



United Nations  
Economic Commission for Africa



## **African Geological and Mineral Information System (GMIS) Strategy**

---

### **WORKSHOP ON**

**HARMONIZATION, ADAPTATION, IMPLEMENTATION AND  
DEVELOPMENT OF THE**

**UNITED NATIONS FRAMEWORKS CLASSIFICATION FOR FOSSIL  
ENERGY AND MINERAL RESERVES AND RESOURCES (UNFC-2009)**

**IN LINE WITH THE AFRICAN MINING VISION (AMV)**

---

**As a Tool for improving Governance and Transparency in the Mineral Sector in Africa**

**Cairo, Egypt  
2-6 October 2017**

**Organized by:  
African Minerals Development Centre - AMDC  
United Nations Economic Commission for Africa - UNECA  
Addis Ababa, Ethiopia  
[www.uneca.org/amdc](http://www.uneca.org/amdc)**



## Background

### The African mining Vision (AMV)

The African Heads of State and Government adopted the Africa Mining Vision (AMV) in 2009 with a long-term goal of “*transparent, equitable and optimal exploitation of [Africa’s] mineral resources to underpin broad-based sustainable growth and socio-economic development*”. More specific, among its goals, the AMV Action Plan aims to improved geological and mineral information systems to underpin investment in exploration and mine development.

At the heart of the AMV, is the harmonization of strategies, policies, instruments and practices for the greater participation of African countries in regional and global value chains. The AMV, therefore, aims to integrating Africa’s mining sector into its broader social and economic development processes and thereby addressing its persistent poverty and underdevelopment. The Vision advocates thinking outside the “mining box”. That means thinking about how mining can contribute better to development, by making sure workers and communities see real benefits from large-scale industrial mining and that their environment is protected. The AMV is an attempt not only to address the sector’s isolation from mainstream social and economic activities but also to create win-win outcomes for all stakeholders.

### The African Mineral Development Centre (AMDC) and the African Geological and Mineral Information System (GMIS) Strategy

The AMDC was established in 2013 to support the coordination and implementation of the AMV. It aims to become the facilitator of choice to enable African Union (AU) member States to achieve the AMV and to enable mineral resources to play a greater transformative role in the continent’s development through increased economic and social linkages, and in this manner, help address its intractable poverty and limited development.

The African Geological and Mineral Information System (GMIS) Strategy has been produced by the AMDC to facilitate strengthening of **production, management and dissemination** of geological and mineral information necessary for several important legal, economic, social and environmental applications in the Continent.

The Strategy draws upon the AMV Action Plan to identify how the AMDC, its implementing partners (UNECA, AUC, UNDP and AfDB<sup>1</sup>), other institutions including Regional Economic Communities (REC’s) and other relevant initiatives can best support African countries to promote geological and mineral knowledge as a tool for investment, governance, and transparency of the mining sector, in connection with the implementation of the AMV and the related Country Mining Visions (CMVs) being developed by member States.

### The United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources (UNFC)

The UNFC is a universally acceptable and internationally applicable scheme for the classification and reporting of fossil energy and mineral reserves and resources and is currently the only classification in the world to do so. As with extractive activities, UNFC reflects conditions in the economic and social domain,

---

<sup>1</sup> United Nations Economic Commission for Africa (UNECA), African Union Commission (AUC), United Nations Development Programme (UNDP) and African Development Bank (AfDB)

including markets and government framework conditions, technological and industrial maturity and the ever present uncertainties. It provides a single framework on which to build international energy and mineral studies, analyze government resource management policies, plan industrial processes and allocate capital efficiently. It allows a direct comparison of projects that extract primary energy fuels, such as oil, gas, coal, or uranium, or renewable projects. UNFC meets the needs of:

- Governments when managing their natural resources with a sustainable long-term view;
- Industry for information while deploying technology, management and finance to secure energy supplies and capture value efficiently to serve host countries, shareholders and other stakeholders;
- International organizations developing energy and mineral studies for reliable and coherent information to formulate robust and long-sighted policies; and
- The financial community for information to allocate capital efficiently.

UNFC is a generic principle-based system in which quantities are classified on the basis of the three fundamental criteria using a numerical and language independent coding scheme:

- 1- Socio-Economic Viability (E)
- 2- Field project status and feasibility (F), and
- 3- Geological knowledge (G),

Combinations of these criteria create a three-dimensional system, which can either be applied directly or used as a harmonizing tool (See figure 1).

The main objective of UNFC is to enhance international cooperation in sustainable development by providing a generic classification framework for management all energy and mineral resources on land, continental shelf and seabed worldwide. With energy and mineral sectors facing a myriad of challenges related to economics, environmental and social aspects, including the commitments of the Paris Accord and aspirations of Sustainable Development Goals (SDGs), UNFC has become the only system that is capable of being a robust tool for all stakeholders, which has got the core concepts of sustainability as its foundation. UNFC has been developed to meet, to the extent possible, the needs of applications pertaining to global energy and mineral studies, government resource management functions, corporate business processes and financial reporting standards. A key benefit of UNFC is the potential to provide a common basis for management minerals and energy sectors, including renewables.

## The steps for the conception of this workshop

- 1- On 24-26 August 2016, the AMDC organized a Geological and Mineral Information System (GMIS) Coordination Meeting, held in Cape Town, South Africa. The meeting discussed the final draft GMIS Strategy, which was presented and discussed with experts from AUC, UNECA, UNESCO, AMDC, AMGC<sup>2</sup> OAGS, AAWG<sup>3</sup>, GSAf and the Directors of African Geological Surveys Organization (GSOs)<sup>4</sup>. Among other activities, the meeting reviewed and endorsed the GMIS Strategy and **discussed and decided to adopt the principles of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources (UNFC 2009) as a model for the African Mineral classification.**

---

<sup>2</sup> African Minerals Geoscience Centre (Former SEAMIC)

<sup>3</sup> African Association of Women in Geosciences

<sup>4</sup> GSOs from Angola, Botswana, Burkina Fasso, Cameroon, Central African Republic, Chad, Comoros, Ethiopia, Gabon, Ghana, Guinea, Kenya, Lesotho, Malawi, Morocco, Mauritania, Namibia, Nigeria, Togo, Senegal, South Africa, Sudan, Swaziland, Zambia, Zimbabwe.

Participants suggested that, as part of its GMIS Strategy to implement the AMV and domesticate the CMV, AMDC could support the application of the **UNFC-2009 in Africa** as a tool to achieve transparent, equitable and optimal exploitation of mineral resources for broad-based sustainable growth and socio-economic development. According to the participants, the UNFC could add value to implement the AMV by supporting decision making for investment and governance along the mining value chain in African countries.

Participants also suggested that the broad-based adoption of the UNFC would facilitate the harmonization of international best practices to generate and interpret geological information consistently across African countries, thereby facilitating the emergence of pan-African commodity exchanges.

- 2- On 24-28 April 2017, the AMDC and 12 African Experts participated of the Resource Classification Week 2017 - "Beyond classification: managing resources sustainably" - that was held at the Headquarters of the United Nations Economic Commission for Europe (UNECE), Palais des Nations in Geneva, Switzerland. This included the 8th Sessions of Expert Group on Resource Classification (EGRC).

During the Week, the AMDC made a presentation on African initiatives to adopt UNFC as the unified system for Africa, according to the AMV, and hold a side event meeting with the participants from Africa. The meeting was also attended by the African representative in CRIRSCO and the Vice President of EurGeol<sup>5</sup>.

The African Experts made several suggestions on how to ensure smooth implementation and adaptation of UNFC-2009 in Africa, as well as to ensure that many Africans be provided with a good platform to become a certified or Competent Persons under UNFC and CRIRSCO template with time. Amongst many suggestions made during the meeting are:

- 1) Reach out to recognise and functional Professional Bodies in extractive industries in Africa for collaboration and participation in the development of both UNFC-2009 and CRIRSCO template. Some of the suggested professional bodies are:
  - a. Geological Society of Africa
  - b. Mining Engineers Society
  - c. Society of Petroleum Engineers (SPE)
  - d. Other functional National Professionals bodies in Africa Countries.
- 2) Organise a sensitizations and train the trainers' workshops. As starting point:

---

<sup>5</sup> Participants were: Kaiser de Souza, AMDC; Alex Nwegbu President of OAGS; Olugbenga Okunlola President, GSAF; Roger Dixon, African representative in CRIRSCO; Theophile Ndougsa Mbarga, Director Geology, MMITD, Cameroun; Felix Ocitti, Petroleum Ministry Uganda; Tonny Ddungu, Petroleum Ministry Uganda; Burnett Msika Dept of Mines, Malawi; Imelda Marques, Petroleum Ministry, Mozambique; Frederico Pagocho, Petroleum Ministry, Mozambique, Anna Nguno, Deputy Director, Geological Survey of Namibia and President Geoscience Council of Namibia; Micheal Neumann- EurGeol; Abel Nsa, Dept. Petroleum Resources, Nigeria; Oyungere Bayanjargal, CRIRSCO Representative, Mongolia; and Tunde Arisekola, Vice Chair EGRC, NGSA Nigeria.

- a. International Experts within and outside African countries shall be invited to speak on various relevant areas of expertise on UNFC-2009 and CRIRSCO template.
  - b. The workshop will serve as forum to harmonise all shades of opinions on the way forward within Approved Africa Mining Visions.
  - c. The suggested participants at the workshops are: (1) Director Generals or Directors of Geological Surveys and Mines Departments or Inspectorates in African Counties; (2) Chief executive of Regulatory Bodies in Petroleum Ministry in Africa; (3) Geological Society of Africa; (4) OAGS; (5) President of mining Engineers Society in Africa; (6) President of SPE in Africa; (7) Africa Representative in CRIRSCO; and (8) At least one representative from African countries that have experience Experts on UNFC-2009.
- 3) On 2-May 2017, another side event meeting on the adaptation and implementation of UNFC in Africa was held, during the Workshop on **Marine Mineral Resources of Africa's Continental Shelf and Adjacent International Seabed Area**, held in Kampala, Uganda<sup>6</sup>. The objective of the side event was to discuss how AMDC could work towards (a) supporting the implementation of the UNFC as a unifying system for the entire African continent by organizing two/three workshops and (b) setting up modalities for training of Pan African Competent Person.

The participants discussed the ways that the UNFC could add value to the implementation of the AMV by supporting decision making for investment and governance along the mining value chain in countries. They also discussed the ways that UNFC could facilitate the public-private partnerships required to accelerate the broad-based sustainable growth and socio-economic development in Africa.

- 4) As a follow up of the presentations and discussions that took place during the Resource Classification Week 2017, on 7 July 2017, the AMDC was contacted by SAMCODES Standards Committee (the SSC) that is the body in South Africa responsible for the development, maintenance and promotion of the Reporting Standards for Exploration Results, Mineral Resources and Mineral Reserves (SAMREC), of Mineral Asset Valuation (SAMVAL) and reporting/valuation of Oil & Gas (SAMOG), and also have specific guidelines for the reporting of diamond deposits as well as environmental, social and governance issues across all of these industries (SAMESG).

SAMCODES offered assistance regarding the development of reporting standards. They informed that that SAMREC Code is aligned with CRIRSCO. SAMOG is aligned with the PRMS and oil reporting standards of the Alberta Stock Exchange in Canada. SAMVAL (along

---

<sup>6</sup> Participants were: Kojo Busia, Coordinator AMDC; Kaiser de Souza, Head GMIS Section, AMDC; Alex Nwegbu President of OAGS; Olugbenga Okunlola President, GSAf; Theophile Ndougsa Mbarga, Director Geology, MMITD, Cameroun; and Tunde Arisekola, Vice Chair EGRC, NGSA Nigeria.

with IMVAL) is taking a leading role in creating an international template for valuation standards.

### **Purpose of the workshops**

The purpose of the workshops is to harmonize, adapt and develop the UNFC in a way that it can be used as the continental system or “AMREC” (African Mineral Resource Classification), according to the Africa Mining Vision principles.

### **Objectives of the workshops**

The objectives of the workshop are:

- a. discuss and propose the harmonization, adaptation, implementation and development of an UNFC as a unifying system for the classification and reporting of fossil energy and mineral reserves and resources in Africa;
- b. frame the requirements of developing detailed guidance for application of UNFC in Africa in line with the requirements of AMV;
- c. Set up modalities for the setting up of Pan African Competent Person system, including the elaboration of a training programme;
- d. Reach out to functional professional bodies in mineral, petroleum and renewable industries in Africa for collaborations on the above proposed activities.

### **Anticipated outcomes of the meeting**

The expected outcomes from this Project are:

- 1- Unified system for the classification and reporting of fossil energy and mineral reserves and resources established in Africa in line with the AMV.
- 2- Programme of work for capacity-building through training courses, guidance to certification and recognition procedures, and qualification of competent persons conducted in all African regions.
- 3- Improved sustainable management and governance of mineral resources in the Africa region and reinforced broad-based sustainable growth and socio-economic development as called for in the AMV.

### **Draft agenda**

1. Welcome and introduction – agenda and overview of process

2. Discussion and deliberation on the harmonization, adaptation, implementation and development of an UNFC in line with the requirements of AMV;
3. Discussion and deliberation on the modalities for the setting up of Pan African Competent Person system;
4. Proposal for the elaboration of a training programme;
5. Review the options for addressing **GMIS** from the CMV Guidebook, the Action Plan for Implementing the AMV, and other documents, taking into account the principles above;
6. Map out initiatives and institutions, and their current roles in relation to resource classification under the AMV;
7. Plenary recommendations: The way forward – UNFC roadmap including initiatives, activities, coordination, monitoring and reporting

## List of Participants

The participants of the workshops include all professionals from African extractive industries and international experts in resource classification:

- a. mineral sector professionals from all regions of Africa that have undergone training on UNFC principles over the years;
- b. members of the Society of Mining Engineers, Society of Petroleum Engineers, Metallurgists, and other members of national mining professionals expert in MRMR reporting; and
- c. members of the Organization of African Geological Surveys (OAGS) and the Geological Society of Africa (GS Af), which will be engaged in training of the UNFC methodology in Africa.
- d. Members of the EGRC/UNECE
- e. SAMCODES Standards Committee (the SSC)

## List of Documents

Africa Mining Vision (AMV)

Action Plan for the African Mining Vision

A Country Mining Vision Guidebook

United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources (UNFC 2009)

AMREC

Others