THE MALAWI MINING INDUSTRY

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PRESENTATION OUTLINE

1. Geology of Malawi
2. Mineral Occurrences
3. Regional Perspective
4. Challenges
5. Issues to be addressed

GEOLOGY AND MINERAL ENDOWMENT

BASEMENT COMPLEX

- Gold
- Nickel, Platinum
- Copper, Lead, Zinc
- Gemstones
- Niobium, Uranium, Tantalum, Zircon

KAROO SYSTEM

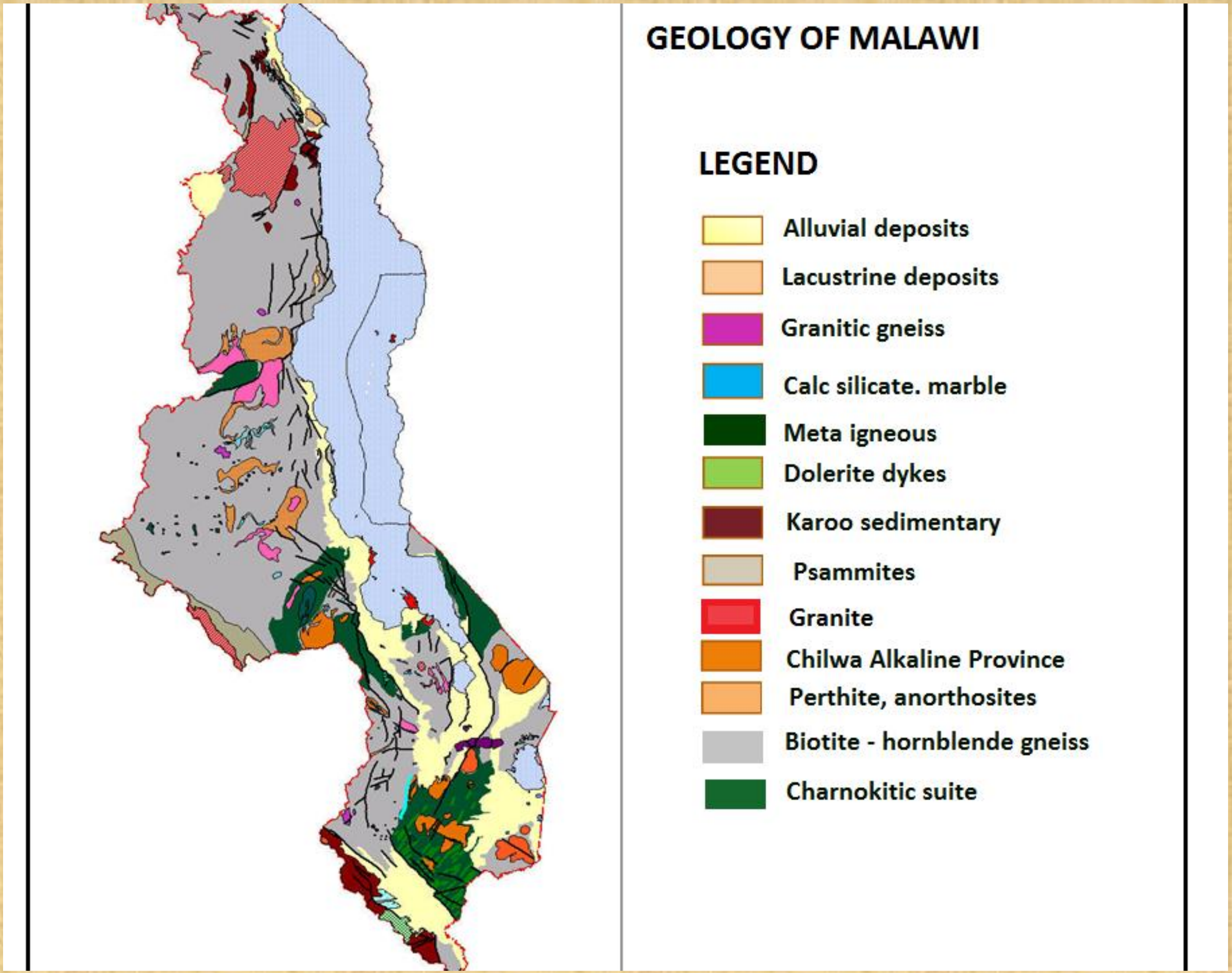
- Coal
- Uranium
- Agates

CHILWA ALKALINE PROVINCE

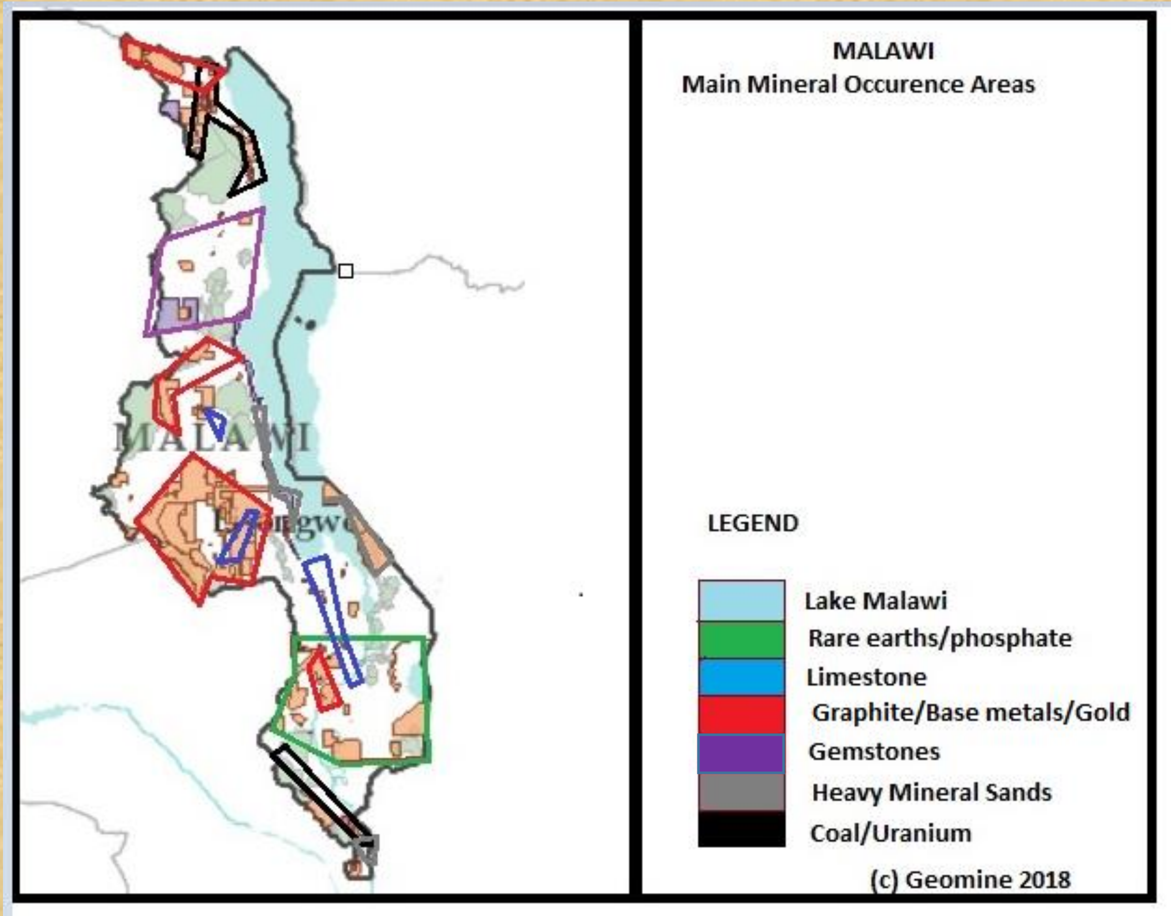
- Rare earths, Niobium, Manganese, Barite, fluorite

TERTIARY –PLEISTOCENE

- Oil and gas



Mineral Occurrence Areas



MINERAL POTENTIAL

DEPOSIT	LOCATION	DELIANATION RESERVES (Million tones/ grade)
Bauxite	Mulanje	28.8/43.9% Al_2O_3
Uranium	Kayelekera	29.3/510 ppm Ur_3O_8
Rare Earths/ Strontianite	Kangankhunde	11/ 8% Strontianite and 2.0% REO
	Songwe	8.5/1.6%TREO
Rutile/Graphite	Kasiya	609 /1.0% Rutile/1.5% Graphite
Corundum	Chimwadzulu-Ntcheu	8,000g/75.6gm per m^3
Graphite	Katengeza-Dowa	2.7/5.8% Carbon
	Malingunde - Lilongwe	70.0/9.0% TGC
Limestone	Malowa Hill-Bwanje	15/48% CaO, 1.2% MgO
	Chenkumbi-Balaka; Chikoa-Livwezi-Kasungu	10/46.1% CaO, 3.5% MgO
	Njereza-Mangochi	98.0/53% CaO, 2.0% MgO
Titanium bearing Heavy Mineral Sands	Nkhotakota-Salima	700/5.6% HMS
	Chipoka	3.15/7.7% HMS
	Mangochi	680/6.0% HMS
	Halala (Lake Chilwa)	15/6.0 % HMS
Coal	Mwabvi-Nsanje	4.7/30% ash
	Ngana-Karonga	15/21.2% ash
	Mchenga	5/17% Ash, 0.5% Sulphur and calorific value of 6,800kcal/kg
Phosphate	Tundulu-Phalombe	2.0/17% P_2O_5
Pyrite	Chisepo-Dowa	34/8% S
	Malingunde-Lilongwe	10/12% S
Glass Sands	Mchinji Dambos	1.6/97% SiO_2
Vermiculite	Feremu-Mwanza	2.5/4.9% (Med+Fine)

CURRENT STATE OF THE EXTRACTIVE SECTOR

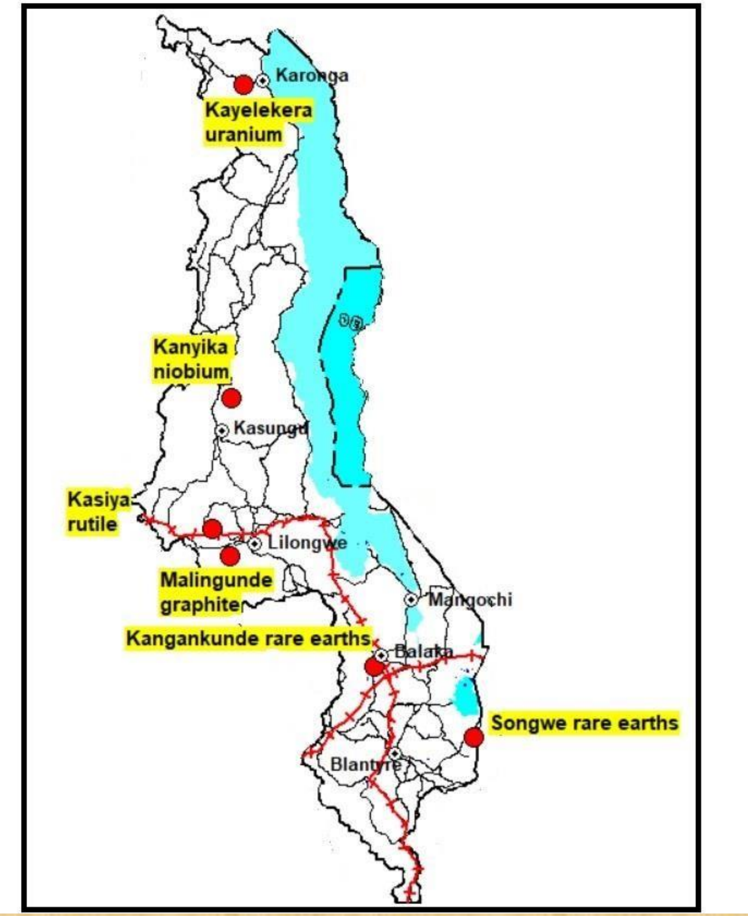
- EXPLORATION STAGE
  - Sovereign Metals at definitive feasibility study – graphite
  - Crown Minerals at feasibility study – titanium minerals (rutile and ilmenite)
  - Mawei Mining at feasibility study – ilmenite and magnetite
  - NGX Exploration Limited at Definitive Feasibility Study- Graphite
- MINING STAGE
  - Lotus Africa Limited – uranium
  - Globe Metals and Mining – niobium and tantalum
  - Mkango Resources – Rare Earths
  - Kasikizi Coal Mining Ltd and Rukuru Mining – coal
  - Shayona Cement and Cement Products Limited – limestone
  - Terrastone Ltd, Mota_Engil, Master Stone – Stone Aggregate

DELINEATED MINERAL RESOURCES

Source: Exploration Companies

LOCATION	CUT-OFF GRADE	RESERVE TONNAGE (Million tonnes)	RESOURCE TONNAGE (Million Tonnes)
Mkango Resources	1.60 TREO	13.2	18.6
Globe Metals and Mining	3,000 ppm Nb	55.0	Open ended
Paladin Africa Limited	0.17% U	0.01	Open ended
Kangankunde	2% TRE 8% Strontianite	11.0	Open ended
Sovereign Metals	7.2% (TGC)	77.3	Open ended
Kasikizi – ZAGAF Cement JV	4500-6800 Cal/Kg	7.0	Open ended
MAWEI	6.0% (ilmenite, magnetite)	680.0	Open ended

ADVANCED MINING PROJECTS IN MALAWI



Estimated Contribution of Mining to Malawi's Economy by 2027

PROJECT	ORE RESERVE	INITIAL CAPEX	EBITDA Per annum	Life of Mine
Lindian Resources Ltd - Kangankunde REE	23 Mt @ 2.2 TREO%	US$40.0 Million	US$57.0 with 99% IRR	45 years
Mkango Resources - Songwe REE	21 Mt @1.4% TREO	US$ 311.0 Million	US$ 215.0 Million @ 31.5 % IRR	18 years
Lotus Africa Ltd - Kayelekera Uranium	29.3 Mlb @510 ppm U_3O_8	US$88.0 Million	US$ 164 Millon @ 28% IRR	10 years
Globe Metals and Mining Ltd – Kanyika Niobium	33.8 Mt @ 2,830 ppm Nb_2O_3	US$35.0 Million	U$7.0 Million @ 14.9% IRR	18 years
Sovereign Metals Ltd	609 Mt @ 1.0% rutile and 1.5 % graphite	US$ 597.0 Million	US$415 Million @ 28% IRR	25 years
TOTAL		US$ 1,071 Million	US$ 694 Million	12% of Current GDP
Current Malawi GDP (2023)			14.8 Billion	

CHALLENGES FACING THE EXTRACTIVE SECTOR

- Poor infrastructure
- Few local service industries
- Limited skilled labour
- Administrative congestion related with high vacancy rate and corruption
- Small Contracts to local companies
- Poor local participation in financing and equity
- Delays in negotiating Mining Agreements
- Unfair Benefit sharing

CRITICAL ISSUES TO BE TAKEN CARE OF

- Community Development Agreements, CSR and Benefit Sharing
- Community Engagement/Social Licence
- Inclusion of economic opportunities for vulnerable groups such as women and other minority groups
- Local participation/Local Content
- Formalising ASMs and creating access to finance and marketing
- Development of local entrepreneurship

THANK YOU
ZIKOMO KWAMBIRI
TAONGA CHOMENE
SIKOMO KADYINJI
MWAPHATA BASA