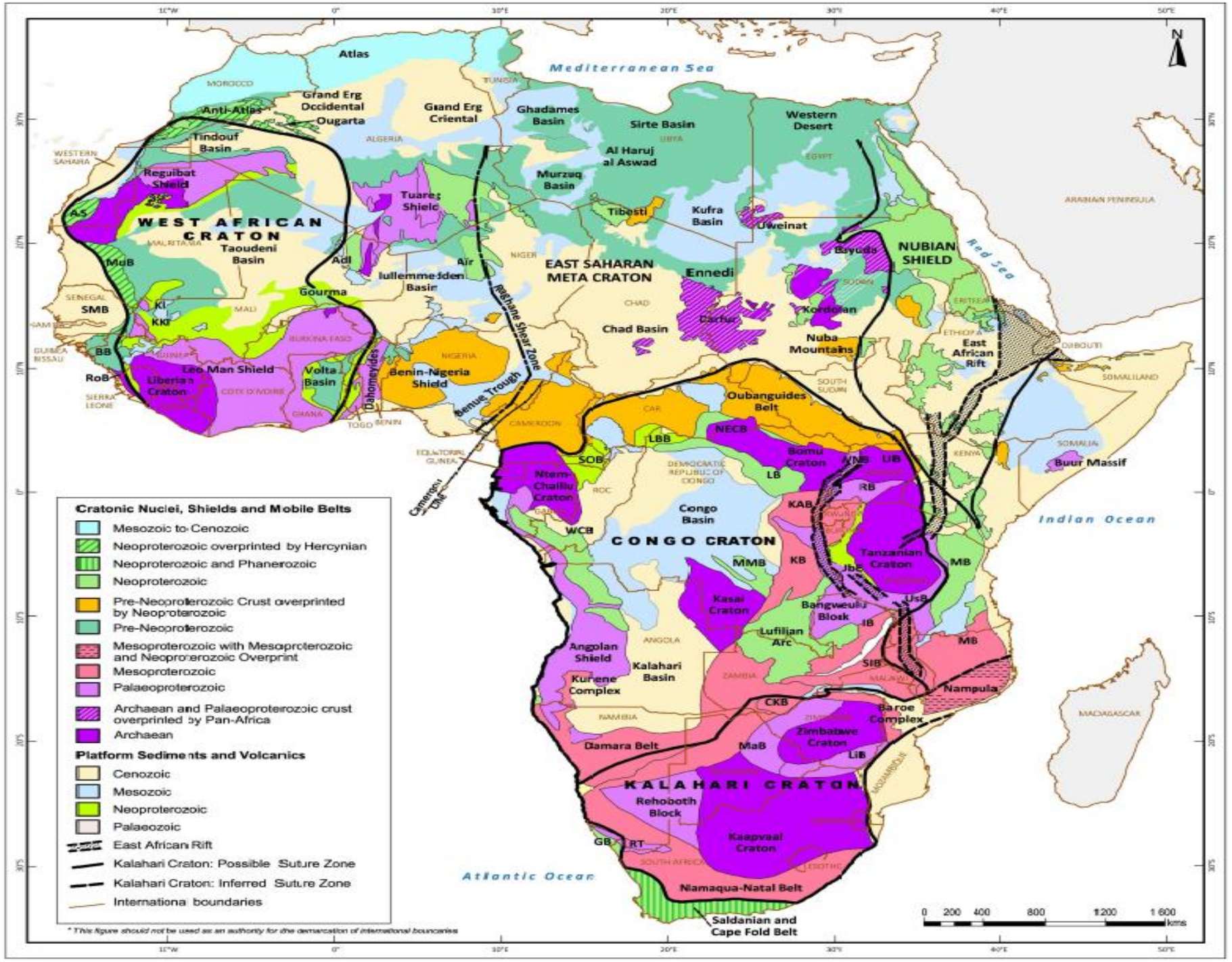
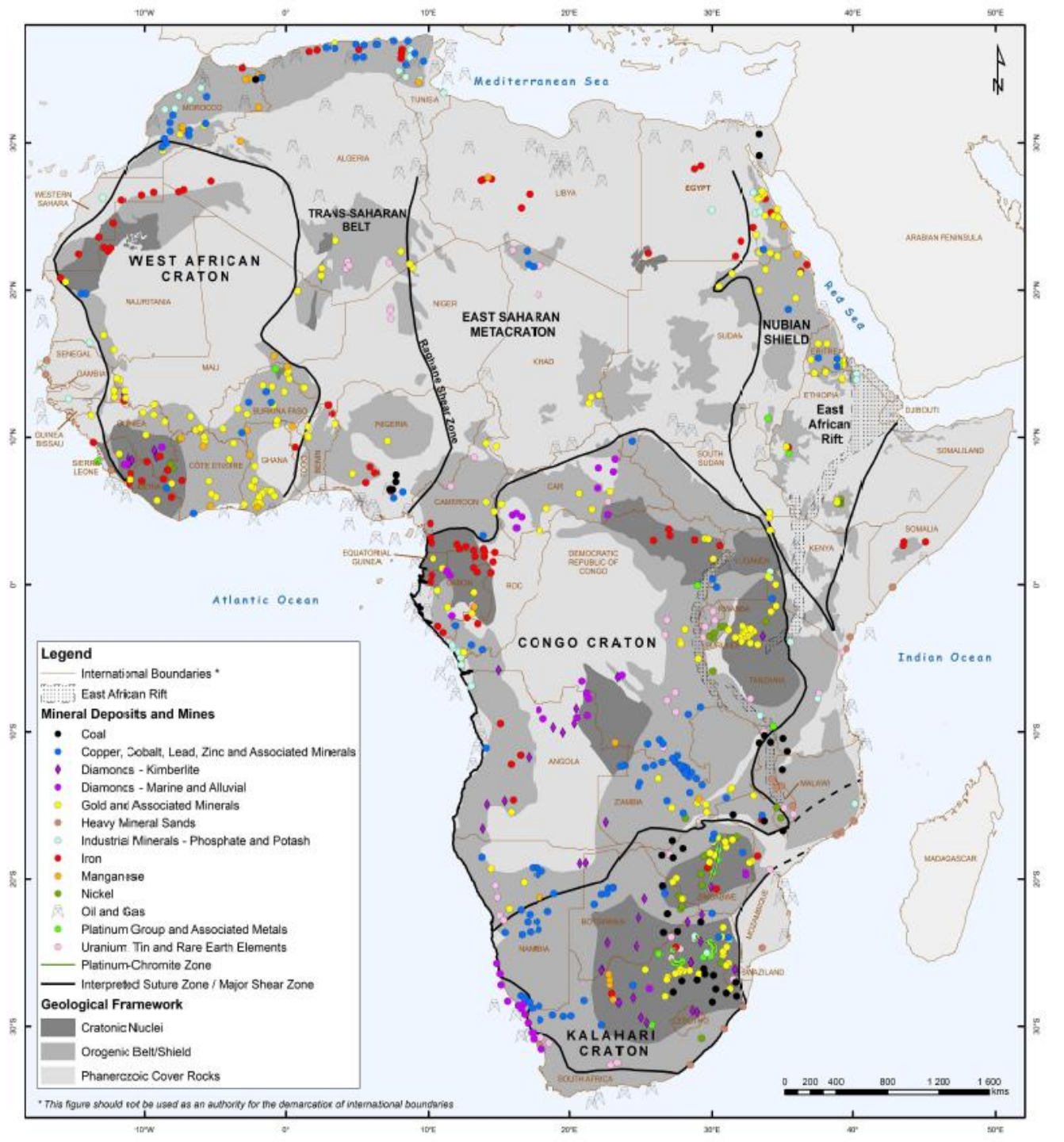
INTRODUCING PRINCIPLES AND CONTENT OF PARC AND THE IMPLEMENTATION STRATEGIES

Prof. Gbenga Okunlola

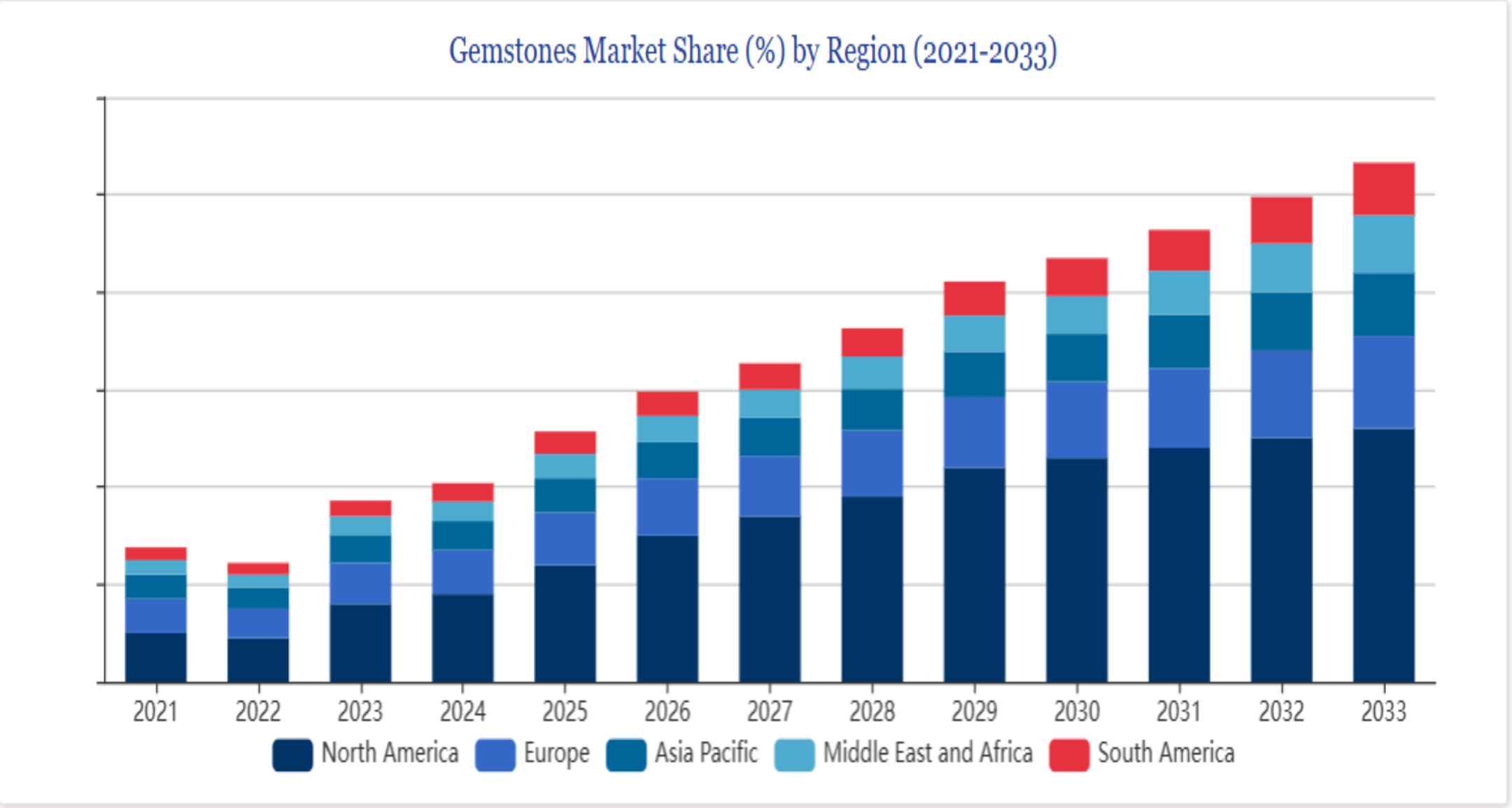
President Geological Society of Africa

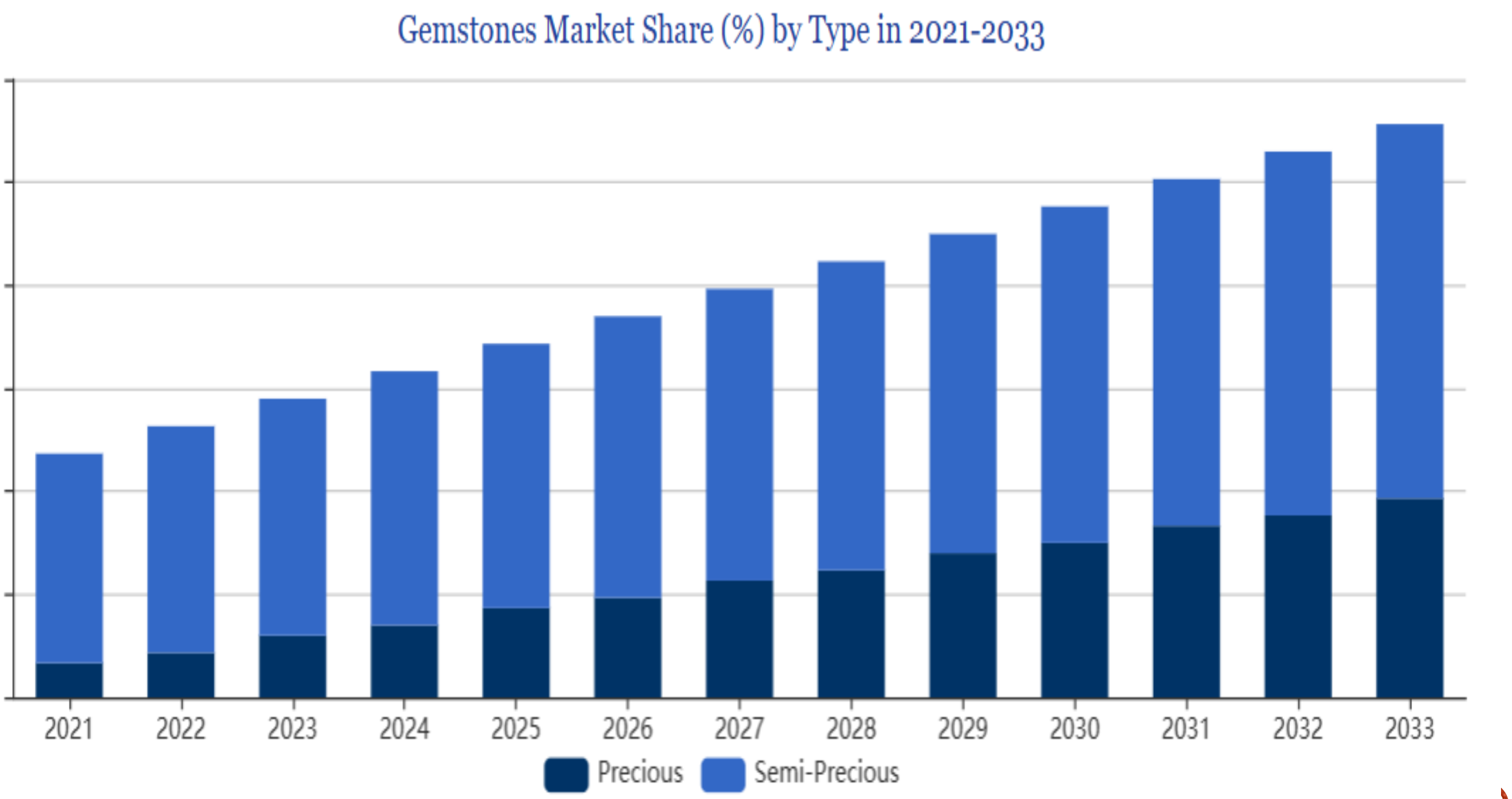

Mediterranean Sea
Atlas
Grand Erg Occidental
Grand Erg Oriental
Ougarta
Anti-Atlas
Tindouf Basin
Reguibat Shield
WEST AFRICAN CRATON
Taoudeni Basin
Tuareg Shield
Ghadames Basin
Sirte Basin
Western Desert
Al Haruj al Aswad
Murzuq Basin
Tibesti
Kufra Basin
Uweinat
Bayuda
NUBIAN SHIELD
Red Sea
ARABIAN PENINSULA
EAST SAHARAN META CRATON
Ennedi
Darfur
Kordofan
Nuba Mountains
Chad Basin
Adrar
Iullemmeden Basin
Gourma
Rehane Shear Zone
Benue Trough
Benin-Nigeria Shield
Dahomeyides
Volta Basin
Leo Man Shield
Liberian Craton
Oubanguides Belt
Cameroon Line
Ntem-Chaillu Craton
Congo Basin
CONGO CRATON
Bomu Craton
Tanzanian Craton
Kasai Craton
Bangweulu Block
Lufilian Arc
Angolan Shield
Kalahari Basin
Kunene Complex
Damara Belt
Zimbabwe Craton
Barue Complex
Nampula
KALAHARI CRATON
Rehoboth Block
Kaapvaal Craton
Namaqua-Natal Belt
Saldanian and Cape Fold Belt
East African Rift
Buur Massif
Indian Ocean
Atlantic Ocean
MADAGASCAR
Cratonic Nuclei, Shields and Mobile Belts
Mesozoic to Cenozoic
Neoproterozoic overprinted by Hercynian
Neoproterozoic and Phanerozoic
Neoproterozoic
Pre-Neoproterozoic Crust overprinted by Neoproterozoic
Pre-Neoproterozoic
Mesoproterozoic with Mesaproterozoic and Neoproterozoic Overprint
Mesoproterozoic
Palaeoproterozoic
Archaean and Palaeoproterozoic crust overprinted by Pan-Africa
Archaean
Platform Sediments and Volcanics
Cenozoic
Mesozoic
Neoproterozoic
Palaeozoic
East African Rift
Kalahari Craton: Possible Suture Zone
Kalahari Craton: Inferred Suture Zone
International boundaries
* This figure should not be used as an authority for the demarcation of international boundaries
0 200 400 800 1200 1 600 kms

OCCURRENCES AND MINES (MINERALS, OIL AND GAS)



REPORT ATTRIBUTE	DETAILS
Historical Period	2019-2022
Base Year	2023
Forecast Period	2024-2032
Gemstones Market Size 2024	USD 58,291.02 million
Gemstones Market, CAGR	6.30%
Gemstones Market Size 2032	USD 101,018.53 million


Gemstones Market Share (%) by Region (2021-2033)
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
North America
Europe
Asia Pacific
Middle East and Africa
South America


Gemstones Market Share (%) by Type in 2021-2033
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
Precious
Semi-Precious

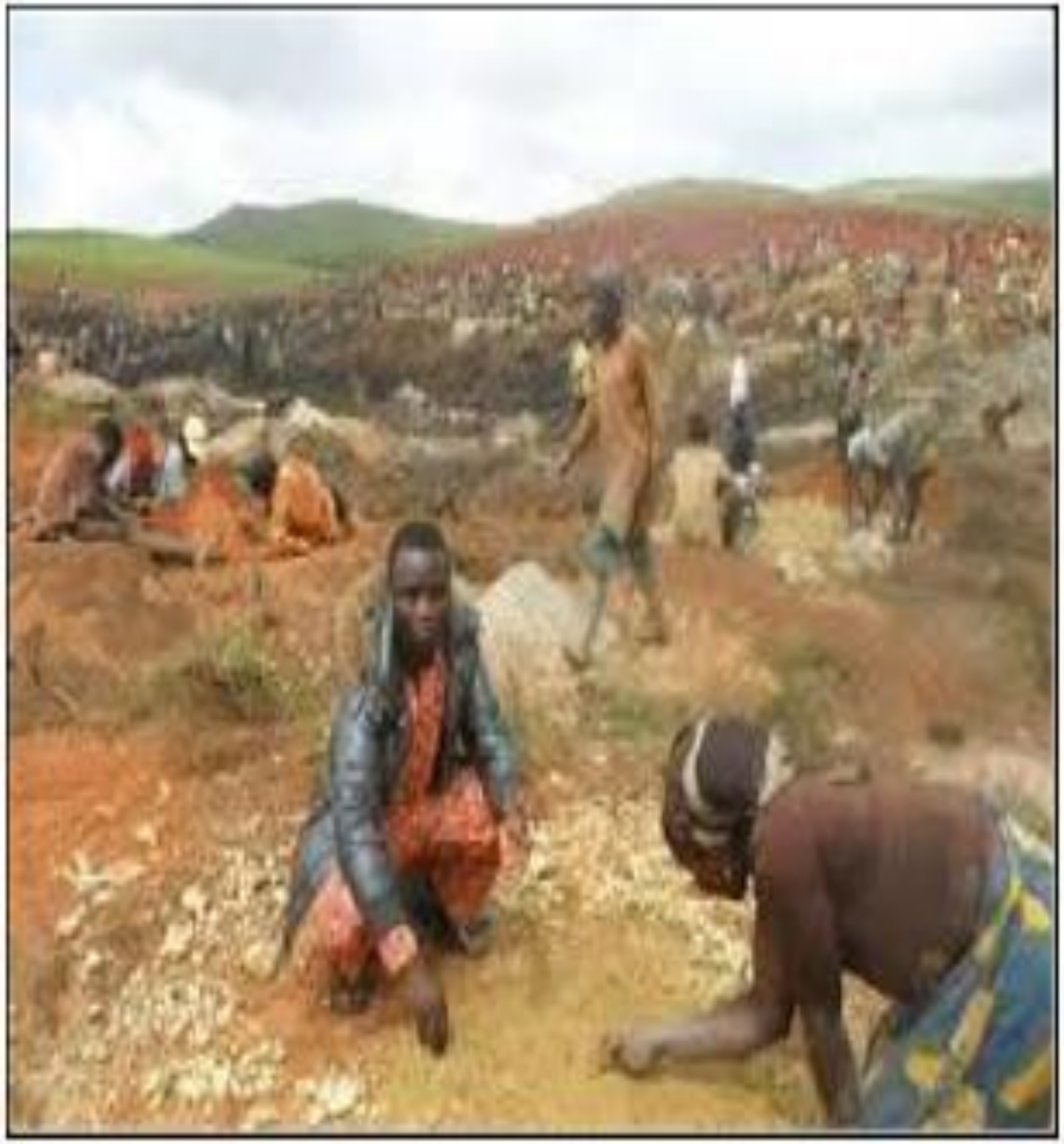

GemLab
Gemstones From Africa

- **The primary regions where gemstones are found in Africa include:**

- **Southern Africa**: Known for diamonds, South Africa and Botswana hold some of the world's most valuable diamond deposits.
- **East Africa**: Countries like Tanzania, Kenya, and Madagascar are rich in gemstones like tanzanite, sapphires, and rubies.
- **West Africa**: Nigeria and Sierra Leone are notable for their deposits of tourmaline, aquamarine, and sapphires.
- **Central Africa**: The Democratic Republic of Congo is well-known for diamonds and other gemstones.
-

MAJOR GEMSTONE PRODUCING COUNTRIES IN AFRICA AND GEMSTONE PROPERTIES

Table 1: Gemstone	Mineral Species	Color	Hardness (Mohs')	Producing Countries
1 Amethyst	Quartz (SiO2) Purple	7	Madagascar, Namibia, South Africa, Zambia, Nigeria	
2 Aquamarine	Beryl (Be3Al2Si6O18)	Light-Blue	7.5-8 Brittle	Mozambique, Nigeria, Zambia, Madagascar, Malawi
3 Diamond	Carbon (C) Colorless	10	Botswana, South Africa, Congo Angola, Namibia, Lesotho,	
4 Emerald	Beryl (Be3Al2Si6O18)	Green	7.5-8	Zambia, Ethiopia, Nigeria, Madagascar
5 Ruby	Corundum (Al2O3)	Red	9	Mozambique, Kenya, Tanzania, Madagascar, Nigeria
6 Sapphire	Corundum (Al2O3)	Blue	9	Madagascar, Nigeria, Cameroon, Kenya, Ethiopia
7 Rhodolite	Garnet (Fe-Garnet)	Pink-Red	6-6.5	Tanzania, Kenya
8 Tsavorite	Garnet (Ca-Garnet)	Green	6-6.5	Tanzania
9 Mali	Garnet (Ca-Fe Garnet)	Yellow	6-6.5	Mali
10 Spessartine	Garnet (Mn-Garnet)	Orange, Mandarin	6-6.5	Nigeria
11 Tanzanite	Zoisite (Ca2Al3SiO12(OH)	Blue	6.5	Tanzania, Nigeria
12 Paraiba	Tourmaline Blue-Gree n	7.5	Mozambique, Nigeria	
13 Topaz	Topaz (Al2SiO4(F,OH)	Yellow-Bro wn	8	Nigeria, Namibia, Zimbabwe
14 Zircon	Zircon (ZrSiO4)	White/Red Brown	6-7.5	South Africa, Mozambique, Nigeri



WORLDWIDE EXPLORATION BUDGETS BY COUNTRY (% SHARE OF GLOBAL), 2016
(NON-FERROUS METALS)

MREC

LACK OF A RESOURCE MANAGEMENT SYSTEM LEADS TO ...

- Poor integration of policies, law and regulations across minerals and energy sectors
- Challenges in the strategic planning of the development of oil, gas and mineral resources
- Insufficient and inefficient capital allocation in the mineral and petroleum value chain
- Inadequate plans for developing infrastructure in resource regions
- Missed opportunities in up-, side- and down-stream value addition
- Slow introduction of innovative technologies
- Lack of clear appreciation of social and environmental issues
- Challenges in contract negotiation capacity
- Issues in full recovery of resource rents and revenues
- Reduced investor confidence
- Non-participation in African share markets and other investment instruments
- Absence of a clear capacity building strategy and its implementation

- Africa still lacks a comprehensive mineral resource management system for strategic planning and an industrial reporting code for attracting finances.
- Structuring Africa's mineral resource development sustainably and equitably
- requires urgent action to put in place a continental mineral resource management system
- and internationally recognized reporting code.

CRIRSCO-family code usage

Recognized by Law or Listing Rules

Recognized, if specified by foreign or state law

Memorandum of Understanding to establish code

Preliminary discussions

- No country in Africa currently has a comprehensive resource classification and management system. Except for South Africa, no country in Africa has a code for reporting mineral and energy resources to stock exchanges and financial institutions.
- AMREC is intended to bridge this gap, and worldwide become the first application of a system that encompasses oil, gas, minerals and renewable energy in a single package.
- It also includes implementing Pan-African Reserves and Resource Reporting Code (PARC) for transparent financial reporting.
- AMREC has integrated all geosciences professional bodies in Africa that have enforceable disciplinary and ethical procedures into its fold to ensure implementation of professional competency certification processes.
- Also Africa Securities Exchange Association(ASEA) which the umbrella body for the 27 Stock Exchanges in Africa is now working hand in hand with African Union for the recognition and implementation of AMREC/PARC within African continent for a start.

- It was on this basis
- the AMDC organised the Continental Deployment and Implementation workshop for AMREC/PARC, which took place on 19-21 March 2023 in Windhoek, Namibia.
- One of the outcomes of this workshop was the need to develop a working and operative code beyond the policy document.
- This is the basis for which this operational code for PARC is developed and it is meant to simplify usage and application for reporting of minerals and energy resources across the African continent.
- In this code, all reporting entities will find guidance on general reporting requirements for reporting minerals and energy resources and reserves,
- guidance on competent persons requirements,
- guidance on reporting of economic results and social benefits, requirements for environmental and social reporting
- together with reporting on Artisanal and Small-scale mining projects
- *Albert M. MuchAngA Commissioner for Economic Development, Trade, Tourism, Industry and Minerals Addis Ababa, Ethiopia Oct 2023*

)

Pan-African Resource Reporting Code (PARC

- The AMREC based code for public reporting for resources under relevant financial and security regulations in Africa.

- Fundamental purpose :
- support shareholder as well as stakeholder confidence and ensure that in alignment to the Africa Mining Vision, Agenda 2063, and good social, environmental and economic benefits are assured for Africa.

The principal stakeholders of the PARC Code

- Policymakers at national and AU levels
- Governmental institutions – to manage national resources endowments sustainably.
- Industry – to provide data and information necessary to deploy technology, management and finance.
- Financial community - to allocate capital appropriately and
- the local community that are to benefit from the resources on their land

Principles of the Code

The main principles governing the operation and application of PARC are good social, environmental and economic benefits as called for in the African Mining Vision, including transparency, materiality and competence.

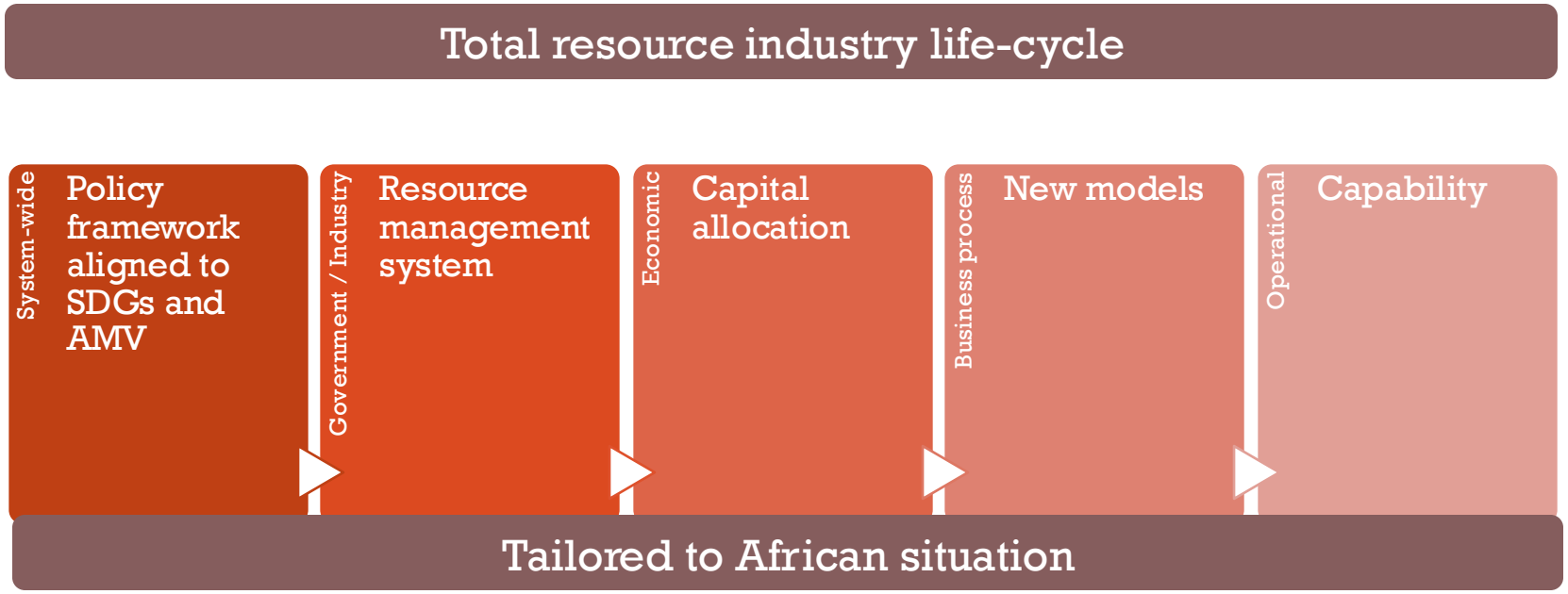
- Good social, environmental and economic benefits: A public report shall contain all the relevant information on how the project will address the social and environmental impacts and contribute to eco-system benefits that are called for in the Agenda 2063, African Mining Vision and Sustainable Development Goals.
- Transparency: Transparency requires that the reader of a public report shall be provided with sufficient information, the presentation of which is clear and unambiguous, to understand the report and not to be misled.
- Materiality: Materiality requires that a public report shall contain all the relevant information which investors and their professional advisers would reasonably require, and reasonably expect to find in a public report, for the purpose of making a reasoned and balanced judgement regarding the quantities being reported.
- Competency: Competency requires that the public report shall be based on work that is the responsibility of suitably qualified and experienced persons who are subject to an enforceable professional code of ethics and rules of conduct.

Scope of the Code

- The relevant constituency that PARC addresses include
- investors (shareholders)
- and other stakeholders such as
- communities
- governments,
- operators,
- employees,
- Suppliers
- Professional bodies.
- Resource reporting under PARC shall be based on the available AMREC mineral inventory information.

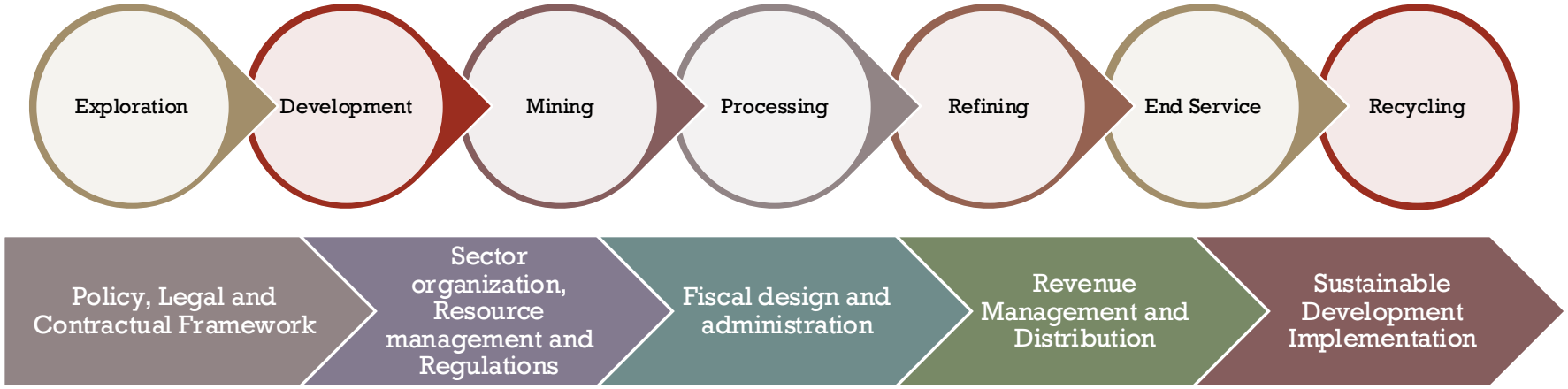
- Only the AMREC classes and sub-classes, with their numerical codes as mentioned for each product type (minerals, petroleum, renewable energy) shall be used for public reporting.

HARMONIZES FIVE CRITICAL AREAS



A single management framework to integrate policy, implementation, financial capital, business process and human capability.

AIMS FOR HOLISTIC VALUE CHAIN AND INDUSTRY LIFECYCLE MANAGEMENT



Removes fragmentation of industry life-cycle and integrates it to the value chain for structural transformation and global competitiveness in Africa.

Competent person and responsibilty

A competent person under the PARC code is one who can put

- skills
- knowledge
- Experience

into practice

to perform activities or a job effectively and efficiently for resource classification, management and reporting

Principles

Principles that influence a competent person's actions and choices in connection with resource reporting are:

- African values: Shall demonstrate in-depth knowledge of Africa Mining Vision (AMV), Agenda 2063 and the 2030 Agenda for Sustainable Development.
- Integrity: Shall demonstrate the values of impartiality, fairness, honesty and truthfulness, in daily activities and behaviours. Takes prompt action in cases of unprofessional or unethical conduct.
- Professionalism: Shall demonstrate skill, good judgment and mastery of the subject matter.
- Care for the environment: Shall commit to protect the environment and preserve the earth's natural resources, both for today and generations into the future.
- Respect for diversity: Shall commit to respect for gender justice and diversity such as race, ethnicity, culture, language, gender, age, religion and disability

Qualification

- A Competent Person or equivalent should have undergone a managed process of
- individual learning at a university or academic institution which provides basic knowledge that underpins the science, technology, socio-economics, environmental and community factors of the sectors for which quantity or volume estimation is being carried out.
- At a minimum, a Competent Person should have a relevant tertiary degree
- Competent Person should have relevant experience in resource management functions for the specific technical discipline in the sector for which the resource estimation and reporting is being carried out.
- A Competent Person must have a minimum of five years' experience working with the style of mineralisation or type of deposit under consideration and relevant to the activity which that person is undertaking.
- For example: If the Competent Person is preparing a report on Exploration Results, the relevant experience should be in exploration. If the Competent Person is estimating, or supervising the estimation of Mineral Resources, the relevant experience must be in the estimation, assessment and evaluation of Mineral Resources
- A Competent Person must be a Member at the least of a Regional recognised reporting organisation and /or National reporting organisations.
- These Recognised Professional Organisation RPO will be as agreed by the Central Assessment /working committee of the AMREC/PARC with a proviso to review this from time to time .

- It shall be a juristic professional body or association with an enforceable code of ethics and performance expectations. Under the principle of reciprocity,
- PARC Assessment Committee may approve and recognize Professional Reporting Organisation outside the African continent on the basis of a criteria set up by the committee.
- Notwithstanding membership of RPOs competent person will be required to be accredited by the PARC assessment committee on the recommendation of the recognized RPOs.
- The process of accreditation is in accordance with the guidelines put in place by the assessment committee

- ## Complex Project and Group Competency

- Competent Person may be a single person or a team of experts with different backgrounds performing resource management functions.
- These may include Competent Experts and Competent Valuators.
- Competent Expert means a person who may be retained by the Competent Valuator to review technical information, prepare one or more sections of a Valuation Report, or provide Inputs concerning specialized matters about which the Competent Valuator is not personally Competent.
- The Competent Expert shall have sufficient training and experience relevant to the subject matter for which he or she is being retained to review or provide Inputs.
- Competent Valuator means an individual who (a) is a professional with demonstrated extensive experience in the Valuation of Mineral Properties
- , (b) has experience relevant to the subject Mineral Property or has relied on a Technical Report on the subject Mineral Property by a Competent Person, and (c) is regulated by or is a member in good standing with a Professional Association or a relevant Self-Regulatory Professional Organization recognized by PARC assessment committee.

- For complex projects where knowledge in different areas is required,
- reporting should be performed by a team of Competent Persons, each having appropriate education, experience and continuous training in the relevant areas.
- The full name, affiliation, education and experience of the Competent Person providing the estimation should be disclosed.
- All members of the group should indicate which specific part of the reporting they are responsible for
- . A Competent Person should undergo Continuous Professional Development (CPD) as developed and approved by the PARC assessment committee.
- This is a managed process that is focused on the continuous development of specialized knowledge needed to meet resource management functions.
- Notwithstanding membership of RPOs, competent experts and competent valuators will be required to be accredited by the PARC assessment committee on the recommendation of the recognized RPOs.
- The process of accreditation is in accordance with the guidelines put in place by the assessment committee.

COMPETENT PERSON SELF-ASSESSMENT UNDER THE PARC,

- all Competent Persons are required to carry out a self-assessment of their competence.
- If the CP is preparing a competent person report (CPR), the relevant experience shall be in working with the resource type for which reporting is required.
- The self-assessment template to be followed for the respective resource types, including self-assessment for Competent Expert and Competent Valuator are, provided in the appendix
- (see Appendix B – L of the PARC code)

ETHICS AND ENFORCEMENT

- Rules of Conduct and Guidelines
- The Rules of Conduct shall apply to Competent Persons engaged in the practice of preparing or contributing to public reports using PARC standard.
- These Rules are in addition to the Professional Codes of Ethics that may apply due to the Competent Person's membership in a Recognized Professional Organization (RPO) / Statutory body.

Commitment to Professional Ethics

- PARC Assessment committee shall keep a register of Competent Persons.
- All accredited professionals acting as Competent Persons shall have inherent adherence to commitment to ethical standards and a Fitness to Practice declaration.
- Competent persons shall comply with PARC principles, standards and the rules of the relevant recognized professional organizations to which they belong, including applicable rules and regulations useful for stockholders and stakeholders.
- Competent persons shall comply with all applicable laws and government regulations in the jurisdictions where they operate

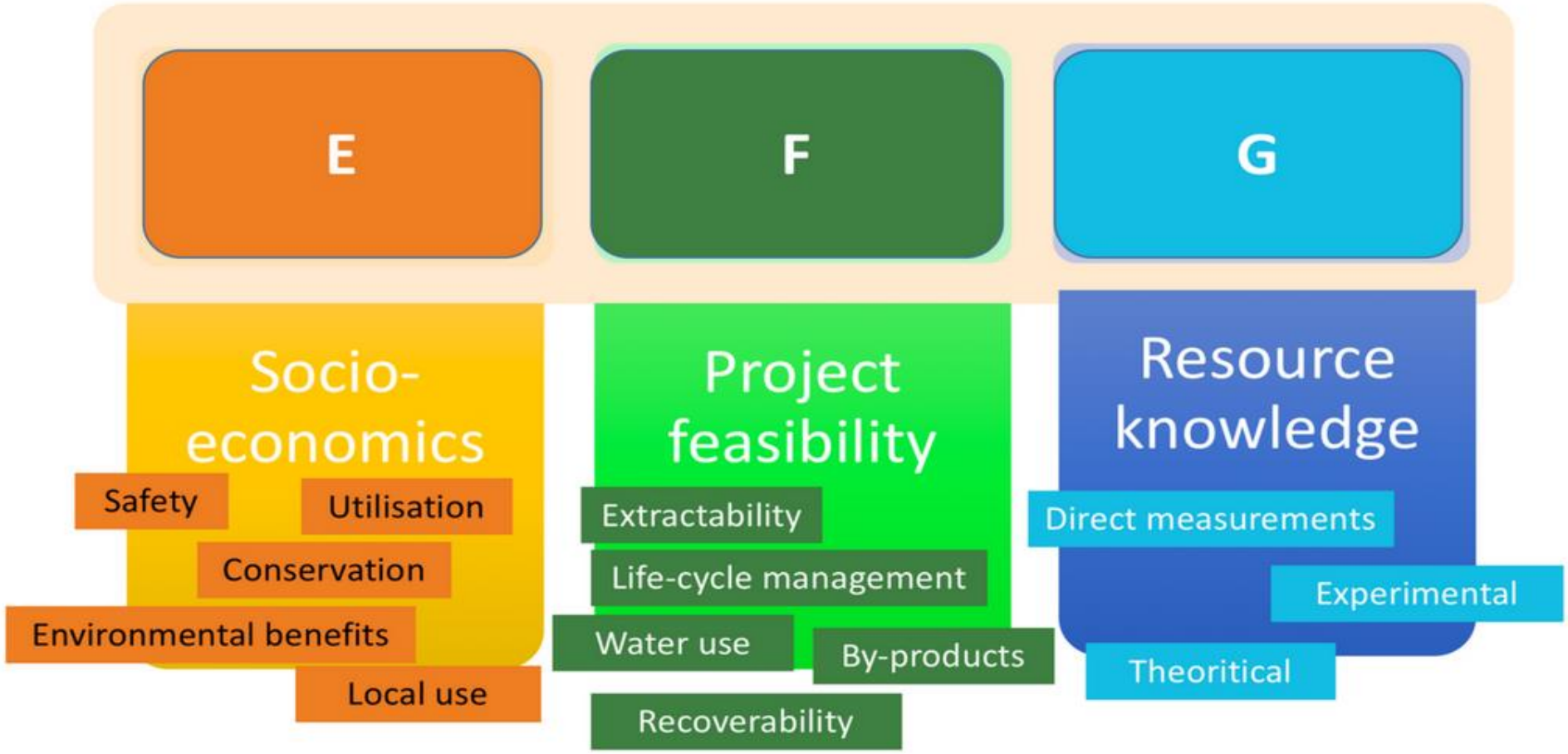
ENFORCEMENT OF CODE OF ETHICS

- PARC Ethics and Standards sub-committee shall receive and review complaints alleging violation and non-compliance with the code
- RPOs have the obligation that if one of its members, acting as a Competent Person under PARC is reported for alleged non-compliance with the PARC, and the RPO's investigations uphold the alleged non-compliance, the finding should be communicated to the PARC Assessment Committee.
- Specifically:
- a. All matters that attract a penalty related to PARC shall be the responsibility of the PARC Ethics and Standards sub-committee.
- b. Enforcement of Ethical standards at the RPO level will be based on its membership requirements.
- c. Breach of ethics may include: » » » » » Data cooking and falsifying. Deficiencies of procedure and technicalities. Deliberate misrepresentation of findings. Inappropriate and fraudulent behavior.
- Forgery, other types of offenses to be determined by PARC Assessment Committee through its Ethics and Standards sub-committee.

GENERAL REPORTING REQUIREMENTS

- . Generic Classification All reports shall be prepared having considered the principles and terminologies incorporated in AMREC.
- The classification used is a principles-based system in which the products of a resource project are classified on the basis of the three fundamental criteria of environmental-socio-economic viability
- (E), technical feasibility
- (F), and degree of confidence in the estimate
- (G), using a numerical coding system.
- The combinations of these criteria create a three-dimensional system, as shown earlier

Assessing resources



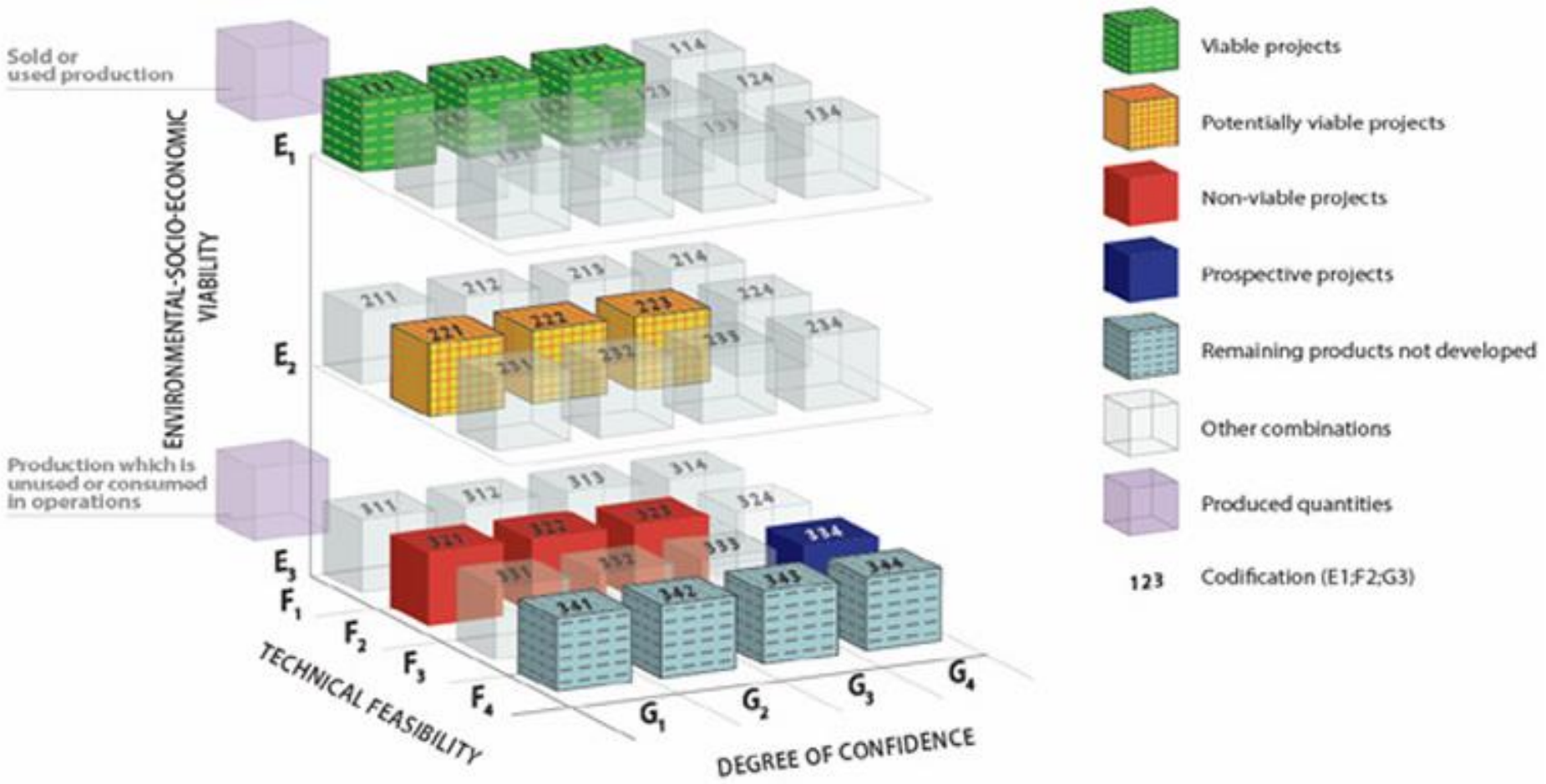


Figure 1.0 Three-dimensional framework of AMREC classification based on UNFC.

Table 1.0 **AMREC Classes and Sub-Classes Defined by Categories and Sub-categories.**

AMREC Classes and sub-classes Defined by Categories and Sub-categories						
Estimated Total Quantities Initially in Place	Produced	Sold or Used Production				
		Production which is unused or consumed in operation				
	Class		Sub-class	Categories		
				E	F	G
	Known Resource	Viable Projects	On Production	1	1.1	1, 2, 3
			Approved for Development	1	1.2	1, 2, 3
			Justified for Development	1	1.3	1, 2, 3
		Potentially Viable Projects	Development Pending	2	2.1	1, 2, 3
			Development On Hold	2	2.2	1, 2, 3
		Non-Viable Projects	Development Unclarified	3.2	2.2	1, 2, 3
			Development Not Viable	3.3	2.3	1, 2, 3
		Remaining products not developed from identified projects		3.3	4	1, 2, 3
		Prospective Projects	[No sub-classes defined]	3.2	3	4
	Potential Resource	Remaining products not developed from identified projects		3.3	4	4

DISCLOSURE OF VIABLE PROJECT AND OTHER INFORMATION

- If a reporting entity makes disclosure of Viable Project or other information of a type that is specified in the reporting template for each resource type, the reporting entity shall ensure that the disclosure satisfies, as a minimum, the following requirements:
- a. Estimates of Viable Project or future net revenue shall:
- disclose the effective date of the estimate. have been prepared by a Competent Person. have been prepared in accordance with PARC.
- be based on a general discussion in the reporting template for each resource type that avoids misleading statements.
- The discussion should include the technologies used to establish the appropriate level of certainty for the estimates. have been made assuming that development of each project, in respect of which the estimate is made, will occur, without regard to the likely availability to the reporting entity of funding required for that development, where reported under the category 'Justified for Development'; and in the case of estimates of possible Viable Project of related future net revenue disclosed in writing, also include a cautionary statement that is proximate to the estimate to the following effect:
- "E1F1G3 Viable Project are those additional Viable Project quantities that are less certain to be recovered than E1F1G2 Viable Project quantities.
- There is a 10% probability that the quantities actually produced will equal or exceed the sum of E1F1G1 plus E1F1G2 plus E1F1G3 Viable Project quantities."

- b. for the purpose of determining whether the Viable Project should be attributed to a particular project, reasonably estimated future abandonment and reclamation costs related to the project shall have been taken into account.
- c. In disclosing aggregate future net revenue, the disclosure shall comply with the requirements for the determination of future net revenue specified in the reporting template; and
- d. A statement of the Viable Project data and other information stated in reporting template shall be disclosed as at the last day of the reporting entity's most recent financial year or a later date if more than six months have elapsed since the most recent financial year

. Classification of Viable Projects and Potentially Viable Projects

- a. Disclosure of Viable Project or Potentially Viable Project shall apply the E, F and G-axis category and sub-category definitions set out in Table 2
- and shall relate to the most specific sub-class in Table 1 of Viable Project or Potentially Viable Project in which the Viable Project or Potentially Viable Project quantities can be classified.
- b. The Competent Person who prepared the report under this PARC shall indicate that it was prepared in accordance with classification in Table 1

REPORTING OF MINERALS AND ENERGY RESOURCES

- General Public reports of mineral resources are generated to inform the public of new or material changes to the mineral resources of a given deposit under consideration.
- A public report of mineral resources shall, therefore, be prepared in accordance with PARC and shall be signed by a competent person or group of competent persons.
- A public report of mineral resources shall be prepared by or under the direct supervision of the competent person or persons who are going to sign off and take ownership of the document.
- Project Classification Public reports shall include
- style of mineralisation,
- disclosure of information that could materially affect the social, environmental, and economic value of the deposit,
- the impacts on the local economy sustainability.
- These principles generate three classes of projects with their results from field investigations.
- These include:
- Prospective projects (E3F3G4)
- Potentially Viable Projects (E2F2G1,2,3).
- Viable Projects (E1F1G1,2).

- The controlling factors (CFs), as defined in the AMREC sectoral specifications combined with geological (technical) factors, are:
- the key elements in the Minerals reporting of Prospective Projects, Potentially Viable Projects and Viable Projects.
- The competent person shall assess mining projects at any stage based on the combination of these key elements (controlling and geological factors) as well as integrating their classification.
- The competent person has the responsibility for Minerals assessment and public reporting and declaration of Prospective Projects, Potentially Viable Projects and Viable Projects.
- The next figure sets out the framework for classifying tonnage and grade estimates so as to reflect different levels of geoscientific confidence and different degrees of technical, social, environmental and economic evaluation

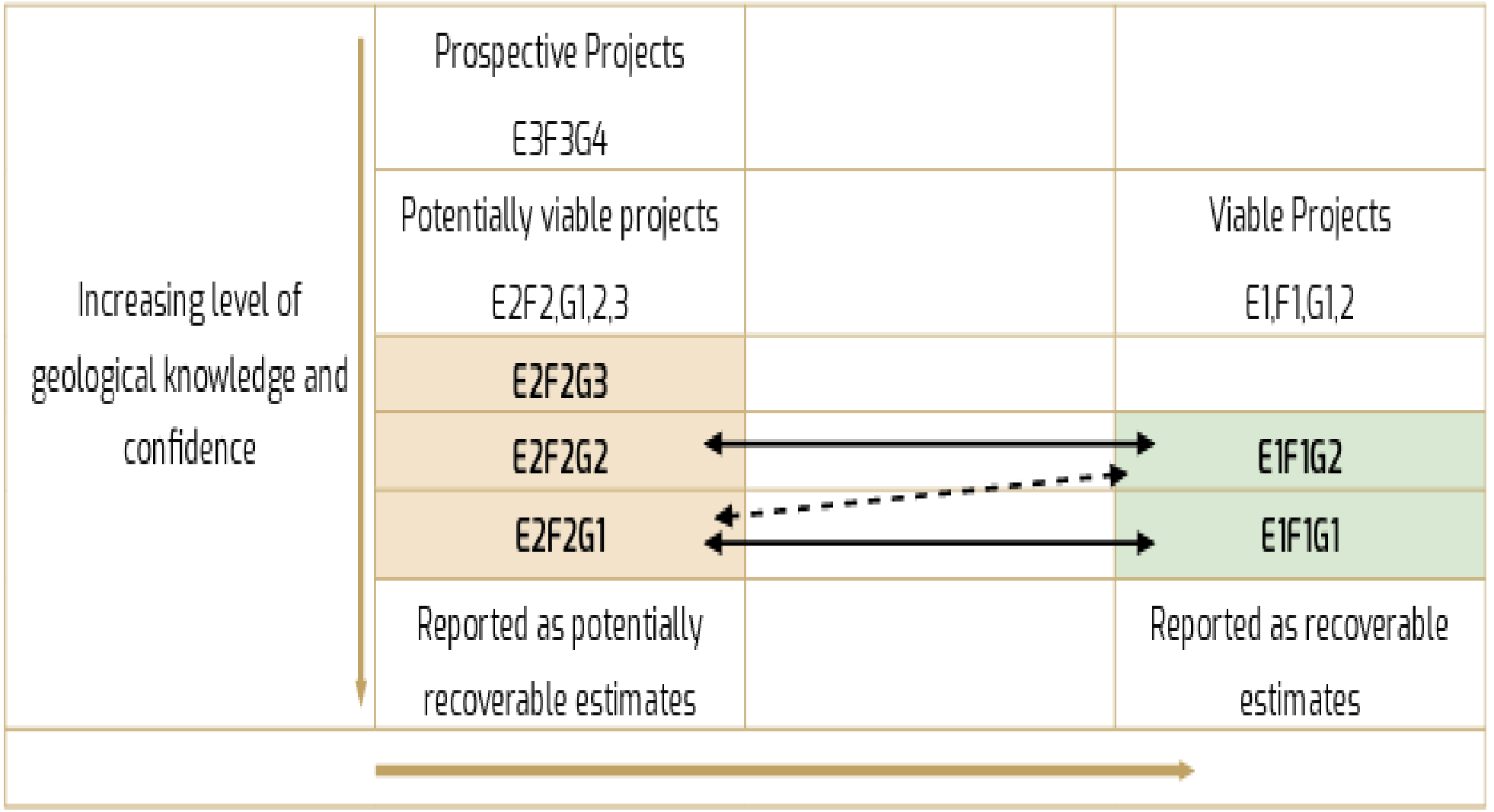


Figure 2.0 Relationship between Prospective Projects, Potentially Viable Projects and Viable Projects.

Table 3.0 **Summary of categories of geological knowledge and confidence (G-axis) in mineral resource estimates**

Category	Definition	Supporting Explanation
G1	The level of confidence in mineral resource estimates is high and based on direct evidence. Mineral resources in this category are classified as E2F2G1	Mineral resource tonnage and grade, densities, shape, and size are estimated with high confidence to support detailed mine planning and evaluation of economic viability of the deposit in question. Geological evidence is derived from high density drilling or pitting e.g. 20m by 20m drill hole spacing within mineralised horizons. Increased understanding of local geology including structural geology. Mineralization structure and displacement faults or folds can be predicted with ease. Data used in the resource estimate is validated and of high quality.
G2	Quantities in this category can be estimated with moderate confidence and are classified as E2F2G2	Mineral resource tonnage and grade, densities, shape and size are estimated with sufficient confidence to support mine planning and evaluation of economic viability of the deposit in question. Moderate density drilling or pitting e.g., 40m by 40m drill hole spacing within mineralised horizons. Good understanding of local geology and factors controlling mineralization style. Local geology is predictable to greater degree of certainty. Data used in resource estimated is validated and of high quality. More exploration is required to converted it to Measured resources.
G3	Quantities associated with a project that can be estimated with low level of confidence and are classified as E2F2G3	Geological evidence is sufficient to imply but not verify geological grade continuity. Low drilling or pitting density e.g. 80m by 80m drill hole spacing in a target horizon. Less understood local geology and inadequate knowledge of factors controlling mineralization. Data used in mineral resource estimation is validated and of high quality. More exploration is required to converted it to Indicated resources.
G4	Estimated quantities associated with this category are based on extremely scarce data and rely primarily on indirect evidence. They are Unclassified resources.	Extremely low drilling or pitting density e.g. any drill hole spacing of greater than 120m. Local geology and mineralisation structure is not understood. More exploration work is required to convert it to Inferred resources.

The code also sets out Criteria for Estimating and Reporting Potentially Viable Projects for Minerals.

i. Database integrity ii.

ii. Geological modelling and interpretation

iii. iii. How 3D geological model or wireframe was constructed, and valid assumptions made. Estimation and modelling techniques used.

iv. Cut-off parameters Controlling Factors such as social, governance and environmental factors vii.

v. Metallurgical factors and recoveries assumptions viii.

vi. Ore classification ix. Bulk density

vii. This determination is based on comprehensive studies conducted at the Pre-Feasibility or Feasibility stage, incorporating Controlling Factors (e.g., social, environmental, legal, and financial markets, among others).

- Methods for Estimation of Potentially Viable Projects and Viable Projects for Minerals
- a. The assessment of Potentially Viable and Viable Projects for Minerals admit,
- the use of classical methods (polygonal, triangulation, cross- sectional and estimation by the panels (blocking)) and geostatistical method in the estimation.
- These methods are able to define the extent (size) and value (grade) of a mineral deposit.

- Reporting of Estimates of Potentially Viable Projects and Viable Projects for Metallic Minerals The reporting of estimates of Potentially Viable Projects and Viable Projects for metallic minerals will be based on
- reporting of metal equivalents.
- The Competent Person's Self-Assessment for reporting of Potentially Viable Projects and Viable Projects for Metallic Mineral is indicated in Appendix E and Appendix F respectively. 5.2.1 of the code
- a. Reporting of Metal Equivalents The reporting of metal equivalents (single equivalent amount of the main metal) is fundamental for reporting potentially viable and viable projects as defined by PARC. It is used for mono and poly-metallic deposits and shall indicate the details of all material factors that contribute to the net value derived from each metal.

REPORTING OF ESTIMATES OF POTENTIALLY VIABLE PROJECTS AND VIABLE PROJECTS FOR DEVELOPMENT MINERALS

- Development Minerals are minerals and materials that are mined, processed, and used domestically in industries such as construction, manufacturing, infrastructure and agriculture.
- Development Minerals are economically important close to the location where they are mined.
- In comparison to minimally processed export materials, they have closer links with the local economy with a more direct impact on poverty reduction.
- b. Categorisation:
- Development Minerals include two categories: (i) industrial minerals, which may include but are not limited to boron minerals, quartz/quartzite sand, kaolin, phosphate, limestone, talc, marble, pozzolan, feldspar, clay, bentonite, chalcedony and diatomaceous earth, gypsum, barite, diaspore, fluorite, graphite, huntite, illite, sulphur, magnesite, mica, olivine, obsidian, perlite, pumice, sodium, trona, zeolite, emery stone, vermiculite and other similar commodities,
- (ii) construction materials which may include but not limited to decorative stones, gravel, river and gravel sands, clay, quarry sand and other similar materials.
- The Potentially Viable Projects or Viable Projects of the development minerals defined by specification estimation shall be reported in terms of the mineral or minerals on which the project is to be based and shall include the specification of the concerned minerals.
- The factors underpinning the estimation of Potentially Viable Projects and Viable Projects for development minerals are the same as those for other deposit types covered by the PARC Code

PETROLEUM REPORTING

- The section provides the basis for minimum disclosure of information for public reporting of oil and gas Viable Projects and Potentially Viable Projects.
- Such reports shall comply with this PARC and be reported in the manner prescribed by Form 1A of Appendix N.

- In respect of liquid hydrocarbons, any of the following: .
- light crude oil.
- medium crude oil.
- heavy crude oil.
- bitumen.
- natural gas liquids.
- m synthetic crude oil
- any other unconventional oil (Shale Oil, Oil Shale etc.)
- In respect of gaseous hydrocarbons, any of the following: o. conventional natural gas. p. unconventional natural gas (Shale gas etc.) q. gas hydrates. r. synthetic gas
- All reports shall be prepared having considered the principles and terminologies incorporated in AMREC
- Additionally, the terms used in reporting of viable and potentially viable projects shall have the same meaning as those defined in Appendix O

- Viable Projects and Potentially Viable Projects Oil and Gas Potentially Viable Projects and Sales a.
- . Future Net Revenue Not Fair Market Value
- Consent of Competent Person A statement shall be included that the Competent Person has ensured that the information disclosed in the report is in compliance with the PARC
- Disclosure of Quantities Less Than All Viable projects
- Disclosure of Potentially Viable Project a.
- Net Asset Value and Net Asset Value
- Netbacks If Netbacks are disclosed, the following information shall be included: a. Reflect netbacks calculated by subtracting royalties, taxes and operating costs from revenues, and b. State the method of calculation.
- Disclosure using Oil and Gas Metrics
- Restricted Disclosure: 5.6.15 Disclosure of High-Case Estimates of Viable Project and of Potentially Viable Project other than Viable Project

RENEWABLE ENERGY REPORTING

- The section provides the basis for minimum disclosure of information for public reporting of Renewable Energy Projects.
- Such reports shall comply with this PARC and be reported in the manner prescribed by Form 2A of Appendix P.
- Products include but are not limited to any of the following:
- Geothermal Energy
- Bioenergy
- Solar Energy
- Wind Energy
- HydroEnergy
- Marine Energy

COAL REPORTING

- General
- Unless otherwise stated, all general reporting standards in the PARC shall apply to Coal reporting, including the terms used in Figure 2. b.
- Potentially Viable Projects and Viable Projects with the replacement of the term ‘mineral’ by ‘coal’ and the term ‘grade’ by ‘quality’.
- c. A company shall disclose relevant information concerning the status and characteristics of a coal deposit that could materially influence the social, environmental and economic value of the deposit and promptly report any material changes in its Prospective Projects, Potentially Viable Projects and Viable Projects.
- d. When reporting viable projects, a clear distinction shall be made between viable projects, where mining losses have been taken into account and saleable products where both mining and processing losses have been included.
- Relevant coal quality information should be reported for all Potentially Viable Project and Viable Project categories, including the basis on which the quality parameters are derived.
- Where applicable, Marketable Viable coal Projects should be subdivided into the relevant coal product types.

- Nuclear Fuel Resource Reporting 5.9.1 General a. Unless otherwise stated, all general reporting standard in the PARC shall apply to Nuclear Fuel Resource reporting, including the terms used in Figure 2. PARC provides a unified reporting scheme for Nuclear Fuel Resources, uranium (U) and thorium (Th).

REPORTING OF ECONOMIC RESULTS, ECONOMIC OPPORTUNITIES AND SOCIAL BENEFITS

- a. Introduction The economic assessment is strongly linked to valuation. Project valuation is necessary and typically required for decision-making on future investments and operation.
- The reporting of economic results, economic opportunities and social benefits to stakeholders and stockholders needs to consider externalities such as social and environmental issues.
- This should be based on PARC project classification, especially for the potentially viable and viable projects. The public report should avail the economic results, the economic opportunities including social benefits related to each stage of the project to all the stakeholders in order to maintain the social licence to operate.
- b. Key Principles The key principles include: i. ii. iii.
- Valuation principles (competence, materiality, reasonableness, transparency, independence, objectivity).
- Disclosure of valuation results on the economic benefits,
- economic opportunities and social benefits to investors, government, local communities and other stakeholders.
- Listing the facts and components of the valuation results related to opportunities for the local community and entrepreneurs.

Table 5.0 **Example for metallic viable project**

Headings	% of Revenues	Amount in Currency		Type of Opportunities for Local Communities	Quantity/Number Where Applicable
		Foreign	Local		
Gross sales					
Salaries of direct employees					
Technical services of subcontractors					
Purchase of inputs and payments for other services					
Research and development costs					
Taxes					
Debt repayment					
Social and environmental issues & management					
Dividends payment					

ENVIRONMENTAL AND SOCIAL REPORTING

The section provides the basis for minimum disclosure of information for public reporting of Environmental and Social Aspects related to any project.

Such reports shall comply with this PARC and be reported as prescribed by Form 3A of Appendix X.

This should form part of the project report of all resource types as an attachment.

Aims:

to promote transparency, accountability, sustainability, and innovation in the African resource sector.

Divided into five sub-sections covering key environmental and social reporting aspects for Africa's resource extraction and production projects.

The reporting is aligned with the UNRMS and AMREC.

.

- The code also gives provision and template for reporting on the following:
- Environmental and Social Impact Assessment .
- Environmental and Social Sustainability
- Environmental and Social Responsibility Management
- Environmental and Social Responsibility
- Stakeholder Engagement Throughout the project life cycle,
- Local Benefit Sharing
- Human Rights : The project shall report on the human rights indicators and performance related to the project, such as labour rights, land rights, indigenous rights, women's rights, and children's rights.
- The project shall implement remediation or compensation actions in case of any human rights violations or abuses caused by or linked to the project.
- Environmental and Social Innovation. Environmental and Social Adaptation

REPORTING FOR ARTISANAL AND SMALL-SCALE MINING

- Most artisanal and small-scale mining (ASM) projects are not likely to end up being listed as public companies.
- However, potential investors may be interested to see technical reports that follow internationally acceptable reporting standards.
- Although there are limitations at the ASM level to report on full resource potential and economic evaluation as required by PARC reporting guidelines, a standard reporting template that will provide verifiable information to the public, particularly governments and potential investors, about methods, outputs, production and environmental issues are provided by PARC.
- The ASM report in this case implies any report prepared in accordance with PARC requirements that includes all scientific and technical information under the supervision of a qualified or Competent Person.
- This report is expected to provide an unbiased account of ASM operations, the nature, and the limitations. The report shall contain as a minimum the following.

- The report shall contain as a minimum the following.
- a. Project description,
- location and accessibility
- b. Prospecting,
- Exploration data and information
- c. Technical studies (mining methods, processing, recovery methods and production rates)
- d. Legal permits and governance
- e. Environmental Studies, Social and Community Impact
- The details of the content of the report can be found in Appendix Y.

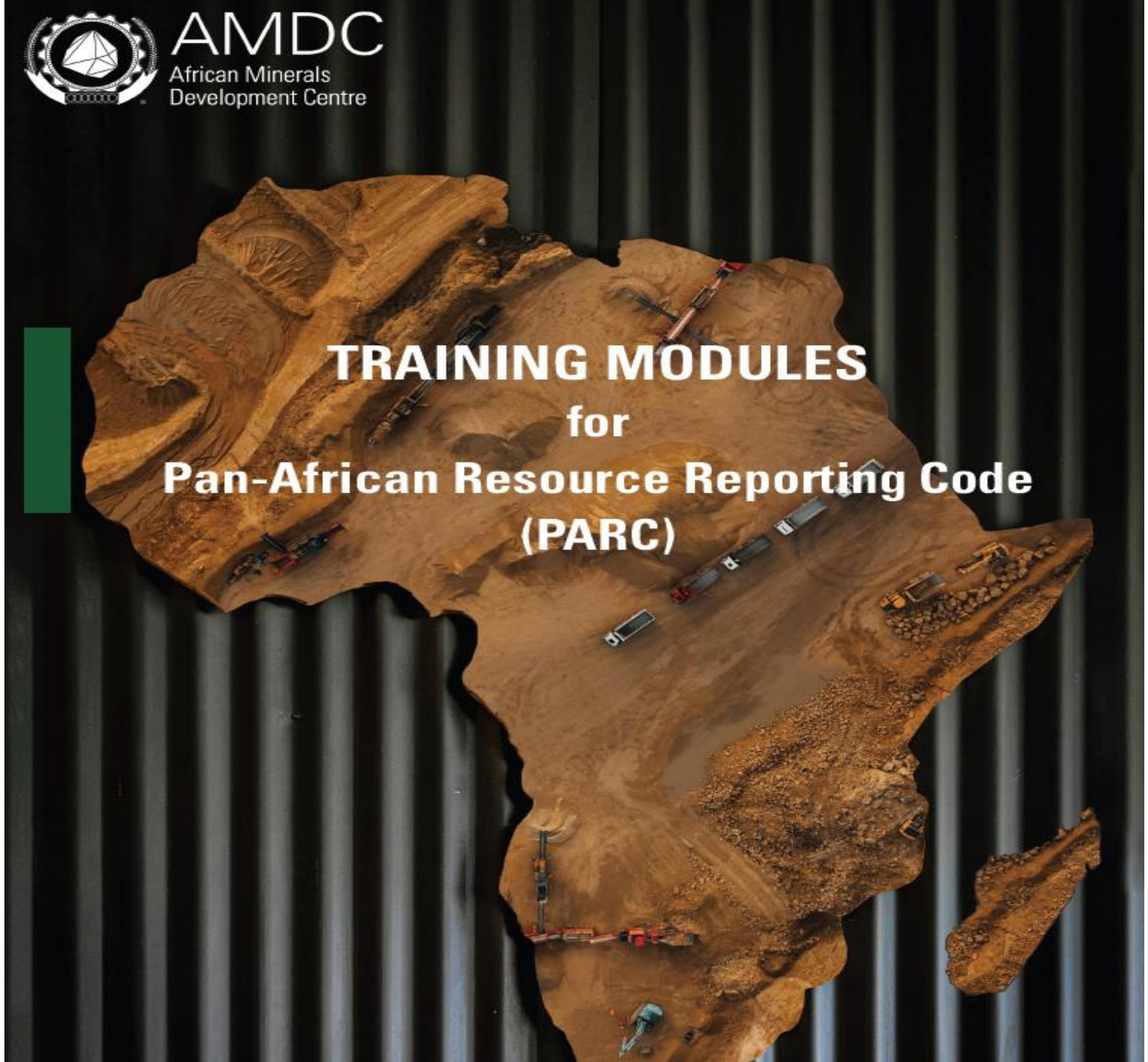
OTHER REQUIREMENTS APPLICABLE TO ALL DISCLOSURES

- Legal Aspects and Tenure
- The Competent Person should verify the government legislations, subsidiary legislations, and regulations in the jurisdiction of operation, including the description of:
- a. The nature of the holder's rights and requirements.
- b. The principal terms and conditions of all existing agreements, and details of those still to be obtained, such as, but not limited to, concessions, partnerships, joint ventures, access rights, leases, historical and cultural sites, wilderness or national park and environmental settings, royalties, consents, permission, permits or authorizations.
- c. The security of the tenure held at the time of reporting, or which is reasonably expected to be granted in the future, along with any known impediments to obtaining the right to operate in the area.
- d. A statement of any legal proceedings that may have an influence on the rights to prospect for resource, or an appropriate negative statement.
- e. Other government agreements such as foreign exchange stabilization, applicable bi-lateral investments treaties and community development agreements among others.

- Licence and Statutory Ownership Status
- The Competent Person should verify satisfactorily the mineral rights and landownership, including:
- a. Land acquisition and ownership structure, traditional and institutional permits, compensations and rehabilitation issues.
- b. Licence type, reference name and number, area extent, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships.
- c. Land and ownership types, for example state land, vested land, stool land, family land, privately owned land, forest and game reserves, national park and the environmental setting.
- d. Location plans of mineral rights and titles. It is not expected that the description of mineral title in a technical report should be a legal opinion but should be a brief and clear description of such title as understood by the Competent Person.
- e. Security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area

STRATEGIES

Training


AMDC
African Minerals
Development Centre
TRAINING MODULES
for
Pan-African Resource Reporting Code
(PARC)

GENERAL INTRODUCTION

MODULE 1: INTRODUCTION TO AMREC AND PARC

MODULE 2: ETHICS AND PROFESSIONAL CODE OF CONDUCT

MODULE 3: COMPETENCY AND RESPONSIBILITY

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

MODULE 5: MINERALS REPORTING

MODULE 6: REPORTING OF ENERGY RESOURCES
6.1 Petroleum Reporting
6.2 Renewable Energy Reporting
6.3 Coal Reporting
6.4 Nuclear Fuel Resource Reporting

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

MODULE 8: ENVIRONMENTAL AND SOCIAL REPORTING

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

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

GOVERNANCE AND REGULATORY ISSUES

- Governance Issues
- The PARC Assessment Committee shall be responsible for the governance of the PARC. THE AFRICAN MINERALS DEVELOPMENT CENTRE (AMDC)

b. Competent Persons and disclosure requirements shall be governed by the PARC Assessment Committee.

c. The PARC secretariat shall keep a list of accredited Competent Persons and approved and recognized RPOs

REGULATORY ISSUES

- a. Recognized Professional Organizations (RPOs)
- For the purpose of public reporting, a Competent Person should be affiliated with a professional Statutory body or association (Recognized Professional Organizations, RPO) with an enforceable code of ethics and performance expectations and legally registered under statutory authority.
- The RPOs shall be regulated by statutes at the national and/or regional level with their core legislated mandate to protect the public interest and admit eligible members based on their academic qualifications and experience.
- RPOs will liaise with the PARC Assessment Committee to ensure competent persons adhere to compliance with professional standards of competency and ethics, competency based assessment (CBA) and continuous professional development (CPD) to maintain their registration as a Professional.
- The list of recognized professional organizations approved under PARC will be published and revised periodically by the PARC Assessment Committee.

ACCREDITATION/LICENSING

- . Applicants for PARC accreditation shall be assessed based on the relevant educational and professional experience standards and membership of RPOs.
- Professional experience may be confirmed by the relevant RPO to which the applicant belongs, and two sponsors shall be required who have direct knowledge of the applicant's professional experience and ethical standing and who agree to support the accreditation of the applicant.
- Applicants shall have to certify that they are not the subject of a professional standards complaint or have been previously judged to have breached another Professional Organizations' Code of Ethics.
- RPOs shall take responsibility for the oversight of their members regarding enforceable competency requirements.
- However, PARC Assessment Committee may validate and verify the competency of Competent Persons. PARC Assessment Committee shall have the power to vary accreditation requirements in consultation with both RPOs and other stakeholders/stockholders.

- Industry and public mobilization
- Sensitisation and Road shows
- Country and regional economic blocks mobilization
- Global for sensitisations

MINING VERSUS ENVIRONMENT IN AFRICA/NIGERIA

The everyday challenge

CHANGE THE 100+ YEARS OLD MINING INDUSTRY NARATIVE ?

- "Running a mining operation that is profitable and rewarding for all stakeholders, remains hugely challenging"

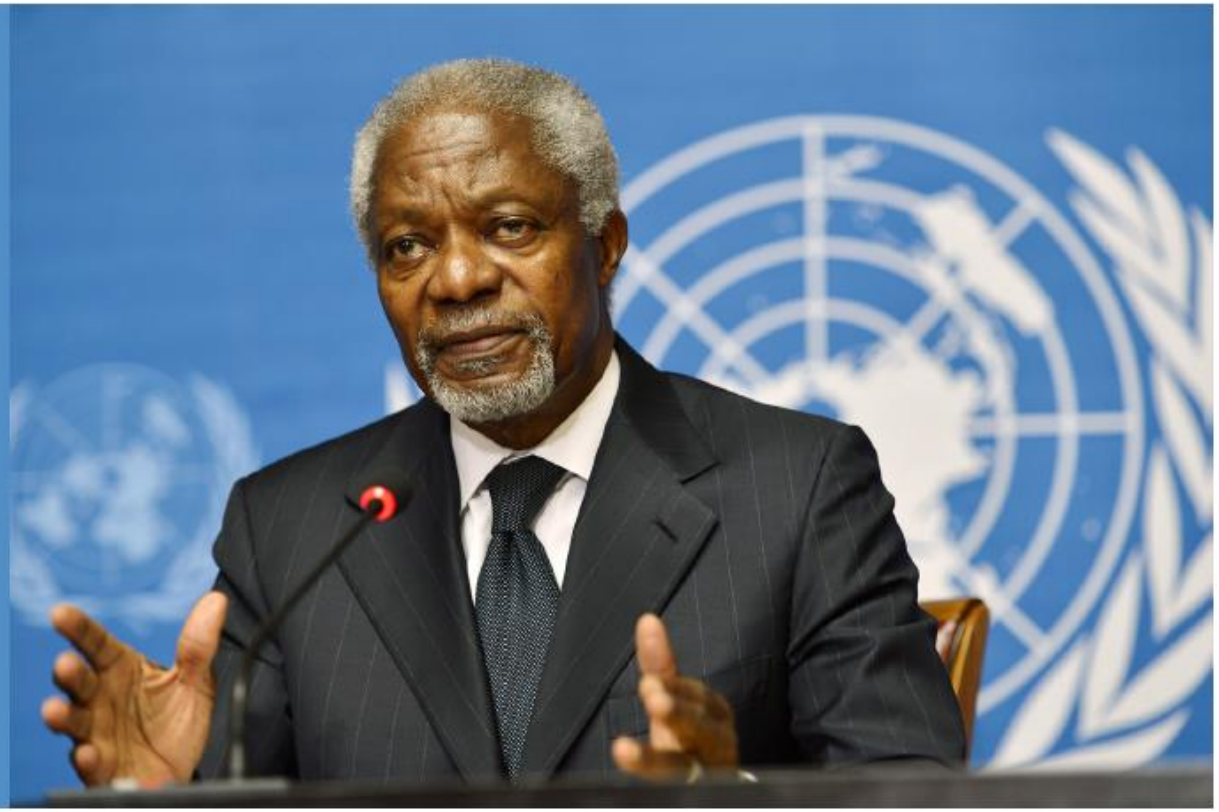
- **Paula Munsie, CEO, Mining Indaba**


Comprehensive resource management aided by the
United Nations Framework
Classification for Resources
(UNFC)
Energy

CONCLUSION

- With AMREC-PARC, Africa has got an opportunity to ensure an harmonized and consistent accountability for its natural resources
- There will be need for support from all stakeholders in this process in order to achieve the objectives & target timeline

Far from being hostage to an incurable resource curse, this generation of political leaders has an opportunity to harness resource wealth for a transformation in human development



Kofi Annan (RIP), Africa Progress Report, 2013

THANK YOU FOR YOUR ATTENTION