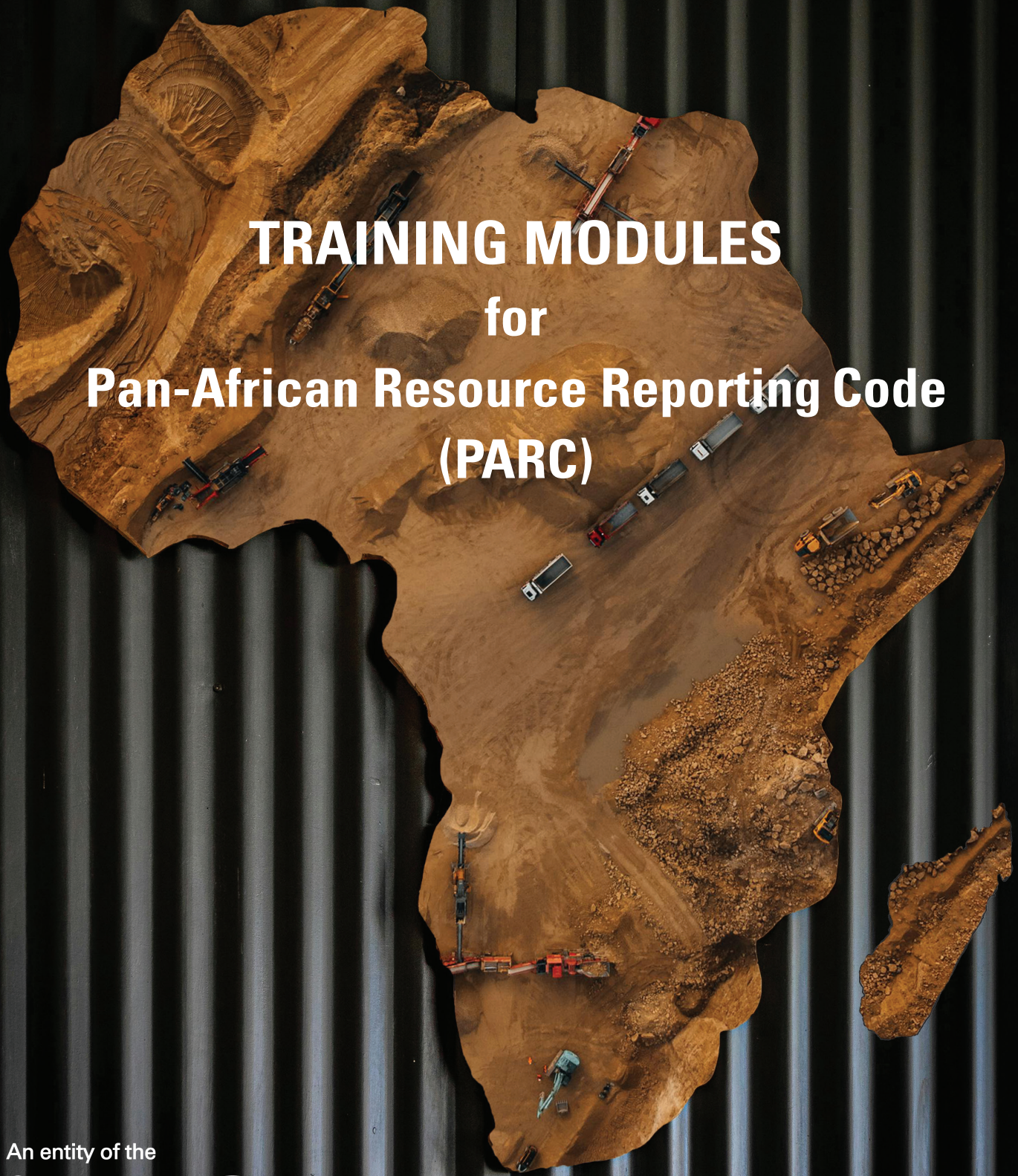
AMDC
African Minerals Development Centre



TRAINING MODULES
for
Pan-African Resource Reporting Code (PARC)

An entity of the African Union

An entity of the African Union

AMDC African Minerals Development Centre

TRAINING MODULES

FOR ACCREDITATION AND CONTINOUS PROFESSIONAL DEVELOPMENT OF COMPETENT PERSONS

Under The Pan-African Public Resource Reporting Code for Minerals and Energy Resources

Supported by the Organisation of African, Carribean and Pacific States (OACPS), European Union and United Nations Development Program (UNDP) ©2024

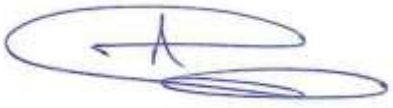
FOREWORD

The Africa Mining Vision (AMV) was adopted by African Heads of State and Government in 2009, with the main aim to ensure that minerals development leads to inclusive growth and sustainable development, both of which are critical to improving of the lives of the African people. The vision stipulates that African Governments should build capacities to collect basic geological information in order to generate value from their mineral resources. This necessitated the development of the Pan African Resource Reporting Code (PARC), which is a standardized code for public reporting of minerals and energy resources in Africa.

The PARC ensures compliance with financial and security regulations. It is part of the African Minerals and Energy Resources Classification and Management System (AMREC), which aims to promote the transparent and equitable use and management of minerals and energy resources. Given the importance of PARC, and the need to ensure easy dissemination and use of the reporting standard, it became necessary to develop training modules to be used by professionals seeking accreditation under PARC and as a tool for continuous assessment of professionals for compliance to the reporting standard.

The recent advances in science and technology and the increasing complexity and interdisciplinary nature of work necessitate robust training for effective human capacity development and competency certification. These PARC training modules are designed to explore the critical role of professionally targeted training programs in enhancing the competencies of professionals for certification purposes. It underscores the importance of structured training by ensuring that professionals in Africa possess the requisite skills, knowledge, and practical experience to meet industry standards.

I would like to thank the PARC committee for coming up with the most relevant training practices, certification requirements, and case studies. This document emphasizes that the training programme not only facilitate competency certification but also contribute to professional growth and the advancement of geoscientific practices. I am therefore encouraging all professionals in the mining and energy industry in Africa to invest in comprehensive training programs which are essential for maintaining industry standards, advancing professional competencies, and ensuring effective responses to the evolving challenges within the natural resources domain. The PARC training modules can be used in this strategic endeavor.



ALBERT M. MUCHANGA
Commissioner for Economic Development, Trade, Tourism, Industry and Minerals Ethiopia
5 August 2024

ACKNOWLEDGMENTS

I wish to express my profound gratitude to the seven dedicated PARC committee members namely Prof. Olugbenga Okunlola (Chairman), Prof. Theophile Ndougsa Mbarga (member), Prof. Prosper Mackenzie Nude (member), Dr. Harikrishnan Tulsidas (member), Mr. Felix Bob Ocitti (member), Mr. Deng Ngang Deng (member) and Mr. Tunde Arisekola, AMDC Senior Advisor, Geological and Minerals Information (secretary) whose exceptional efforts were instrumental in putting together the PARC training modules for mining and energy professionals in Africa. Your expertise, dedication, and collaborative spirit have been vital in crafting a resource that will significantly enhance public reporting capabilities across the continent.

It is important to note that the committee members' deep understanding of regional geological, mineral and energy industry contexts and meticulous approach greatly enriched the modules, through ensuring that they are contextually relevant and scientifically rigorous, and that the content aligns with international best practices and recent technological advancements. The committee effectively coordinated the curriculum development process, integrating diverse scientific and technological perspectives and ensuring a comprehensive and cohesive training resource. The committee members demonstrated their extensive knowledge in applied geosciences and consequential environmental challenges of large mining operations and artisanal small-scale mining (ASM) together with sustainable energy development, thus significantly enhancing the practical application of the modules.

This collaborative endeavor has culminated in a robust and practical capacity-building resource that will empower professionals across Africa to confidently apply PARC in their public reporting of minerals and energy resources. We are deeply appreciative of member States of African Union for approving the AMREC policy document on whose backdrop the PARC was established. Finally, we are grateful to the ACP-EU Development Minerals programme for the sustained funding of the African Minerals Development Centre (AMDC).

DR. MARIT KITAW
Interim Director- African Minerals Development Centre (AMDC)
Addis Ababa Ethiopia, August 2024

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AMDC African Minerals Development Centre

An entity of the African Union

ABBREVIATIONS

ACP-EU:	African, Caribbean, and Pacific Group of States - European Union
AMDC:	African Minerals Development Centre
AMREC:	African Minerals and Energy Resources Classification and Management System
AMV:	Africa Mining Vision
ASM:	Artisanal and Small-Scale Mining
CBA:	Cost-Benefit Analysis
CE:	Competent Evaluator
CMV:	Country Mining Vision
CP:	Competent Person
CPD:	Continuous Professional Development
CPR:	Competent Person's Report
CSR:	Corporate Social Responsibility
CV:	Competent Valuator
EFG:	Environmental-Social-Economic viability, technical feasibility, and degree of confidence in the estimate (UNFC criteria)
EIA:	Environmental Impact Assessment
EMP:	Environmental Management Plan
ESIA:	Environmental and Social Impact Assessment
GHG:	Greenhouse Gas Emissions
GMI:	Geological and Mineral Information
IoT:	Internet of Things
ISL:	In-Situ Leaching
LCOE:	Levelized Cost of Energy
PARC:	Pan African Resource Reporting Code
PRMS:	Petroleum Resources Management System
QA/QC:	Quality Assurance/Quality Control
RPO:	Recognised Professional Organisation
SDG:	Sustainable Development Goals
UNECE:	United Nations Economic Commission for Europe
UNFC:	United Nations Framework Classification for Resources
UNRMS:	United Nations Resource Management System

GENERAL INTRODUCTION

One of the important imperatives for the effective operation of mineral codes and standards globally is the training of competent persons that leads to their accreditation under such standards and codes. In addition, it provides an avenue for Continuous Professional Development (CPD) for stakeholders in the mining and energy resource industry. The African Minerals and Energy Resource Classification and Management System (AMREC) is the policy document that gave rise to the Pan African Resource Reporting Code (PARC). The AMREC and PARC forms, respectively, are the policy and standard for the effective management and development of minerals and energy resources in Africa. This includes socio-economic and environmental considerations.

The training modules, therefore, are essential in the operation and implementation of the PARC. It covers such areas as the Introduction to the AMREC and PARC, entailing the evolution of mining and energy together with governance concepts in Africa, Ethics and professional code of conduct, Competency and responsibility and reporting under PARC. The reporting requirements cover minerals, petroleum, coal and other energy resources, including renewables. Other areas covered include reporting of economic results, economic opportunities, and social and environmental benefits under PARC. The Artisanal and small-scale mining (ASM) reporting is also covered in addition to the training on the roles of the Recognised Professional Organisations (RPOs) and the PARC Assessment Committee.

It should be noted that in addition to membership of recognized RPOs and the requisite mandatory experience, accreditation of competent persons (CP) under PARC should include evidence of satisfactory performance in the assessment of module 1 and module 2, which are mandatory. Apart from the two mandatory modules, a CP is expected to complete an assessment for any one of the specialized modules depending on the preferred area of specialisation.

The mode of delivery of the training will depend on the circumstances, but it will either be in person, hybrid, or online, as decided by the PARC Assessment Committee. The Assessment criteria and benchmarks will be determined periodically by the committee. The duration and target audience for each module is based on the mode of delivery and peculiarity of each module.

MODULE 1:
INTRODUCTION TO AMREC AND PARC

MODULE 1: INTRODUCTION TO AMREC AND PARC

This is a core module and offers a basic understanding of the African Minerals and Energy Resource Classification and Management System (AMREC) and the Pan African Resource Reporting Code (PARC), the genesis, evolution, principles and scope. It also covers the historical background, overarching frameworks and governance imperatives of the minerals and energy sector in Africa.

1.1 Aim

To provide a historical background of the minerals and energy sector in Africa, discuss justification and elucidate on the fundamental concept of the AMREC and PARC.

1.2 Objectives

a.) To provide the basic knowledge of the evolution and trends of the mining and energy industry and their contribution to the economic and social development of Africa from historical to contemporary times.
b.) To provide broad knowledge of the foundational and background policies and the diverse mining and energy governance framework across Africa.
c.) Introduce the basic concept, principles, scope, and associated governance links between AMREC and PARC.

1.3 Expected outcomes

At the end of the module, it is expected that participants will be able to:
a.) Understand the historical context and peculiarities of the mining and energy industry in Africa
b.) Have a broad perspective of background policies and justifications for the development of AMREC and PARC.

1.4 Target participants

This is a core module and mandatory for all mining and energy resources stakeholders who are seeking accreditation as competent persons under PARC.

1.5 Module Content

a.) Historical context of the mining and energy sector in Africa: This section discusses the evolution of the mining and energy sectors with a focus on the following:

(i) Evolution of the minerals and energy industry and their contribution to the socio-economic development of Africa.
(ii) Contrasting the evolution of mining and energy development in the different regions of Africa.
(iii) General overview of the current minerals and energy resource potential of Africa.

b.) Comparative analysis between the resource potentials of Africa and the rest of the globe: This section covers the comparative advantage Africa has over the rest of the world in terms of mineral and energy supply, including the strengths, weaknesses, opportunities and threats to the sector.

c.) Overarching frameworks guiding the mining and energy sectors in Africa: This section discusses the different aspirations established to guide the industry towards sustainable development.

(i) Sustainable Development Goals (SDGs)
(ii) Agenda 2063
(iii) Africa Mining Vision

d.) Mining and energy resources governance landscape in Africa: This section covers a comparative overview of mining and energy laws, policies, and fiscal and monetary frameworks across Africa. Examples will be used to illustrate frameworks that promote or hinder the development of the mining and energy sectors. Broad discussions will focus on the following:

(i) Definition of minerals and energy
(ii) Ownership of resources
(iii) Categories of resource rights
(iv) Allocation, renewal, conversion and duration of resource rights
(v) Relationship between resource rights and surface rights
(vi) Resource development and production leases
(vii) Rules of operation
(viii) Royalties and/or taxes
(ix) Obligation for performance
(x) Forfeiture rules and rights of appeal.

e.) Fundamentals of AMREC and PARC: This section covers the basic knowledge required forusing AMREC and PARC. These include:

(i) Understanding the origin of AMREC, its principles and its relationship with the UNFC
(ii) Inter-relationship between AMV, AMREC and PARC
(iii) General Principle of the PARC with emphasis on :
- Good social, environmental and economic benefits
- Transparency
- Materiality
- Competency.

f.) Geological and Mineral Information System: This section discusses the strategy to facilitate the strengthening of the African production, management and dissemination of geological and mineral information (GMI) in connection with the implementation of the African Mining Vision (AMV) and the domestication of the Country Mining Vision (CMV). Emphasis will be placed on the importance and value of good geological and mineral data.

MODULE 2:
ETHICS AND PROFESSIONAL CODE OF CONDUCT

MODULE 2: ETHICS AND PROFESSIONAL CODE OF CONDUCT

Ethical and professional codes of conduct are foundational principles that govern the behaviour of competent persons in their reporting of mineral and energy resources. These principles ensure the resource projects are clearly reported, transparently, based on material evidence, written by competent persons and offer social and environmental benefits. This module is designed to instill the highest level of ethics and professionalism in reporting because adhering to ethical public reporting and professional code of practices builds confidence in the report and boosts investment.

2.1 Aim

To ensure competent professionals who are responsible for writing public reports understand compliance with PARC reporting requirements.

2.2 Objectives

The objectives are:
a.) Promoting Transparency: Ensuring clear and honest reporting of resources,
b.) Fostering Accountability: Holding organisations and individuals responsible for their actions,
c.) Ensuring Fairness: Promoting equity and impartiality in resource management,
d.) Encouraging Integrity: Upholding high moral standards and honesty, and
e.) Building Trust: Establishing reliable and trustworthy practices in the industry.

2.3 Expected outcomes

At the end of the course, participants should be able to understand:
a.) The importance of ethical reporting,
b.) The roles and responsibilities of reporting professionals include being held liable for the content of what they report,
c.) How to navigate situations that could result in a conflict of interest.

2.4 Target Participants

This is a core module and mandatory for all mining and energy resources stakeholders who are seeking accreditation as competent persons under PARC.

2.5 Module Content

a.) Ethics, code of conduct and Professionalism: This section discusses the definitions of ethics, code of conduct and professionalism as they relate to reporting by a competent person. Examples will be used to illustrate concepts of these terms.

b.) Conflict of Interest: This section covers how an individual's personal interests could potentially interfere with their professional responsibilities, judgement or decision-making. Examples will be used to show how crucial it is for upholding public trust in reporting.

c.) Duty of Care to Public and Environment: This section discusses the actions of a competent person in their day-to-day duties regarding ensuring that their actions, inactions or omissions do not endanger public interests and the environment. Emphasis is made to show that CPs can be held liable for negligence if they knowingly provide misleading information or refuse to act when public or environmental wellbeing is at risk.

d.) Due Credit: This section covers the importance of respecting the copyright and intellectual property rights of others by not using their work without permission or without giving due credit to every person who has contributed to the work being reported.

e.) Matter of fact and opinion: This section provides a distinction between facts and opinion while showing the need for professionals to remain true without being influenced by personal interests. The concept of expert witness will be discussed to illustrate expectations from professionals when asked to give evidence of fact and opinions.

f.) Unethical Public Reporting of Mineral and Energy Resources: This section covers concepts of unethical reporting, which include misrepresentation, misleading or inadequate information that can lead to significant financial and environmental consequences, eroding trust in the industry.

g.) Whistleblowing: This section discusses the act of reporting unethical, illegal, or unsafe practices within an organisation. Whistleblowers play a crucial role in maintaining integrity and accountability. They are often protected by laws to prevent retaliation and to encourage the reporting of misconduct.

h.) Compliance with Reporting Codes: This section discusses adhering to established standards and guidelines for accurately and transparently reporting information related to mineral or energy resources or environmental assessments. This ensures consistency, reliability, and credibility in public disclosures and helps maintain stakeholder trust.

i.) Disciplinary Action for Noncompliance: This section covers possible disciplinary action for noncompliance by CPs, which may include sanctions or penalties imposed on individuals or organisations that fail to adhere to PARC.

j.) Case Studies: This section discusses relevant examples of ethical misconduct to illustrate the practical applicability of the concept of ethics and professional code of conduct. Some of the case studies include the following:

MODULE 3:
COMPETENCY AND RESPONSIBILITY

MODULE 3: COMPETENCY AND RESPONSIBILITY

Competency and responsibility in public reporting are key for putting skills, knowledge and experience to performing activities effectively and efficiently for resource management and reporting. This is important to boost and maintain the confidence of stakeholders involved in the mining and energy industry.

3.1 Aim

This training module aims to elucidate the concept of competency and responsibility as applied under PARC.

3.2 Objectives

a.) To provide an understanding of the concept of competency for reporting under PARC.
b.) To enlighten participants on the principles, responsibilities, liabilities, and benefits of competency.
c.) To discuss the multi-faceted reporting requirements of the different mineral and energy resource types and environmental and social responsibility.

3.3 Expected Outcomes

It is expected that at the end of the training, participants will have understood the essence and concept of competency and responsibility for reporting as a requirement under PARC.

3.4 Target Participants

This module is designed for all stakeholders involved in the Minerals and Energy industry who desire to use PARC.

3.5 Module Content

a.) Definition of competency and competent person: This section discusses the concept of competency and competent person with examples as applied in PARC.

b.) Guiding Principles for Competent Person: This section covers the principles that influence a competent person's actions and choices in relation to resource reporting, which includes:

(i) African values
(ii) Integrity
(iii) Professionalism
(iv) Care for the environment
(v) Respect for diversity

c.) Qualification of a Competent Person: This section covers the following:

(i) The concept of Competent Persons (CP) and how they relate to Competent Expert (CE) and Competent Valuator (CV).
(ii) The qualification for CP, CE and CV and the process of their accreditation, e.g. education, experience and professional membership, are discussed during the training.

d.) Complex Project and Group Competency: This section discusses the following:

(i) Roles and responsibilities of the CP, CE and CV in relation to complex project and group competencies. A competent Person may be a single person or a team of experts with different backgrounds performing resource management functions. These may include CE and CV.

(ii) The respective contribution of each of the above professionals in the evaluation and reporting of resources.

(iii) Self-assessment of competencies with respect to CP, CE and CV for reporting minerals and energy resources as contained in the PARC. Relevant templates are used to illustrate.

e.) Minimum Content of a Competent Person's Report

(i) This section discusses the minimum content required for reporting as a baseline for all resource projects, as reflected in Appendix A of the PARC. It is without prejudice to the specific minimum content requirements for reporting with respect to each of the resource types, as reflected in the PARC.

(ii) The minimum content requirements should be guided by the template of each resource type, which is included as appendices in PARC.

MODULE 4:
GENERAL REQUIREMENTS FOR MINERALS AND ENERGY REPORTING UNDER PARC

MODULE 4: GENERAL REQUIREMENTS FOR MINERALS AND ENERGY REPORTING UNDER PARC

The PARC is developed with the view of universal applicability to both minerals and energy resources. This means that in public reporting of Viable Projects and Potentially Viable Projects, there are general requirements expected of all reports. These requirements are fundamental and foundational to the requirements specific to the different resource types. This module is, therefore, designed as a training package on the general reporting requirements applicable to all public disclosures of Viable and Potentially Viable Projects under PARC.

4.1 GENERAL REQUIREMENTS FOR REPORTING

PARC provides unified reporting templates for minerals and energy resources across the continent. This code is based on key elements that include (i) unified classification of resources, (ii) principles of reporting, and (iii) competency and responsibility of the professional in charge of reporting.

4.2 Aim

The aim of the module is to provide general guidelines and requirements for reporting for minerals and energy resources projects under PARC.

4.3 Objectives

The objectives of this module include the following:
a.) To provide a basic understanding of project classification using the AMREC classification system.
b.) To discuss resource evaluation and classification for minerals and energy projects.
c.) To emphasise the role of competent persons in reporting.
d.) To outline the minimum content of the report for the respective minerals and energy resource types.
e.) To discuss requirements applicable to all disclosures.
f.) To provide guidance on regulatory and governance issues.

4.4 Expected Outcomes

At the end of the training, participants should be able to:
a.) Understand criteria for generic classification of minerals and energy projects,
b.) Define and classify projects by Categories and Sub-Categories,
c.) Define the levels of confidence in resource estimates and the technical feasibility of a project,
d.) Inform decision on the category of the environmental and socio-economic viability of projects,
e.) Know about all the requirements for Potentially Viable and Viable Projects used for their information disclosure.
f.) Understand the reporting requirements applicable to all disclosures
g.) Appreciate the regulatory and governance issues associated with minerals and energy resources reporting under PARC.

4.5. Target Participants

This is a prerequisite module for participants seeking accreditation as competent persons for specific resource types under PARC.

4.6 Module Content

The module provides information on:
a.) Criteria for generic classification of minerals and energy projects based on AMREC principles.
b.) Definition and classification of projects by Categories and Sub-Categories.
c.) Generic specifications applicable to E, F, and G axis categories.
d.) Tools for identification of the levels of confidence in resource estimates and the technical feasibility of a project.
e.) How to identify and proceed with the categorization the environmental and socio-economic viability of projects.
f.) Overview of sectoral specifications of minerals and energy resources projects.
g.) All the requirements are used under PARC for information disclosure and classification of minerals and energy projects.

MODULE 5:
MINERALS REPORTING

MODULE 5: MINERALS REPORTING

In most African mining jurisdictions, the legal and regulatory frameworks set up annual requirements for reporting activities executed for exploration and mining projects. The same legal and regulatory frameworks have included the completion of a technical report and feasibility studies when mineral resources have been defined on the project prior to the signing of a mining contract. The standards and content of the technical report and feasibility studies are normally not well defined in the regulations. This module is, therefore, designed to provide guidance on requirements for reporting viable and potentially viable minerals projects.

5.1 Aim

The module aims to provide an understanding of a standardized technical reporting format that includes all relevant data on mineralization style and those that could materially affect the social, environmental, and economic value of the deposit.

5.2 Objectives

The objectives of the module are to:

a.) Provide information on key requirements for the completion of a competent person's report (CPR) for minerals and its endorsement by competent persons (CPs).

b.) Provide an outline of the content of a CPR as well as the reporting template for metallic, non-metallic and development minerals.

5.3 Expected Outcomes

At the end of the course, participants should be able to report generally on Potentially Viable minerals comprising metallic, non-metallic, and development minerals specifically.

a.) Understand key principles of reporting for minerals.

b.) Understand criteria and project classification, including the role of controlling and geological factors in the assessment by the competent person (CP).

c.) Understand the tonnage and grade estimate classification framework and the relationship with different levels of geoscientific confidence and different degrees of technical, social, environmental and economic evaluation.

d.) Establish the relationship between the potentially recoverable estimates and recoverable estimates with the project classification.

e.) Be aware of CPs self-assessment criteria for Potentially Viable and Viable projects.

f.) Know about geological knowledge and confidence level for the G-axis in mineral resource estimates.

g.) Get a deep understanding of criteria for resource estimation and reporting on Potentially Viable and Viable Projects for minerals.

h.) Have clear insights on methods used for resource estimates of Potentially Viable and Viable Projects for minerals.

i.) Define and categorise the development minerals and the importance of general factors when completing the resource estimates for development minerals.

j.) Know the key principles that guide the reporting of estimates for Potentially Viable Projects or Viable Projects of development minerals and related requirements, including the self-assessment criteria for Competent Person, Competent Valuator and Competent Expert.

5.4 Target Participants

Professionals and other stakeholders operating in the mineral industry, including but not limited to mining geoscientists, mining engineers, aspiring mining professionals, Public/Private managers of mining companies, mining Policy and Regulators and stock exchange personnel.

5.5 Module Content

The module content includes the following:

a.) Importance of minerals reporting: This should discuss the important tool for the implementation of Potentially Viable and Viable Projects governance, illustrating why minerals reporting is key to decision making.

b.) Minerals Reporting guidelines under PARC: These guidelines should include guidance on minerals evaluation and estimation principles, methods, and criteria.

c.) Reporting Guidelines Content for metallic and non-metallic minerals: This section covers information aligned with section (b.) above. In addition, specificity will be given on:

(i) CPs self-assessment criteria for Potentially Viable and Viable projects for metallic and non-metallic minerals.
(ii) Metal equivalent reporting principles and requirements for metallic and non-metallic minerals.
(iii) Approaches were implemented to select the metal used for equivalent-based reporting.

d.) Development minerals Guidelines under PARC: This section covers information aligned with section (b) above. In addition, specificity will be given on:

(i) Definition and categorization of the development minerals, their importance, classification parameters, and resource estimation for development minerals.
(ii) Identification of development mineral potential and market probabilities.
(iii) Attenuation factors are applied during the estimation of resources for each class of the development minerals.

e.) Industrial minerals reporting: This section provides guidelines aligned with the prescriptions in section (d) above and additionally will elaborate on the following:

(i) Principles that guide the reporting of estimates for Potentially Viable Projects or Viable Projects of industrial minerals.
(ii) Characteristics or qualities such as product specifications, proximity to markets, general product marketability and attenuation factors
(iii) Physical and/or chemical characteristics of these minerals when dealing with resource estimates

f.) Construction raw materials reporting: This section provides guidelines aligned with the prescriptions in section (d) above and additionally will elaborate on the following:

(i) Principles that guide the reporting of estimates for Potentially Viable Projects or Viable Projects of construction raw materials
(ii) Consideration of the attenuation factors to support mine planning and evaluation of the economic viability of the deposit.

g.) Content of the CPR for metallic and non-metallic minerals: The minimum content for reporting the metallic and non-metallic minerals is included in Appendix A of PARC.

h.) Content of the CPR for industrial minerals: The indicative content for the industrial minerals follows the outline described in (g) above with specificity on the:

(i) Characteristics such as product specifications, proximity to markets, general product marketability and attenuation factors
(ii) physical and/or chemical characteristics of these minerals when dealing with resource estimates.

i.) Content of the CPR for construction raw materials: The indicative content for the construction raw minerals follows the outline described in (g) above with specificity on the attenuation Factors to support mine planning and evaluation of the economic viability of the deposit.

MODULE 6:
REPORTING OF ENERGY RESOURCES

MODULE 6: REPORTING OF ENERGY RESOURCES

Africa currently has some of the fastest-growing economies in the world. At the Centre of this growth is the high consumption of energy, and yet energy poverty is still high, especially in sub-Saharan Africa. This reality demands that more investment is attracted to the energy sector, where huge potential remains in nuclear, coal, renewables and non-renewables energy sectors. To give confidence to investors, it is important to report energy portfolios in a manner that can easily be audited for consistency. This module is, therefore, designed to provide guidance on requirements for reporting viable and potentially viable energy projects.

6.1 Petroleum Reporting

Petroleum projects, by nature, are capital intensive, and their development relies heavily on private sector investments. For this reason, most oil and gas companies are listed on the stock exchange, where periodic reporting and updates of their portfolios are required. This section provides the basis for minimum disclosure of information for public reporting of oil and gas Viable Projects and Potentially Viable Projects.

6.1.1 Aim

To provide an understanding of reporting requirements as a basis for minimum disclosure of information for public reporting of oil and gas Viable Projects and Potentially Viable Projects.

6.1.2 Objectives

a.) To discuss the scope of the oil and gas activities covered under PARC and their relevance to petroleum reporting.
b.) To show the link between the general reporting requirements and its application to the specific definitions of oil and gas activities.
c.) To discuss the minimum requirements and content of a petroleum public report.

6.1.3 Expected outcome

At the end of this module, the participants should:
a.) Understand the terminologies used and their application to petroleum projects.
b.) Be able to prepare a competent person's report for viable and potentially viable petroleum projects.

6.1.4 Target Participants

Professionals and other stakeholders operating in the petroleum industry, including but not limited to petroleum geoscientists, reservoir engineers, petroleum engineers, petroleum resource evaluators, petroleum stockbrokers and petroleum economists.

6.1.5 Module Content

a.) Reporting Terminology: This section discusses the industry standard terminologies applicable to petroleum projects in line with Appendix O of the PARC.

b.) Complementarity between UNFC and PRMS: This section covers the fundamentals of UNFC and PRMS as widely used in the petroleum industry with respect to PARC. This includes the bridging between UNFC and PRMS.

c.) Classification of Viable Projects and Potentially Viable Projects. This section discusses:

(i) The EFG generic classification and sub-classes are defined by categories and sub-categories under AMREC.
(ii) The generic supplementary requirements for the application of UNFC to petroleum projects as published by UNECE.
(iii) Petroleum case studies show a practical application of classification to petroleum projects, including guidance on volumetric estimates.
(iv) The minimum requirements for a competent person report applicable to viable and potentially viable projects.
(v) The concept of the reference point with respect to determining the fair value of volumes.

d.) Disclosure of viable and potentially viable projects. This section discusses:
(i) Cautionary statements and the importance of competent persons declaration with respect to petroleum reporting.
(ii) Application of analogous information and how it can be applied to disclosure of viable and potentially viable projects.
(iii) Disclosure of process and methodology for determining net asset value and net backs associated with petroleum projects.

e.) Restricted Disclosure and the Use of Oil and Gas Metrics. This section discusses:
(i) The standard and source of oil and gas metrics.
(ii) Alternatives to handling disclosures where standardized metrics for oil and gas are not used.
(iii) Restrictions of disclosures with respect to summation of project classes.
(iv) Disclosure of High-Case Estimates of Viable Projects and of Potentially Viable Projects other than Viable Projects.

f.) Case Studies: This section discusses at least two or three case studies to illustrate the benefit of using PARC in comparison to the other reporting standards.

6.2 Renewable Energy Reporting

Renewable energy projects are pivotal in transitioning to a sustainable, low-carbon future, aligning with global goals such as the African Mining Vision (AMV), Agenda 2063, and the United Nations Sustainable Development Goals (SDGs). Renewable energy sources, including solar, wind, hydro, geothermal, and bioenergy, provide sustainable alternatives to fossil fuels, offering environmental, social, and economic benefits. This module is, therefore, designed to provide guidance on reporting of Viable and Potentially Viable renewable energy projects.

6.2.1 Aim

To provide guidance for the transparent and accountable public reporting of renewable energy projects.

6.2.2 Objectives

a.) To ensure stakeholders can assess renewable energy projects' environmental, social, and economic viability.
b.) To promote the adoption of renewable energy sources by providing precise and consistent reporting methodologies.
c.) To support the implementation of sustainable practices in renewable energy development.

6.2.3 Expected Outcomes

a.) Enhanced understanding and application of standardized PARC reporting for renewable energy projects.
b.) Improved transparency and accountability in renewable energy project development.
c.) Increased stakeholder confidence and support for renewable energy initiatives.
d.) Alignment with the African Mining Vision (AMV), Agenda 2063, and Sustainable Development Goals (SDGs).

6.2.4 Target Participants

This module is designed for stakeholders involved in renewable energy projects.

6.2.5 Module Content

a.) Introduction: This section covers the basic instruments related to the promotion and development of renewable energy projects. It outlines the methodology and standards for reporting renewable energy projects, ensuring compliance with AMREC.

b.) Renewable Energy Sources: This section discusses the fundamentals of renewable energy sources.

(i) Geothermal Energy
(ii) Bioenergy
(iii) Solar Energy
(iv) Wind Energy
(v) Hydro Energy
(vi) Marine Energy

c.) Exploration and Evaluation of Renewable Energy Projects: This section discusses various techniques and methodologies to identify viable sites and assess their potential for energy production. These include:

(i) Geospatial Analysis and Remote Sensing
(ii) Geological and Geophysical Surveys
(iii) Environmental Impact Assessments (EIAs)
(iv) Field Measurements and Resource Assessment

d.) Reporting Requirements and Terminology: This section covers standardised terminology and clear definitions to ensure consistency and clarity in reporting renewable energy projects. This enables stakeholders to assess and compare project performance and impact accurately. The reporting areas for discussion include terminologies applicable to:

(i) Renewable Energy Source
(ii) Resource Classification
(iii) Capacity Factor
(iv) Load Factor
(v) Energy Yield
(vi) Levelized Cost of Energy (LCOE)
(vii) Greenhouse Gas Emissions (GHG)
(viii) Carbon Footprint

e.) Regulatory and Environmental Considerations: This section discusses the regulatory and environmental considerations to ensure the sustainable development of renewable energy projects. These include:

(i) Overview of Key Regulations and Policies
- National Renewable Energy Policies
- International Agreements and Frameworks
- Regional Initiatives

(ii) Emphasising Compliance with Environmental Impact Assessments (EIAs) and Management Plans
- Importance of EIAs
- Environmental Management Plans (EMPs)
- Regulatory Compliance

f.) Economic and Social Impacts: This section covers economic and social impacts that drive the adoption and success of renewable energy projects. The factors include:

(i) Methodologies for Assessing Economic Viability
- Cost-Benefit Analysis (CBA)
- Levelized Cost of Energy (LCOE)
- Economic Feasibility Studies

g.) Competency and Responsibility: This section covers the competencies and responsibilities relevant to renewable energy reporting and in compliance with Chapter 2 of the PARC on Competency and Responsibility.

h.) Case Studies and Practical Exercises: This section covers practical applications and real-world impacts that enhance hands-on learning and theoretical knowledge application, such as:

(i) Case Studies
- Lake Turkana Wind Power Project, Kenya
- Noor Solar Complex, Morocco
- Olkaria Geothermal Plant, Kenya

(ii) Practical Exercises for Hands-On Learning.
- Resource Assessment Simulation
- Environmental Impact Assessment (EIA) Workshop
- Cost-Benefit Analysis (CBA) Case Study

(iii) Interactive Sessions and Group Discussions
- Scenario-Based Group Discussions
- Expert Panels and Q&A Sessions

i.) Future Trends: This section covers the rapidly evolving renewable energy landscape, driven by technological advancements, regulatory changes, and increasing awareness of environmental sustainability. These include:

(i) Emerging Trends in Renewable Energy Reporting.
- Advanced-Data Analytics and AI
- Blockchain for Transparency
- Integration of IoT and Smart Grids
- Sustainable Finance and Green Bonds

(ii) Encouraging Forward-Thinking and Innovative Approaches.
- Innovation and Adaptation
- Collaborative Efforts
- Proactive Policy Development

j.) The minimum content of renewable energy reporting: This section discusses the minimum content as reflected in Appendix P and Appendix Q as indicated in PARC.

6.3 Coal Reporting

Historically, Coal has played a pivotal role in the global energy mix, providing a reliable and cost-effective energy source for industrialisation and economic development. However, the significant climatic, environmental, and social challenges associated with coal projects necessitate a transition towards cleaner and more sustainable energy alternatives. This module provides guidance on reporting Viable and Potentially Viable coal projects.

6.3.1 Aim

To establish standardized guidance for the public reporting of coal projects, emphasizing sustainable practices and compliance with regulatory frameworks.

6.3.2 Objective

a.) To provide a clear understanding of the methodologies for exploring and evaluating coal resources.
b.) To en sure coal project reporting aligns with AMREC and PARC standards.
c.) To promote sustainable development in coal-dependent regions.

6.3.3 Expected Outcomes

a.) Enhanced knowledge of coal exploration and evaluation techniques.
b.) Improved reporting accuracy and transparency in coal projects.
c.) Increased awareness of coal projects' environmental, social, and economic impacts.
d.) Support policies and compliance with international best practices and standards.

6.3.4 Target Participants

This module is designed for stakeholders involved in the coal industry.

6.3.5 Module Content

a.) Overview of Coal Projects: This section discusses the following:
(i) Importance of Coal in the Current Energy Mix and Its Transition Towards Cleaner Alternatives.
(ii) Climatic, Environmental, and Social Challenges Associated with Coal Projects.
(iii) Just Transition as applied to the coal industry.

b.) Exploration and Evaluation: This section discusses the following:
(i) Techniques for Coal Exploration.
- Geological Mapping
- Geophysical Surveys
- Core Drilling
- Geochemical Analysis

(ii) Sustainable Practices and Minimising Environmental Impact.
- Environmental Baseline Studies
- Minimising Land Disturbance
- Waste Management
- Community Engagement

c.) Reporting Requirements and Terminology: This section discusses standardised reporting essential for coal projects' transparency, accountability, and informed decision-making. The key reporting terminology and guidelines based on the AMREC and PARC, drawn from the principles of the UNFC, are outlined below:

(i) Reporting Terminology for Coal Projects.
- Viable Projects
- Potentially Viable Projects
- Non-Viable Projects

(ii) Standardised Reporting Guidelines.
- AMREC and PARC Compliance
- Content of Reports
- Quality Assurance and Quality Control (QA/QC)

d.) Regulatory and Environmental Considerations: This section covers a comprehensive framework of regulations and policies designed to ensure environmental sustainability, social responsibility, and economic viability of coal projects. These include:

(i) Key Regulations and Policies
- National Energy Policies
- Mining and Mineral Laws.
- Environmental Protection Legislation
- International Agreements and Standards

(ii) Importance of Environmental Impact Assessments and Compliance
- Environmental Impact Assessments (EIAs)
- Environmental Management Plans (EMPs)
- Regulatory Compliance

e.) Environmental-Social-Economic Impacts: This section discusses the assessment of the environmental, social, and economic impacts of coal projects for informed decisions, secure stakeholder approval, and alignment with global sustainability goals. The discussion areas are:

(i) Methodologies for Evaluating the Economic Viability of Coal Projects
- Cost-Benefit Analysis (CBA)
- Levelized Cost of Energy (LCOE)
- Market Analysis

(ii) Social Benefits and Community Development Initiatives.
- Job Creation
- Infrastructure Development
- Capacity Building and Education
- Corporate Social Responsibility (CSR) Initiatives

(iii) Environmental and Social Reporting Requirements as indicated in PARC.

f.) Competency and Responsibility: This section covers the competencies and responsibilities relevant to coal reporting and in compliance with Chapter 2 on Competency and Responsibility as contained in PARC.

g.) Case Studies and Practical Exercises: This section covers practical applications and real-world impacts that enhance hands-on learning and theoretical knowledge application, such as:

(i) Case study
- Mafube Coal Mining Project, South Africa

(ii) Practical Exercises and Group Discussions
- Resource Estimation Simulation
- Environmental Impact Assessment (EIA) Workshop
- Cost-Benefit Analysis (CBA) Case Study
- Scenario-Based Group Discussions
- Expert Panels and Q&A Sessions

h.) Future Trends: This section covers the rapidly evolving renewable energy landscape, driven by technological advancements, regulatory changes, and increasing awareness of environmental sustainability. These include:

(i) Technological Advancements
(ii) Increased Regulatory Scrutiny
(iii) Focus on Sustainability
(iv) Enhanced Stakeholder Engagement
(v) Future Impacts on the Industry

i.) Minimum content of coal reporting: This section discusses the minimum content as required by Appendix A of the PARC, in addition to any specific information relevant to coal projects.

6.4 Nuclear Fuel Resource Reporting

Nuclear fuel resources, specifically uranium and thorium, play a crucial role in the global energy mix because they produce large amounts of electricity with minimal greenhouse gas emissions. This module provides reporting standards for nuclear fuel as contained in PARC.

6.4.1 Aim

To provide detailed guidelines for the public reporting of uranium and thorium projects, ensuring compliance with international standards and promoting sustainable development.

6.4.2 Objectives

a.) To offer comprehensive methodologies for exploring and evaluating uranium and thorium resources.
b.) To ensure transparency, accountability, and accuracy in reporting nuclear fuel projects.
c.) To address environmental, social, and economic challenges of nuclear fuel resource development.

6.4.3 Expected Outcomes

a.) Improved understanding of the global nuclear fuel value chain and local value addition.
b.) Enhanced competency in exploring, evaluating, and reporting uranium and thorium projects.
c.) Increased stakeholder confidence through adherence to PARC standards and best practices.
d.) Promotion of sustainable development goals, particularly in the context of clean energy and climate action.

6.3.4 Target Participants

This module is designed for stakeholders involved in the nuclear fuel industry.

6.3.5 Module Content

a.) Overview of Nuclear Fuel Resources (Uranium and Thorium): This section covers the contribution of nuclear energy in achieving energy security, reducing greenhouse gas emissions, and supporting sustainable development. Key aspects of its importance include:

(i) Importance of Nuclear Energy in the Global Energy Mix.
- Low Carbon Emissions
- High Energy Density
- Energy Security
- Technological Innovation

(ii) Environmental, Social, and Economic Challenges Associated with Uranium and Thorium Projects.
- Environmental Challenges
- Social Challenges
- Economic Challenges

b.) Exploration and Evaluation: This section covers:

(i) Techniques for Nuclear Fuel (Uranium and Thorium) Exploration
- Geological Mapping and Surface Sampling
- Geophysical Surveys
- Drilling Programs
- In-Situ Leaching (ISL) Feasibility

(ii) Emphasizing Safety, Social, and Environmental Considerations
- Safety Considerations
- Social Considerations
- Environmental Considerations

c.) Case Study Examples: This section covers practical applications and real-world impacts that enhance hands-on learning and theoretical knowledge application, such as:

(i) Athabasca Basin, Canada

(ii) Olympic Dam, Australia

d.) Reporting Requirements and Terminology: This section discusses standardised reporting of nuclear fuel resources crucial for transparency, accountability, and informed decision-making. The key reporting terminology and standardised guidelines based on PARC include the following:

(i) Nuclear Fuel Resource Classification.
- Prospective Projects
- Non-Viable Projects
- Potentially Viable Projects
- Viable Projects

(ii) Key Terminology and Definitions.
- Cut-off Grade
- Ore body
- Tailings

e.) Regulatory and Environmental Considerations: This section covers regulatory frameworks and environmental considerations that are critical components in managing nuclear fuel resources, specifically uranium and thorium. These elements ensure that nuclear projects are developed and operated to prioritise safety, security, and environmental stewardship. Aspects covered include:

(i) Key Regulations and Policies.
- International Atomic Energy Agency (IAEA) Standards
- National Regulatory Authorities
- Environmental Protection Laws
- International Treaties and Agreements

(ii) Importance of Safety, Security, and Environmental Compliance
- Safety
- Security
- Environmental Compliance

thorium projects to sustainable development while minimizing adverse effects. The assessment of the environmental, social and economic impacts includes the following:

(i) Methodologies for Evaluating the Economic Viability.
- Cost-Benefit Analysis (CBA)
- Levelized Cost of Energy (LCOE)
- Market Analysis

f.) Environmental, Social, and Economic Impacts: This section discusses the contribution of uranium and
(ii) Social Benefits and Community Development.
- Job Creation
- Community Infrastructure Development
- Capacity Building and Education

(iii) Economic Development
- Local Economic Boost
- Sustainable Economic Practices

g.) Local Value Addition: This section discusses the analysis of local value addition for uranium and thorium and their importance for maximizing benefits to host communities and countries. Aspects to be discussed include:
(i) Global Nuclear Fuel Value Chain
(ii) Uranium and Thorium Value Chains
(iii) Africa Value Chains
(iv) Local Content and Benefit Sharing
(v) Local Value Addition Benefits and Status
(vi) Current Status

h.) Competency and Responsibility: This section covers the competencies and responsibilities relevant to nuclear fuel reporting and in compliance with Chapter 2 on Competency and Responsibility as contained in PARC.

i.) Case Studies and Practical Exercises: This section covers practical applications and real-world impacts that enhance hands-on learning and theoretical knowledge application, such as:
(i) Case studies.
- Husab Uranium Project, Namibia
- Mkuju River Project, Tanzania
- Thorium Pilot Projects in South Africa

(ii) Practical Exercises and Group Discussions for Enhanced Learning.
- Resource Estimation Simulation
- Environmental Impact Assessment (EIA) Workshop
- Cost-Benefit Analysis (CBA) Case Study
- Scenario-Based Group Discussions

j.) Future Trends: This section covers the emerging trends in the nuclear energy industry, highlighting technological advancements, increased regulatory scrutiny, and a stronger focus on sustainability and social responsibility. The aspects discussed include:
(i) Digital Transformation
(ii) Enhanced Environmental and Social Governance (ESG)
(iii) Integration of Remote Sensing and Geospatial Technologies
(iv) Regulatory Evolution
(v) Focus on Sustainable and Safe Extraction Methods
(vi) Global Collaboration and Standardisation

k.) Minimum content of nuclear fuel resource reporting: This section discusses the minimum content as required by Appendix A of the PARC, in addition to any specific information relevant to nuclear fuel projects.

MODULE 7:
REPORTING OF ECONOMIC RESULTS, ECONOMIC OPPORTUNITIES AND SOCIAL BENEFITS

MODULE 7: REPORTING OF ECONOMIC RESULTS, ECONOMIC OPPORTUNITIES AND SOCIAL BENEFITS

Africa is endowed with natural and energy resources; however, the wealth generated at the local and national levels is still very low. A public report should present the economic results and the economic opportunities, including social benefits related to each stage of the project, to all the stakeholders to maintain the social license to operate. The accessibility to this information by stakeholders when the Potentially Viable and Viable Projects are implemented is important. The active participation of stakeholders in the implementation of the project leads to the enhancement of the social license and enables the sustainability of the mining and energy resource project. This leads to the creation of wealth, additional incomes, and added value at the local and national levels.

7.1 Aim

The aim of the module is to provide participants with standardized technical reporting of the economic results and economic opportunities, including social benefits related to each stage of the Potentially Viable and Viable Projects.

7.2 Objectives

a.) To bring insight into how to implement mechanisms for the active involvement of locals in order to create added value and promote sustainable development.
b.) To discuss the reporting template on economic opportunities at the local and national levels.

7.3 Expected Outcomes

At the end of the course, the participants should be able to:
a.) Understand the principles of reporting economic opportunities and social benefits.
b.) Make informed decisions based on economic assessment/valuation results of mineral and energy project.
c.) Carry out inventory and build a directory of opportunities for the mining and energy resource projects
d.) Develop an inventory of potential social benefits for the local communities.
e.) Report information on economic opportunities and social benefits.
f.) Develop a template for sharing information on economic opportunities and social benefits.

7.4 Target Participants

Professionals and other stakeholders operating in the mineral industry including but not limited to mineral economists, mining geoscientists, mining engineers, aspiring mining professionals, Public/Private managers of mining companies, mining Policy and Regulators and stock exchange personnel.

7.5 Module Content

a.) Importance of reporting economic results, economic opportunities and social benefits.
b.) Economic results, economic opportunities and social benefits reporting under PARC.
(i) Principles governing the PARC reporting of economic results, economic opportunities and social benefits.
(ii) Role of Competent Valuator/Competent Person and their indicative self-assessment requirements.
(iii) Role of Competent Expert and its indicative self-assessment requirements.
(iv) Reporting of economic results component with indicative table format with examples or case studies.
(v) Reporting of economic opportunities with case studies/examples.
(vi) Reporting of social benefits (examples on employment structure, nomenclature, types and classification, etc.).

c.) Guidelines for economic results reporting: This section discusses information on:
(i) Elements of economic results reporting.
(ii) Indicative format of reporting of results from the economic and financial assessment.

d.) Guidelines of economic opportunities and social benefits reporting: This section provides information on:
   (i) Core elements of reporting of economic opportunities from economic results.
   (ii) Indicative format/tools for reporting economic opportunities and social benefits.
   (iii) Indicative element on the Competent Expert (CE) and its self-assessment requirement for good reporting.
   (iv) Examples and case studies of economic opportunities and social reporting results.

e.) Content guidelines for reporting economic results, economic opportunities and social benefits: The minimum content includes the following:
   (i) Introduction on the use of the results by stakeholders.
   (ii) Summary of key indicators used for the economic assessment/valuation.
   (iii) Results of economic opportunities and their inventory from economic assessment/valuation.
   (iv) Employment opportunities inventory, types and classification.

MODULE 8:
ENVIRONMENTAL AND SOCIAL REPORTING

MODULE 8: ENVIRONMENTAL AND SOCIAL REPORTING

It is generally accepted that the development of minerals and energy resources can be environmentally destructive and cause social disruption. This has necessitated the development of policies and regulations that protect the environment.The PARC Environmental and Social Reporting promotes transparency, accountability, sustainability, and innovation in the African resource sector. This module provides the minimum disclosure of information for public reporting of environmental and social aspects relating to viable and potentially viable projects, as provided in Form 3A of PARC.

8.1 Aim

The module aims to present the guidelines and minimum content of environmental and social reporting under PARC.

8.2 Objectives of Module

The objectives are to:

a.) Provide guidance for the Environmental and Social Impact Assessment (ESIA) process.

b.) Provide the framework and methodology for international best practices in assessing, managing, and reporting environmental and social impacts.

8.3 Expected outcomes

At the end of the training, participants are expected to be able to:

a.) Understand the best practices for undertaking the ESIA.

b.) Produce an ESIA report that complies with the PARC.

8.4 Target Participants

This module is designed for all stakeholders in the mining and energy resource industry.

8.5 Module Content

a.) Environmental and Social Impact Assessment (ESIA): This section discusses the following:

(i) Definition and examples of environmental and social impact assessment (ESIA)

(ii) The purpose and importance of ESIA in project implementation.

(iii) Potential environmental and social impacts of resource extraction and production in accordance with AMREC.

(iv) Important environmental and social attributes, e.ag., ecosystems, biodiversity, natural habitats, climate change, pollution, health, safety, human rights, community development, cultural heritage, gender equality, and local content.

b.) ESIA Methods and Criteria: This section covers.

(i) AMREC guidelines and international best practices for conducting and preparing an ESIA report.

(ii) Importance of compliance with host country laws and regulations applicable to environmental and social requirements for projects.

(iii) Nature and the type of social and environmental impacts.

(iv) Overview of ESIA processes, such as potential risks and impacts identification and evaluation, development of mitigation strategy for optimisedsustainability, etc.

c.) ESIA Results and ESIA Certification: The section discusses:

(i) Reporting on the results of the ESIA, including the significant impacts and mitigation measures.

(ii) The importance of certification requirements from a host country agency is responsible for the ESIA approval.

d.) Environmental and Social Impact Management: This section discusses:

(i) Compliance, adoption, incorporation, and promotion of environmental and social standards, regulations, best practices, technologies, and aspects of resource extraction and production.

(ii) Strategy for managing risks and mitigating impacts: the mitigation measures and monitoring.

e.) Environmental and Social Compliance: This section discusses:
(i) Environmental and social standards, laws and regulations with examples applicable and obligations under international law. Examples using specific countries.
(ii) Corrective actions in case of non-compliance or deviation from the environmental and social requirements.

f.) Environmental and Social Sustainability: This section covers:
(i) Importance of sustainable practices and technologies that reduce waste and promote the circular economy.
(ii) Environmental and social performance indicators and targets related to sustainability, such as greenhouse gas emissions, water and energy consumption, waste generation and management and resource recovery rate.

g.) Environmental and Social Protection: This section covers:
(i) Measures to protect and preserve biodiversity, cultural heritage, natural habitats, and ecosystems in areas affected by resource extraction and production.
(ii) Environmental and social indicators aimed at protecting cultural heritage, biodiversity loss, habitat degradation, and ecosystem service provision.
(iii) Restorative and/or compensation actions in case of adverse impacts on the environment and social well-being.

j.) Environmental and Social Innovation: This section discusses:
(i) Importance of new and sustainable resource extraction and production solutions that address Africa's current and future challenges and opportunities.
(ii) Environmental and social innovation indicators and outcomes related to the project, such as new technologies, practices, products, services, business models and partnerships
(iii) Learning or scaling actions to disseminate and replicate the environmental and social innovation in the project.

k.) Environmental and Social Innovation Management: This section discusses Indicators, outcomes, and processes of environmental and social innovation and adaptation, such as new technologies, practices, products, services, business models, partnerships, monitoring, evaluation, feedback, and revision.

l.) Environmental and Social Adaptation: This section covers:
(i) Review and update of the environmental and social reporting requirements to incorporate new scientific knowledge, technological advancements and societal expectations.
(ii) Environmental and social adaptation indicators and processes related to the project, such as monitoring, evaluation, feedback and revision.
(iii) Actions to adapt to the changing environmental and social conditions and expectations.

m.) Environmental and Social Performance: This section discusses the requirements for monitoring and evaluating the environmental and social performance of the project.

n.) Environmental and Social Performance System: This section covers:
(i) System for monitoring and evaluating the environmental and social performance of the project, including the objectives, scope, methods, data sources, frequency, duration, and responsibilities.
(ii) Verification or validation actions to ensure the quality and reliability of the environmental and social performance data and information.

o.) Environmental and Social Performance Strategy: This section discusses:

(i) Importance of environmental and social performance strategy, including the goals, actions, resources, timelines and indicators.

(ii) Actions to assess the effectiveness and efficiency of the environmental and social performance strategy.

p.) Environmental and Social Performance Disclosure: This section covers:

(i) Importance of environmental and social performance disclosure, including the format, content, audience, frequency and medium.

(ii) Actions to ensure that the environmental and social performance disclosure meets the needs and expectations of the stakeholders.

MODULE 9:
REPORTING FOR ARTISANAL AND SMALL-SCALE MINING (ASM)

MODULE 9: REPORTING FOR ARTISANAL AND SMALL-SCALE MINING (ASM)

In Africa and many other resource-rich developing countries, Artisanal and Small-scale Mining (ASM) is an important source of minerals and metals which provides a livelihood for millions of people and is a major source of economic development. However, most ASM projects are not likely to end up being listed as public companies. Notwithstanding, potential investors may be interested to see technical reports of ASM projects that follow internationally acceptable reporting standards that may provide the basis for development into potential large-scale mining.

9.1 Aim

The aim of the module is to provide a standardised reporting format for ASM operations in Africa.

9.2 Objectives of the Module

The objectives are:

a.) To provide the details of the important scientific and relevant technical information regarding the operations and development activities of the ASM projects.

b.) Build the confidence of the investors, governments and the public by knowing that a competent person has evaluated the project.

c.) Guide interested and potential investors in investing in ASM operations.

9.3 Expected Outcomes

At the end of the module, participants should:

a.) Be familiar with the concepts of ASM operations in Africa with statistical information and data across the African continent.

b.) Be familiar with the guidelines of PARC and the code of ethics for public reporting.

c.) Be informed of the role of competent persons and the minimum information input required for an ASM report.

d.) Well-informed of the requirements for a standard ASM technical report.

e.) Prepare an ASM report containing verifiable information that may be of interest to investors.

9.4 Target Participants

Mineral resource evaluation professionals, competent persons involved in ASM and relevant stakeholders in the mineral industry.

9.5 Module Content

a.) Understanding the concept, nature and characteristics of ASM in Africa: This section provides:

(i) Overview of ASM operations in Africa, concepts and characteristics of operations. This includes the definition of ASM operations.

(ii) Case studies highlighting the economic importance of ASM operations in Africa.

b.) ASM reporting under PARC: This section provides:

(i) Overview of the general principles of public reporting under PARC.

(ii) Role of Competent Person(s) under PARC.

c.) Minimum content of ASM report: This section discusses the minimum content required of an ASM report,which includes:

(i) Project description, location and accessibility.

(ii) Prospecting, Exploration data and information.

(iii) Technical studies (mining methods, processing, recovery methods and production rates).

(iv) Legal permits and governance.

(v) Environmental Studies, Social and Community Impact.

d.) Details and contents which should form the basis of the ASM Technical report: This section covers the contents of the ASM technical report as provided in Appendix Y in the PARC document.

MODULE 10:
ROLE AND RESPONSIBILITIES OF RECOGNISED PROFESSIONAL ORGANIZATION AND PARC ASSESSMENT COMMITTEE

MODULE 10: ROLE AND RESPONSIBILITIES OF RECOGNISED PROFESSIONAL ORGANIZATION AND PARC ASSESSMENT COMMITTEE

Recognised Professional Organisations (RPOs) and the PARC Assessment Committee play vital roles in the registration and accreditation of competent persons in accordance with PARC. This module provides a basic understanding of AMREC and PARC, governance, accreditation process and the concept of reciprocity with other institutions outside Africa.

10.1 Aim

To sensitise the representatives of RPOs and the PARC Assessment Committee on their roles,responsibilities and limitations as governance entities under PARC.

10.2 Objectives

a.) To familiarise the RPOs with the PARC Assessment Committee and discuss their respective roles as governance entities of the PARC.
b.) To sensitise RPOs and the PARC Assessment Committee on the principles of PARC as they relate to their responsibilities and limitations.

10.3 Expected Outcomes

At the end of this module, it is expected that representatives of RPOs and the PARC Assessment Committee will better understand their respective roles, responsibilities and limitations under PARC to promote synergy in the execution of their roles.

10.4 Target Audience

This module is designed for representatives of RPOs and the PARC Assessment Committee.

10.5 Module Content

a.) Basic understanding of AMREC policy and PARC: This section covers:
(i) Historical antecedents of AMREC and PARC.
(ii) Outline Principles of PARC.
(iii) Overview of Competency Dimensions under PARC.
(iv) Overview of general and mineral sectorial reporting under PARC.
(v) General governance structure and organogram under PARC.

b.) Governance and Regulatory Issues: This section covers:
(i) Governance Issues,as indicated in PARC.
(ii) Regulatory Issues,as indicated in PARC.

c.) Accreditation: This section discusses:
(i) Application process for accreditation under PARC.
(ii) Certification process under PARC.
(iii) The roles, responsibilities and limitations of the RPOs and the PARC Assessment Committee.

d.) The concept of reciprocity: This section discusses relationships with other RPOs outside Africa in relation to PARC accreditation processes.

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An entity of the African Union

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