low-carbon technologies is expected to rise significantly, while remaining subject to fluctuations and uncertainty.

Transparency on exploration activities and reserves can help countries navigate these challenges and opportunities. Such disclosures ensure that both governments and the public have access to the information needed to make informed decisions about the management of natural resources and the future of the extractive sector. This includes assessing the economic and environmental implications of fossil fuel extraction and strategies to expand production of transition minerals. Sharing geological data can also attract investment and enable governments and companies to negotiate more equitable contracts.

Requirement 3.1 of the EITI Standard promotes transparency in this area. To meet this requirement, implementing countries must disclose an overview of the extractive sector, including significant projects, operating companies and exploration activities, whether recent, ongoing or planned. Additionally, countries and companies are encouraged to disclose available data on proven reserves of oil, gas and minerals.

This note provides step-by-step guidance to EITI multi-stakeholder groups (MSGs) on how to implement Requirement 3.1, helping implementing countries prepare for Validation under the 2023 EITI Standard. The objective of the note is to advance national priorities and promote informed public debate.

BENEFITS OF DISCLOSING INFORMATION ON EXPLORATION AND RESERVES

- **Supporting public debate on the future of the extractive sector:** Transparency on significant extractive projects, exploration activities and reserves is important for informing the public about the status of the extractive industries. It helps foster debate on the sector's future by enabling stakeholders to consider how global trends might affect the value of existing assets and participate in discussions on maximising benefits and mitigating risks.

- **Attracting investment:** Disclosure of exploration data by government agencies, notably through national geological surveys, can attract investment by shedding light on a country's geological potential. Requiring companies to report according to internationally recognised classification systems can also enhance financial transparency and accountability, further encouraging investment.

- **Negotiating equitable deals:** Access to high-quality geological data can help ensure more balanced contract terms between companies and governments, benefitting both parties by reducing the likelihood of future renegotiations.

- **Expanding production of transition minerals**: Sharing information on known deposits supports efforts to increase mineral production to meet growing demand for low-carbon technologies. As several transition minerals, such as cobalt and rare earth elements, are often byproducts from other mineral deposits, disclosing both proven reserves and estimated resources can help identify new sources of supply.

- **Estimating end-use emissions from extraction of fossil fuels**: Disclosing data on oil, gas and coal reserves enables the estimation of end-use emissions associated with extraction. This can inform discussion on the relationship between fossil fuel extraction and climate goals and help governments and the public understand the full environmental impact of decisions on the future of the extractive sector.

- **Advancing geological knowledge:** Publicly disclosing geological data helps to advance scientific research on the formation of ore bodies and improve estimates of global resources.

Overview of steps

STEPS	KEY CONSIDERATIONS
Step 1: Agree on the objectives and scope of disclosure	• What are the potential benefits of disclosing information in line with Requirement 3.1? • What aspects of Requirement 3.1 should be disclosed? • How detailed should disclosures be?
Step 2: Collect data	• Is any of the information already publicly available? • Which actors hold the required information? • Is the data reliable and comprehensive?
Step 3: Disclose data	• How should data be disclosed? • What information should be systematically disclosed on government and company platforms? • What role should EITI Reports play?
Step 4: Analyse disclosures	• How can the disclosed data be used? • Which actors can help to analyse the data?
Step 5: Disseminate data and promote public debate	• Which channels should be used to reach audiences? • Which formats will ensure wider data accessibility and use for stakeholders?

Key concepts

This section explains key concepts relevant to implementing Requirement 3.1. For additional information, see also "Further resources" at the end of this note.

Resource classification and reporting systems

Resource classification systems are standards used to estimate, categorise and report on oil, gas and mineral deposits. These systems provide detailed guidelines on how to quantify and classify resources and reserves and disclose exploration results.

There are several internationally recognised classification systems, any of which can be used as the basis for disclosing exploration results and reserves in line with Requirement 3.1.

- For oil and gas resources, the Petroleum Resource Management System (PRMS), created by the Society of Petroleum Engineers (SPE), forms the foundation of reporting requirements in many countries.
- For mineral resources, the International Reporting Template developed by the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) is similarly used in national reporting systems.
- The United Nations has produced a Framework Classification for Resources (UNFC), which can be applied to both minerals and oil and gas as well as a range of other resources.
- Building on the UNFC, the African Union has developed a Pan-African Resource Code (PARC) and African Mineral and Energy Resources Classification and Management System (AMREC).

Reserves and resources

Deposits are categorised based on the degree of confidence in the geological data and the certainty that extraction will be viable under forecasted future conditions, under resource classification systems. While definitions vary between sectors and classification systems, resources generally include any occurrence of oil, gas or minerals in nature, whereas reserves refer to the resources that are likely to be extractable in a commercial project.

CRIRSCO defines a mineral resource as "a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction."[1] Resources are further classified as "inferred", "indicated" and "measured" depending on the availability and quality of geological data.

A mineral reserve is defined as "the economically mineable part of a Measured and/or Indicated Mineral Resource."[2] This is determined through a feasibility or pre-feasibility study carried out by a qualified expert ("Competent Person"). Within the reserve category, proven reserves are in turn distinguished from probable reserves by a greater availability and higher degree of confidence in geological data.

Under the PRMS, resources include "all quantities of petroleum naturally occurring within the Earth's crust, both discovered and undiscovered (whether recoverable or unrecoverable)."[3] Resources with a prospect of being recovered are divided into "prospective" and "contingent" resources based on the level of confidence in the estimated quantity.

By contrast, reserves are "anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions."[4] Reserves are classified as "proved (P1)", "probable (P2)" and "possible (P3)" based on certainty in the estimated recoverable quantity. For proved reserves, there should be a 90% probability that the entirety of the estimated quantity will be recoverable in a commercial project. The supporting data and underlying assumptions for classification of resources under the PRMS should be documented to allow verification by a qualified reserves evaluator or auditor.

The UNFC classifies resources using a three-dimensional system based on environmental-socio-economic viability (E), technical feasibility (F), and degree of confidence in the estimate (G). The equivalent of a proven reserve under the UNFC system is a viable project with the highest degree of confidence in all three indicators (E1, F1, G1).

Commercial and economic viability

The extent to which a resource or reserve is commercially viable (or "economically mineable" according to CRIRSCO) is assessed based on technical, economic, environmental, social and regulatory factors (referred to as "modifying factors" under CRIRSCO). Technical feasibility refers to existing technological capabilities and the geological conditions of the deposit. Economic viability is estimated based on forecasted revenues, capital expenditures and operating costs. Given fluctuating commodity prices, the economic viability of the same deposit can vary over time. Assessments of commercial viability also consider a range of social, environmental and regulatory factors that could impact production.

How to disclose data on Requirement 3.1

Step 1: Agree on the objective and scope of disclosures

The MSG should first consider how disclosing data in line with Requirement 3.1 can support national objectives and MSG priorities. This can be done by following these steps:

1. **Discuss the objectives of transparency in this area.** Objectives could include:

- Supporting public debate and oversight of natural resource management and the sector's future;
- Attracting investment in the extractive industries;
- Informing sector policy and contract negotiations;
- Mapping resources and reserves for transition minerals;
- Estimating end-use emissions associated with fossil fuel production;
- Supporting geological research.

2. **Determine the scope of reporting.** The MSG must decide whether to disclose only the required overview of the extractive industries (Requirement 3.1 a), including significant exploration activities, or to also publish information on proven reserves (Requirement 3.1 b), which is encouraged.

3. **Agree on the level of detail for reporting.** For the required provisions, reporting could range from a narrative overview of major extractive sector projects, operating companies and exploration activities (recent, ongoing or planned) to regularly updated registers and digital maps of active exploration and production licenses. (Note that information on licenses and contracts is also disclosed under Requirements 2.2, 2.3 and 2.4.)

   If encouraged provisions are included, the MSG should determine the level of detail for reserves reporting. At a minimum, this should include proven reserves, the resource classification system used, and the year that the estimate was produced. More detailed disclosures could provide proven reserves by company or project. The MSG may also choose to go beyond

proven reserves by including all known deposits, with resources and reserves clearly indicated by their respective statuses (e.g. resource or probable or proven reserve).

4. **Identify relevant actors.** The MSG should identify actors to engage in data collection, analysis and dissemination. These may include government bodies hosting the required information, extractives companies, and research institutes and think tanks conducting analysis on related topics.

CASE STUDY

Sierra Leone: Disclosing project and exploration data to attract investment

Sierra Leone's 2019-2023 Medium-Term National Development Plan highlighted a lack of geological information as a barrier to maximising the value of the country's natural resources. With support from the World Bank, the government carried out a low-altitude airborne geophysical survey to map mineral deposits. The data is available through the National Minerals Agency's website for a fee, and the government also operates an online mining cadastre showing exploration and mining rights. These efforts have improved access to mining sector information for both civil society and investors. The introduction of an online mining cadastre has also contributed to an increase in mining revenues and improved monitoring of the extractive sector.

Step 2: Collect data

Data collection may involve gathering publicly available information and engaging with actors holding undisclosed data.

1. **Assess the availability of required information.** Information on mining and exploration projects may be found on government websites, including open mining cadastres. Data on resources and, in some cases, reserves, may be available through national geological surveys.

   Reserves data may be found in company reports. In many countries, financial regulators require registered extractives companies to disclose information on reserves as part of their public reporting. Companies typically publish annual reports on their websites within a few months of the fiscal year-end. These reports may also be found in depositories operated by the relevant fiscal authorities, such as the UK Financial Conduct Authority's National Storage Mechanism or the Securities and

Exchange Commission's Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system. There are also online databases that gather reports from major companies in various jurisdictions, including AnnualReports.com.

Online databases may also provide other relevant information. For instance, Digibee offers a digital map of mining projects around the world; Global Energy Monitor has interactive maps for oil, gas and coal projects; and the US Geological Survey provides access to geological data on both oil and gas and mineral resources and reserves across a range of countries.

2. **Identify and engage information holders.** Relevant information holders may include government agencies responsible for issuing exploration and production licenses and national geological surveys. For companies not required to disclose reserves publicly, results from exploration and feasibility studies may need to be requested from the agencies overseeing exploration rights.

3. **Assess the quality and comprehensiveness of the data.** The MSG, with technical support as needed, should ensure the quality and accuracy of EITI disclosures on exploration activities and reserves. At a minimum, the MSG should conduct a basic check of the information's comprehensiveness prior to publication. In countries where companies are not legally required to disclose exploration results and reserves, or where enforcement capacity is limited, the MSG may need to verify that the data was produced in line with international standards. This assessment may include:

- **Comprehensiveness check:** Conduct an initial review of the comprehensiveness and reliability of the information on the extractive industries included or referenced in EITI reporting, drawing on MSG members' knowledge of the sector.

- **Reconciliation between government and companies:** Cross-reference government disclosures on major exploration activities with reporting from companies operating in the country.

- **Use of resource classification systems:** Ensure reserves are reported using an international classification system, with assessments confirmed by a qualified expert in line with the system's requirements.

CASE STUDY

Colombia: Mandating public reporting in accordance with international standards

In 2018, the Colombian government adopted a new standard for public reporting for mining companies, requiring companies to report annually on exploration results, resources and reserves. Reports are typically made publicly available online and submitted to the Financial Superintendence of Colombia. The standard is based on the internationally established CRIRSCO framework and guided by the principles of transparency, materiality, competence and impartiality. It is intended to improve data access and quality for investors and ensure companies' social, environmental, juridical and financial accountability, complementing Colombia's EITI implementation.

Step 3: Disclose data

It is recommended that the collected data is disclosed through regularly updated online platforms, with EITI reporting complementing these efforts.

1. **Disclose data systematically.** Countries should strive to disclose data on major extractive and exploration projects, operating companies and mineral and oil and gas reserves, where included, through regularly updated government websites. Information on extractive and exploration projects (recent, ongoing or planned) could be presented in lists or on maps with interactive features. Proven reserves and other resources can also be listed or visualised.

   Extractive companies should make their annual reports, including proven reserves, available on their websites.

2. **Consider how EITI reporting can complement systematic disclosures.** EITI reporting can consolidate and summarise data to facilitate analysis and public debate. For Requirement 3.1, this might include a summary of major exploration and extractive projects, highlighting recent developments, as well as information on proven reserves and other resources of economic importance.

CASE STUDY

Norway: Systematic disclosures on exploration activities, projects and reserves

The Norwegian government provides online access to data on exploration activities, projects and reserves. The Norwegian Petroleum website features an interactive map of production licenses, with information on operators, owners and reserves. It also includes lists of active exploration wells and recent discoveries. Further information on exploration and production rights is available on the FactPages of the Norwegian Offshore Directorate, where data is uploaded daily and can be downloaded in multiple formats. This approach ensures that timely, publicly accessible data is available to a wide range of stakeholders.

Step 4: Analyse disclosures

After disclosing information in line with Requirement 3.1, the MSG may want to consider the implications of the data. When analysing disclosures, the MSG should review the priorities set in Step 1 and engage partners with relevant expertise to support analysis.

1. **Use the data to advance objectives.** Analysis could involve reviewing data alongside other sources, including previous EITI reporting. The MSG may wish to consider the following questions:

- How will global trends, such as the energy transition, affect current and future investments in the extractive sector?
- Considering data on reserves and resources, are the current policy frameworks and contract terms for the extractives sector appropriate?
- How might geological data be shared internationally to create a better understanding of the availability of scarce resources and to attract investment?
- What are the projected end-use emissions associated with extraction of fossil fuel reserves, and how do these affect national and global climate commitments?

2. **Engage partners to support analysis.** The MSG may wish to engage actors with relevant thematic or technical expertise, such as think tanks, research institutes, academics, NGOs and media outlets. Depending on the desired analysis, partners with specific skills may be needed.

CASE STUDY

Ghana: Using data on resources and reserves to assess transition mineral opportunities

In 2022, Ghana EITI (GHEITI) produced a report assessing the risks and opportunities of the energy transition. Noting the risk that the country's oil and gas reserves could be stranded, the report analysed the economic potential of transition mineral resources and reserves, including bauxite, iron ore, lithium, manganese and silica sand. The study considered how economic benefits from mineral production could be maximised through infrastructural improvements, investment incentives, and a dedicated mining regime for transition minerals. Drawing on previous EITI reporting, the report also highlighted how a lack of access to quality geological data had weakened the government's negotiating position in the past, leading to reduced revenues. Findings from this report informed Ghana's Green Minerals Policy, which introduces higher royalties and increased government participation for transition mineral projects, while making domestic beneficiation a key priority.

Step 5: Disseminate findings and promote public debate

The MSG should ensure that findings reach key stakeholders and foster public debate. To achieve this, the MSG may wish to consider the following steps:

1. **Identify stakeholders and disseminate findings.** Relevant stakeholders may include local communities and governments, particularly in areas with significant extractive projects or reserves, as well as the wider public. Leverage local and national media outlets (both digital and print), as well as social media, to maximise reach. Consider translating the information into local languages to improve accessibility.

2. **Promote public debate.** This could be done with the help of any actors collaborating on the analysis, for example through virtual or in-person events. Engaging parliamentarians, NGOs, public intellectuals, and journalists can further raise awareness and encourage informed debate.

CASE STUDY

Democratic Republic of the Congo: Using reserves data to negotiate balanced contracts

In 2021, the DRC's EITI multi-stakeholder group (ITIE-RDC) published a study of Sicomines, a joint copper-cobalt project between the Congolese government and a group of Chinese investors. The study addressed public concerns over a lack of domestic benefits and found that the Sicomines agreement rested on a biased feasibility study which undervalued the project's copper reserves. These findings, as well as other issues related to the project's implementation, motivated the Congolese government to renegotiate the agreement, which resulted in the country receiving an additional USD 4 billion in infrastructure investment under the new terms.

Further resources

- CRIRSCO (Committee for Mineral Reserves International Reporting Standards)
- PRMS (Petroleum Resource Management System)
- UNFC (United Nations Framework Classification for Resources)
- PARC (Pan-African Resource Reporting Code)

Endnotes

1 CRIRSCO (2019). International Reporting Template. Retrieved from https://crirsco.com/wp-content/uploads/2023/10/The-CRIRSCO-International-Reporting-Template.pdf.

2 CRIRSCO (2019). International Reporting Template.

3 SPE (2018). Petroleum Resource Management System. Retrieved from https://www.spe.org/en/industry/petroleum-resources-management-system-2018/.

4 SPE (2018). Petroleum Resource Management System.

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