



# **ENERGY AND MINERAL INVESTMENT POTENTIAL OF LIBERIA**

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**MINISTRY OF MINES AND ENERGY**



## ***INTRODUCTION***

Liberia possesses diverse and abundant mineral resources and energy resources, serving as a cornerstone for its economic recovery and growth.

Rich untapped mineral resources with strong exploitation potential.

Vast untapped hydro, solar and biomass energy resources that meet both internal energy and export needs.

**ENERGY & MINING ARE KEY DRIVERS OF ECONOMIC GROWTH.**

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# LIBERIA ENERGY SECTOR

# STRUCTURE OF THE ENERGY SECTOR

**ENERGY SECTOR LEAD/ POLICY OVERSIGHT**  
Ministry of Mines and Energy (MME)

**ELECTRICITY  
REGULATOR**  
Liberia Electricity Regulatory  
Commission

**PETROLEUM REGULATOR**  
Liberia Petroleum Regulatory  
Authority

**OPERATOR**  
Liberia  
Electricity  
Corporation  
(LEC)

**OPERATOR**  
Private Sector

**Facilitator**  
Rural and  
Renewable  
Energy Agency  
(RREA)

**OPERATOR**  
National Oil  
Company of  
Liberia  
(NOCAL)

**OPERATOR**  
Private Sector

**OPERATOR**  
Liberia  
Petroleum  
Refinery  
Company  
(LPRC)

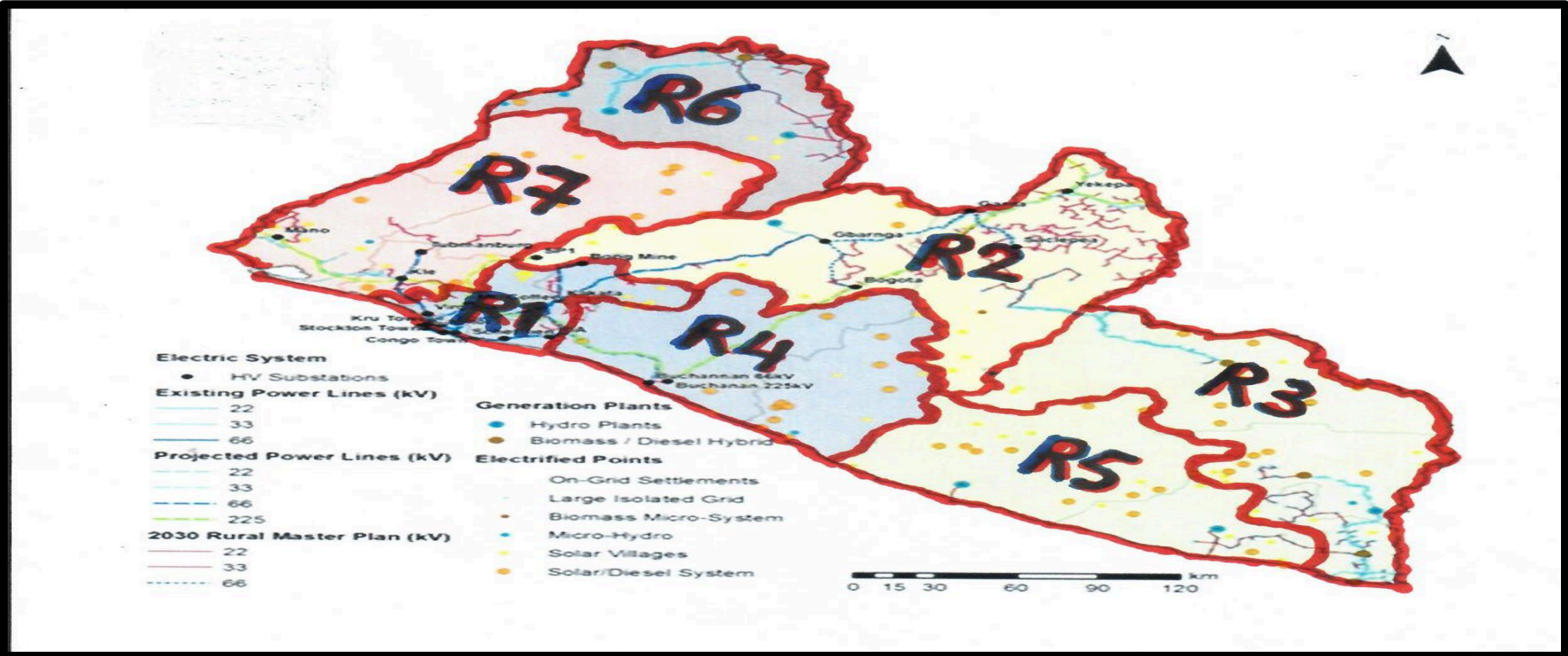
# KEY ENERGY SECTOR INSTRUMENTS

Description	Year	Impact	Objectives
<p>National Energy Policy (NEP)</p> <p>Note: It has been revised 2024</p>	2009	<p>Projects the establishment of the ELL to provide the legal framework to the NEP</p> <p>The appointment of the Deputy and Assistant Ministers for full leadership of the Energy Sector.</p>	Provide universal access to modern Energy services in Liberia
<p>Policy Framework for Electricity Distribution Areas in Liberia</p>	2021	Divide the country into 7 Distribution Areas	<ul style="list-style-type: none"> <li>➤ Policy Framework is to achieve GoL universal access by 2030</li> <li>➤ to create the environment to attract private sector participation</li> </ul>

# KEY ENERGY SECTOR INSTRUMENTS

Description	Year	Impact	Objectives
Renewable Energy Strategic Master Plan (RESMP)	2016	Presents Liberia's intentions and plans towards the objectives of the NEP and ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE) action plans, Sustainable Energy for All and Sustainable Development Goals.	Increase energy access through the expansion of renewable energy.
Policy Framework for Mini Grid Development in Liberia	2022	To boost up the Country's generation capacity and encourage private investment participation.	<ul style="list-style-type: none"> <li>➤ Increase access of safe, reliable and affordable electricity to the people of Liberia from 21% to 100% by 2030</li> <li>➤ Social and economic transformation</li> </ul>

# Electricity Distribution Areas Reform



# National Energy Compact for Liberia: Mission 300 Objectives

- Accelerating national electrification through the 2030 universal access goal
- Modernizing the energy grid and leveraging Liberia's natural resources for clean power.
- Ensure the long-term viability and financial health of the energy sector.
- Addresses the critical public health and environmental issue of traditional cooking methods.

## National Energy Compact: A Sector Action Document to Deliver 75% Access by 2030

<b>Pillar/ Policy Action</b>	<b>Target</b>
<b>Expand Electricity Infrastructure</b>	<ul style="list-style-type: none"><li>❖ 75% of the population have access to electricity</li><li>❖ 75% of the energy mix from renewable energy</li></ul>
<b>Leverage Benefits of Regional Integration</b>	<ul style="list-style-type: none"><li>❖ Strengthened financial health of utilities meeting import obligations</li></ul>
<b>Embrace DRE &amp; Clean Cooking Solutions</b>	<ul style="list-style-type: none"><li>❖ Clean cooking strategy + 200k new connections</li><li>❖ Provide last-mile access through DRE solutions</li></ul>
<b>Attract Private-sector Participation</b>	<ul style="list-style-type: none"><li>❖ US\$80m mobilized for mini- and off-grid solutions</li><li>❖ US\$70m mobilized for utility-scale solar plants</li></ul>
<b>Deliver Sector Reforms &amp; Sustainable Utilities</b>	<ul style="list-style-type: none"><li>❖ Utilities achieving at least 100% cost recovery</li></ul>

# Liberia National Energy Compact: A Call for Partnership and Investment

\$1,500 millions required to achieve compact targets by 2030:

- ✓ **210 committed in ongoing electrification projects;**

**While the following allocations remain for partnership and Investment:**

	<b>Generation</b>	<b>Transmission and Distribution</b>	<b>Off- Grid</b>	<b>Clean Cooking</b>	<b>Capacity- Building</b>	<b>Total</b>
Public Financing	660	390	70	10	20	1,150
Private Financing	60	-	70	5	5	140
<b>Total</b>	<b>720</b>	<b>390</b>	<b>140</b>	<b>15</b>	<b>25</b>	<b>1,290</b>

# known European Union (EU)-supported energy projects in Liberia

## Light Up South-East Liberia (LUSE) Electrification Programme.

### Key components:

- **Rural electrification in Buchanan (Grand Bassa County)** – distribution network expansion, street lighting, and household connections.
- **Greenville (Sinoe County)** – hybrid renewable system with a **2 MW mini-hydropower plant**, solar PV installations, and expanded energy infrastructure.
- **Barclayville (Grand Kru County)** – **solar mini-grid project** with distributed solar power generation and network extensions

## Liberia Energy Efficiency and Access Project (LEEAP)

# Current Energy Situation of Liberia

## Energy Generation Mix:

- Mount Coffee Hydropower Plant: **88 Megawatts** but currently supply 18 MW as its base output due to the dry season and a damaged turbine.
- Heavy Fuel Oil plants: **38 Megawatts** but has an operational capacity of 24 MW currently.
- Regional power **imports from Côte d'Ivoire (CLSG)**, supply 50MW (Power Purchase Agreement – PPA is signed).
- **Solar**: ~2.5 MW (grid and off-grid).
- **Biomass & Other Renewables**: Limited development

# Energy Sector Initiatives

- Hydro-power Expansion: The Mount Coffee Hydropower Plant is undergoing an extension to increase its capacity from 88 MW to 150 MW. This project, funded by the World Bank, is expected to generate an average of 430 GWh annually, enhancing Liberia's renewable energy output.
- First utility-scale Solar Independent Solar Power project to be installed in phases;
- **RESPITE:** Liberia first **20MW** Solar Project by the World Bank;
- Saint Paul River Hydropower Project with **150 Megawatts** generation capacity;
- Development of an Integrated Power System Master Plan;
- Upgrading Transmission and distribution( will improve power distribution & installation pre- paid meter)
- EU South -East Rural Electrification Project.
- Rural Electrification Project through the Shield-wire, Regional Power Connection Project- Côte d'Ivoire, Liberia, Sierra Leone, and Guinea(CLSG)
- Liberia Electrification Energy Access Project (**LEEAP**);
- **ETC**

# Challenges in the Energy Sector

Currently, Liberia faces major electricity challenges:

- Low electrification rate, only **33%** of people have access to electricity
- In rural areas, access remains very low @ approximately **3.5%**
- Weak transmission & distribution infrastructure.
- The country has a current peak load during high demand of **130 Megawatts**
- High commercial and technical losses
- Limited investment in renewable energy.
- High cost of electricity (~\$0.22/kWh).

# 2026–2028 Electricity Tariff Structure

- Social Tariff ( $\leq 25$  kWh/month): Reduced to 13 US cents per kWh (down from 15).
- Prepaid/Postpaid Residential: Reduced to 22 US cents per kWh (down from 24).
- Prepaid Residential Fixed Charge: Reduced to US\$2.00/month.
- Postpaid Residential Fixed Charge: Reduced to US\$3.79/month.
- Medium Voltage Customers (22kV–33kV): Increased slightly to 20 US cents per kWh. Connection Fees: \$70.00 for single-phase and \$340.00 for three-phase connection

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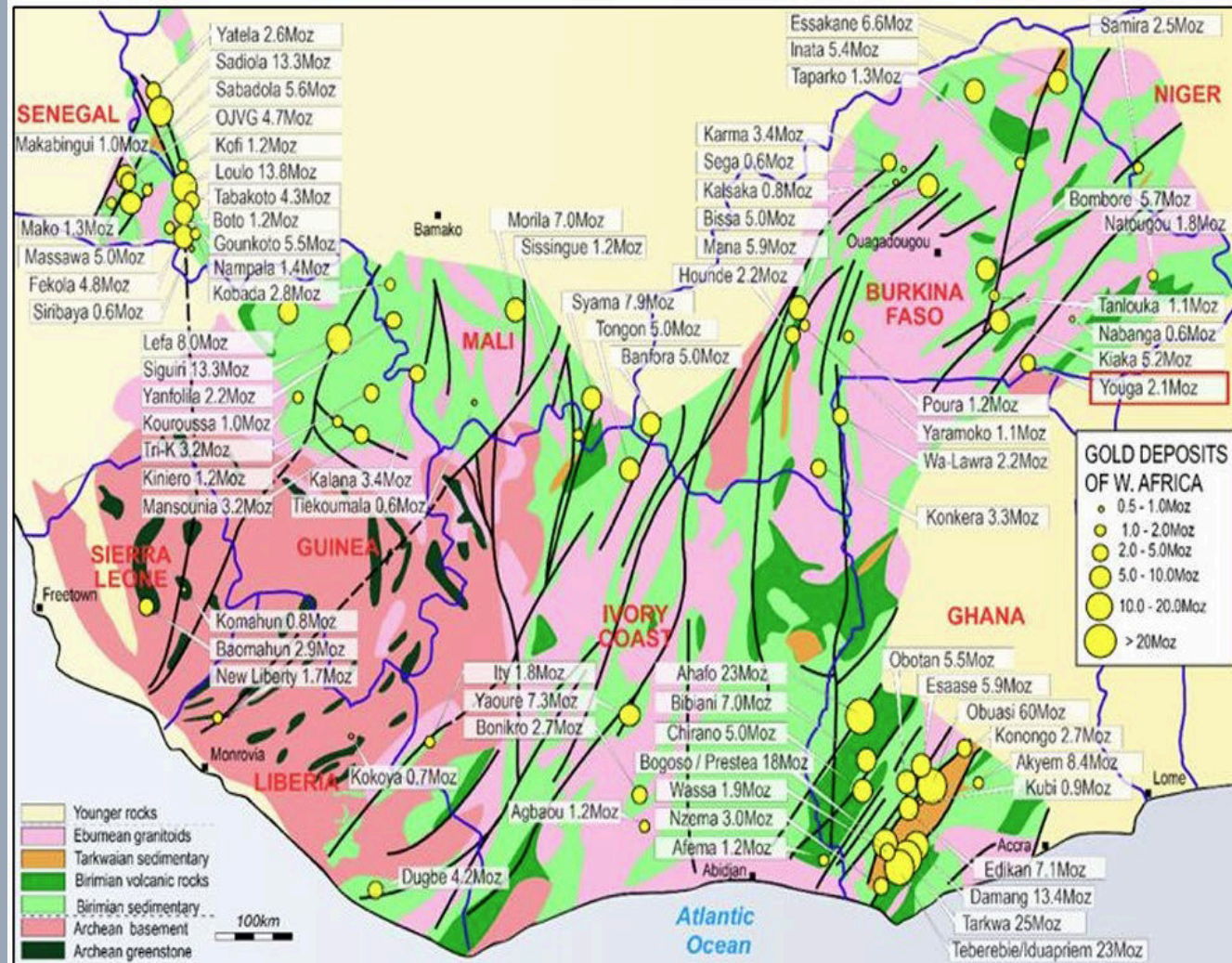
# LIBERIA MINERAL SECTOR

# Geological Framework

Located within the Leo-Man Shield, the southern portion of the Archean-Proterozoic West African Craton.

Roughly 90% of Liberia is underlain by Archean (3260–2850 Ma) and Paleoproterozoic (2150–1800 Ma), granite-gneiss basement rocks, western predominantly Archean and the eastern portion transitioning to Paleoproterozoic, separated by major regional shear zones.

Favorable greenstone belts and iron formations.



FAVORABLE GEOLOGY FOR MINERALIZATION AND UNDER EXPLORED

# GOLD POTENTIAL

## INDUSTRIAL GOLD EXPORT 2025

Au (kg)	Appraised value (\$ US)	Royalty 3% (\$ US)
11258.1322	1,236,414,069.91	36,287,832.04

## ARTISANAL GOLD EXPORT 2025

Au (kg)	Appraised value (\$ US)	Royalty 3% (\$ US)
935.334	38,673,915.11	1,160,211.85

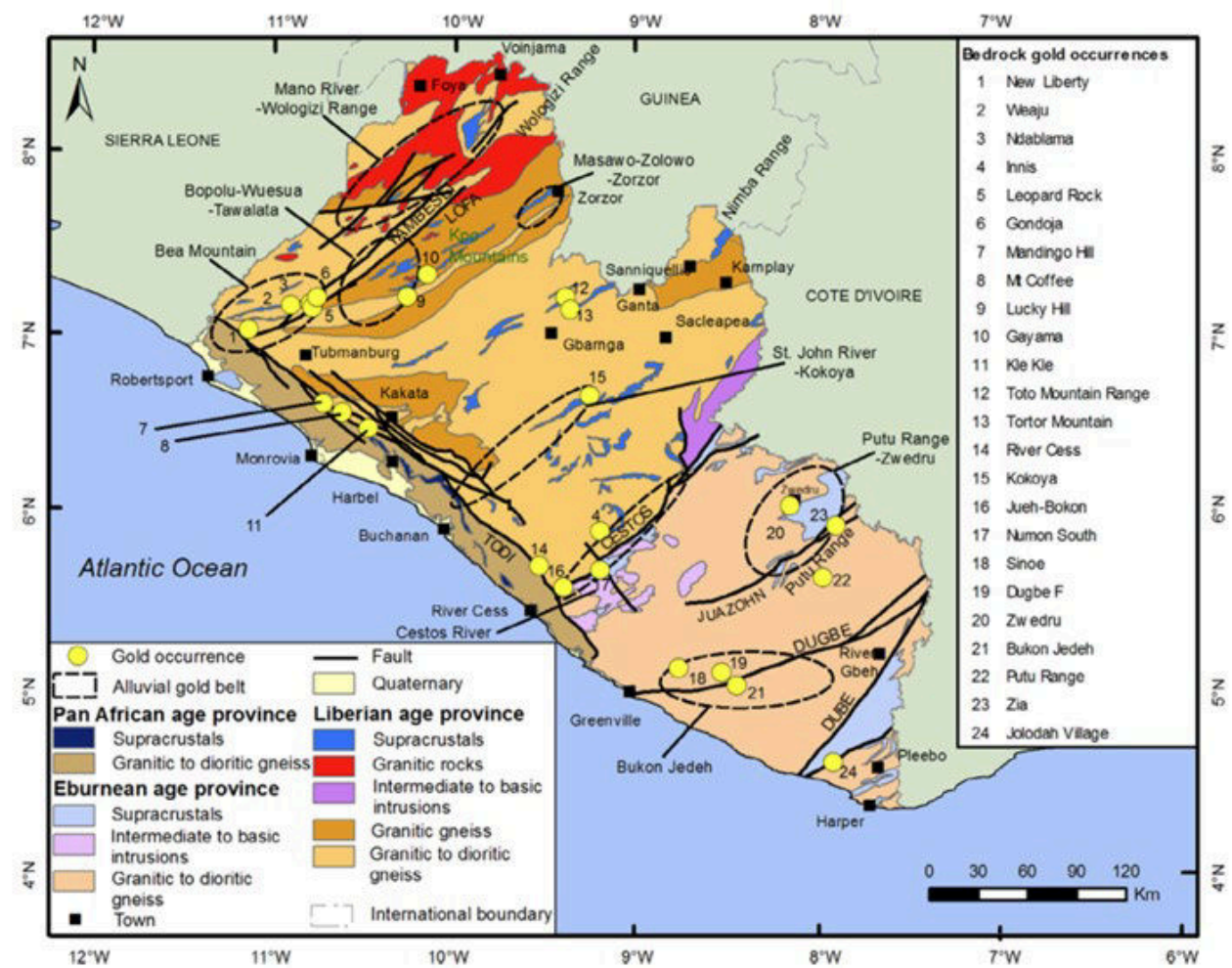


Fig. 3. The distribution of the principal bedrock gold occurrences and gold 'belts' in Liberia.

GOLD OCCURRENCES ARE WIDELY DISTRIBUTED OVER BOTH THE ARCHAEOAN AND PROTEROZOIC TERRANES, WITH FOCUS ON MAJOR REGIONAL SHEAR ZONES.

# IRON ORE POTENTIAL

1. ARCELOR MITTAL - 501 million tonnes at 62.3% Fe
2. BONG MINES - 304 million tonnes ore at 36.5%
3. WESTERN CLUSTER –
  - MANO RIVER - 95 million tonnes at 32.9% Fe
  - BOMI HILLS - 95 million tonnes at 32.9% Fe
  - BEA MOUNTAIN - 500 million tonnes at 33.2% Fe
4. WOLOGIZI - 1.271 billion tonnes at 30–45% Fe
5. MOFE CREEK - 61.9 million tonnes at 33% Fe,
6. PUTU – 102 million tonnes at 59.3% Fe
7. GOE - 568 Mt, which includes 101 Mt of DSO grading 57.2% Fe
8. BUCHANAN FINES - 11 million tonnes (measured) at 45% Fe

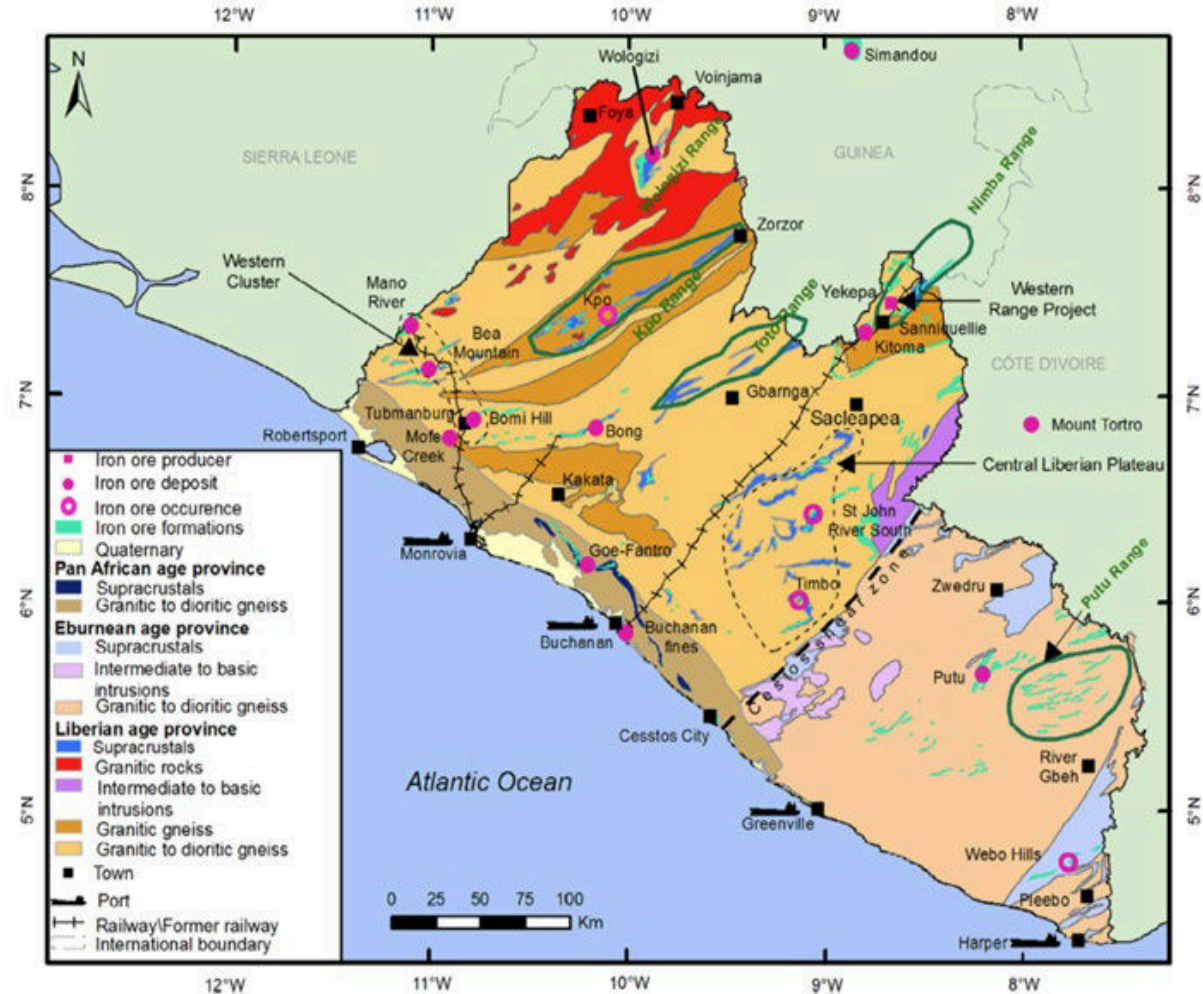


Fig. 4. The distribution of the principal iron ore deposits in Liberia and neighbouring countries.

**TOTAL IRON ORE EXPORT 2025 IS 9,939.542.00MT**

**ADDITIONAL IRON ORE OCCURRENCES OF POTENTIAL ECONOMIC IMPORTANCE ARE WIDESPREAD IN LIBERIA,. EXAMPLES ARE KPO AND TOTO RANGES OF WESTERN AND CENTRAL LIBERIAN**

# DIAMOND POTENTIAL

## TOTAL DIAMOND EXPORT 2025

CARATS	EXPORT VALUE (US\$)	ROYALTY (US\$)
35,817.77	7,969,469.19	239,084.08

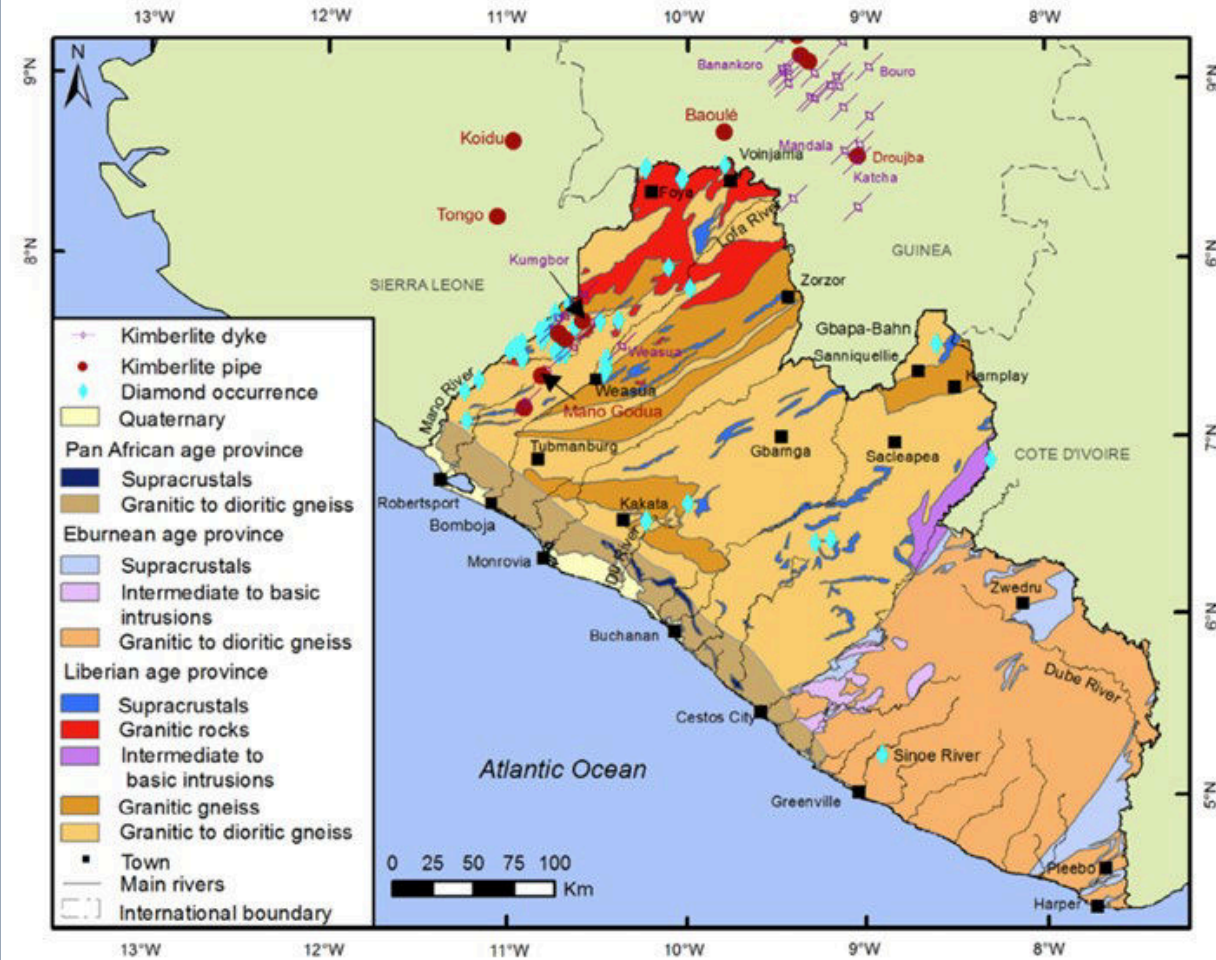


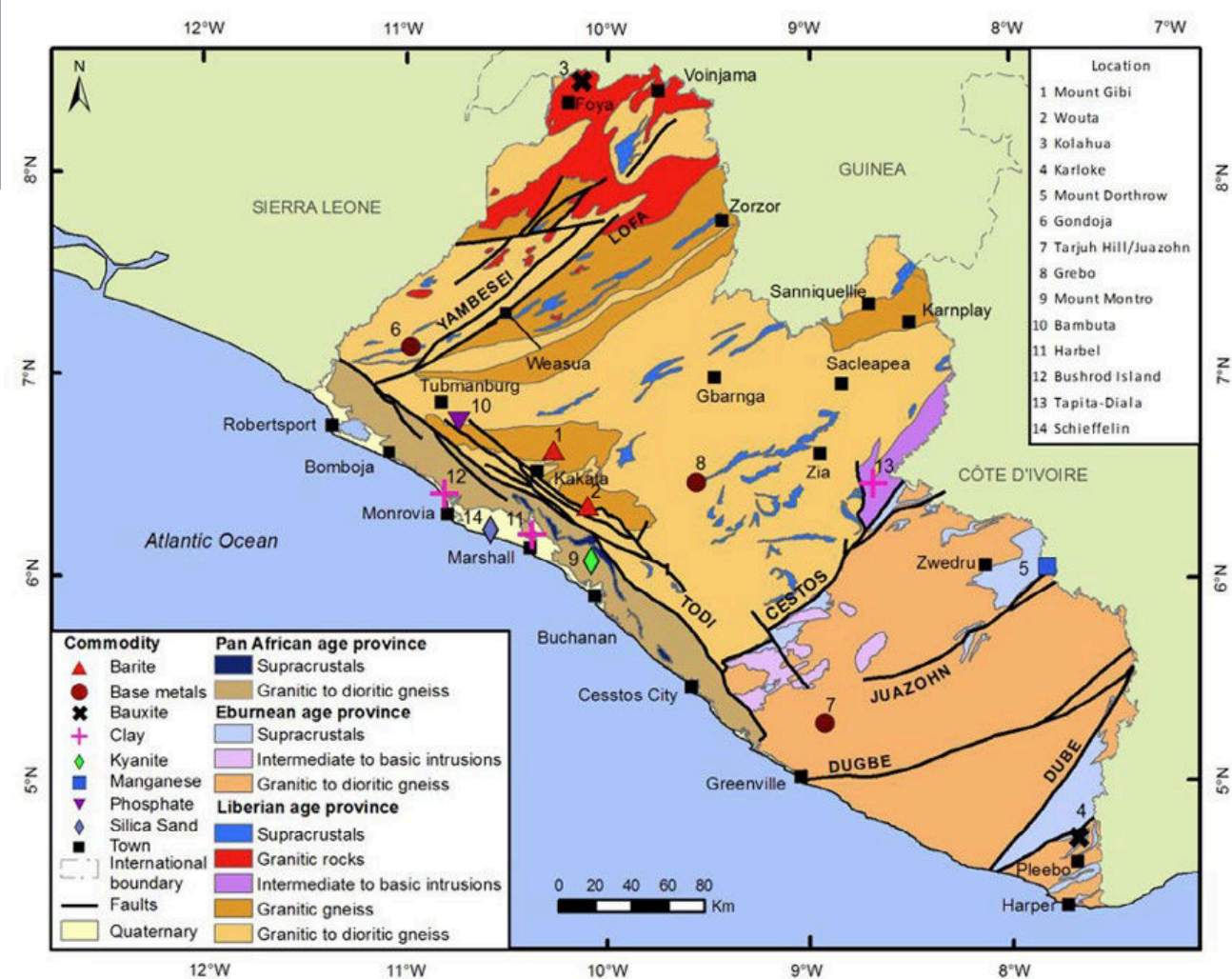
Fig. 5. The distribution of the principal diamond occurrences in Liberia and neighbouring countries.

ABOUT 160 KIMBERLITE OCCURRENCES IDENTIFIED IN CENTRAL AND WESTERN LIBERIA BY THE USGS AND THE LGS.

KIMBERLEY PROCESS COMPLIANT.

# CRITICAL & EMERGING MINERALS

1. Bauxite
2. Manganese
3. Heavy mineral sands
4. Base metals (copper, lead, zinc, nickel, tungsten, tin)
5. Nickel, copper, PGM and chromite in mafic-ultramafic rocks
6. . Kyanite
7. Phosphate
8. Clay
9. Silica sand
10. Technology metals (niobium, tantalum, rare earth elements, lithium, beryllium)



LITHIUM, COBALT, RARE EARTHS, MANGANESE.

IMPORTANT FOR GREEN ENERGY.

## Economic Importance

Liberia is one of the world's leaders in registered shipping tonnage with access to regional markets.

Liberia has developed special economic zones across the country.

## Opportunities

Actively courting **U.S. and global investment partnerships** for exploration and extraction of base metals and rare earth minerals.

Large unexplored areas and investment incentives.

**Comprehensive geological surveys** to map mineral distribution

## Strategic Actions for Liberia

**Mineral policy enhancements** to attract responsible investment and support value-added industries.

Opportunity to expand **Value chain: develop local processing and refineries** to capture greater value from mineral resources.

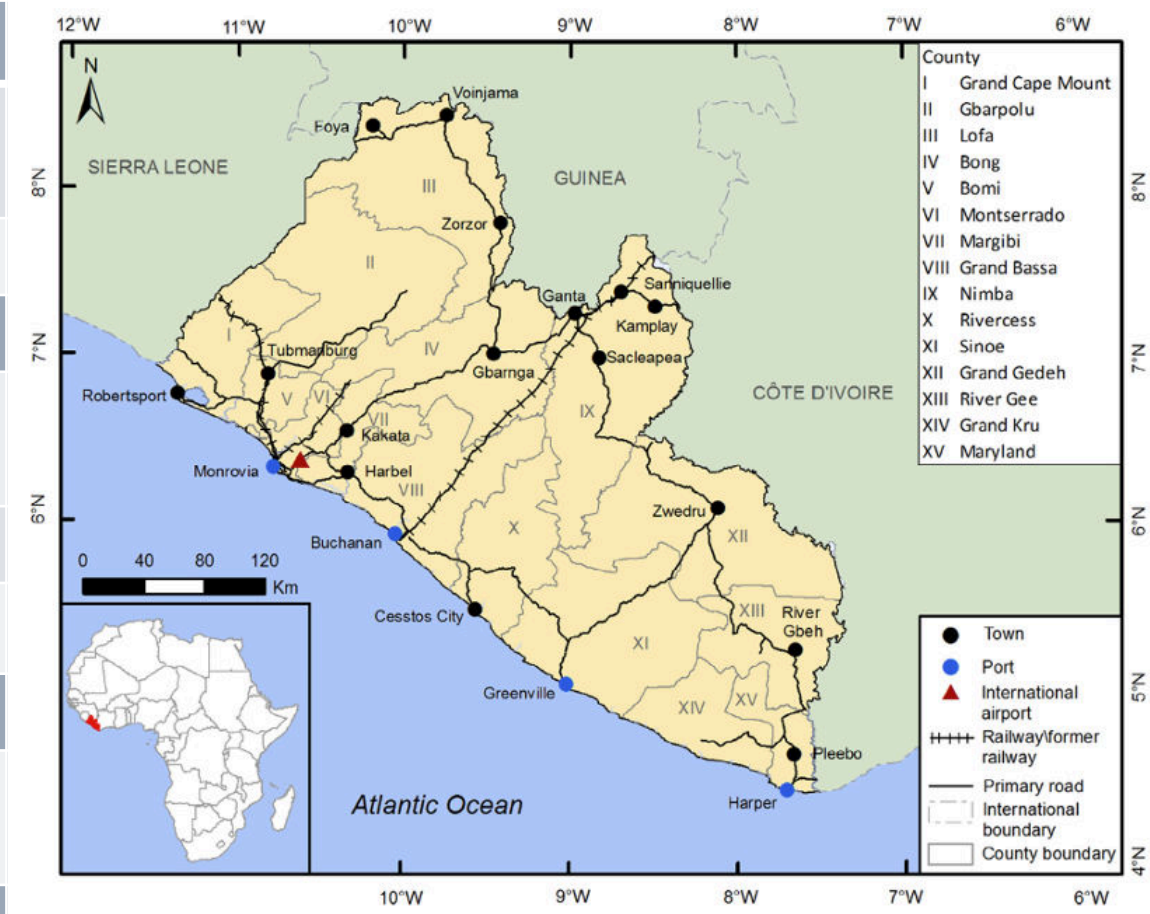


Fig. 1. Location of main settlements, counties and transport infrastructure in Liberia.

**PUBLIC-PRIVATE PARTNERSHIPS WILL DEVELOP CRITICAL MINERAL SUPPLY CHAINS THAT ALIGN WITH GLOBAL DEMAND TRENDS. FOREIGN DIRECT INVESTMENT IS CRUCIAL FOR LIBERIA.**

## Economic Importance

Liberia is one of the world's leading countries in registered shipping tonnage.

Liberia offers access to regional markets, and has the developed special economic zones across the country.

## Challenges & Opportunities

Infrastructure deficit.

Large unexplored areas and investment incentives.

Dependence on imports, such as food, fuel, manufactured goods

## Conclusion

Liberia holds strong mineral potential.

Diversified strategic investment can unlock growth

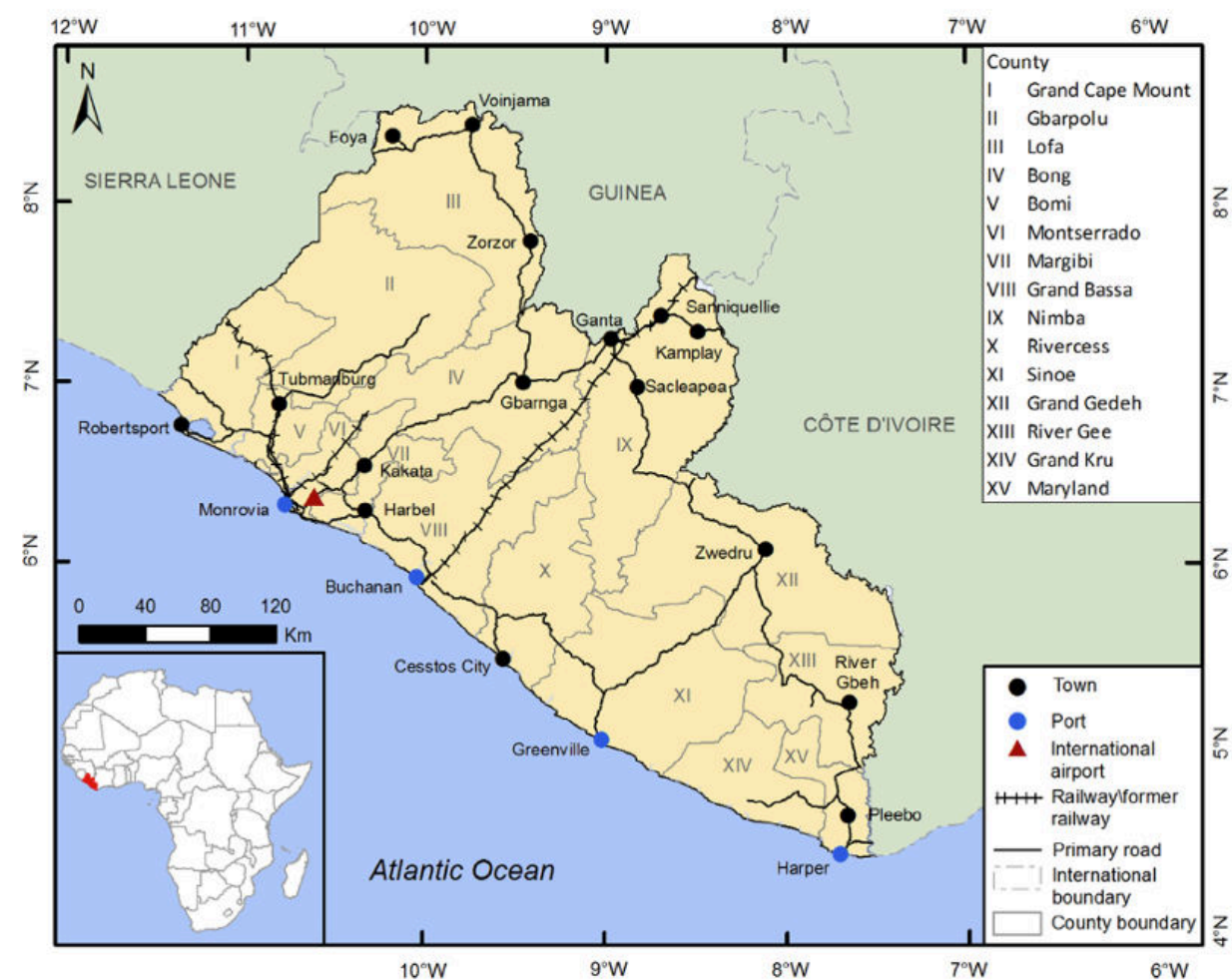


Fig. 1. Location of main settlements, counties and transport infrastructure in Liberia.

**“FOREIGN DIRECT INVESTMENT IS CRUCIAL”**