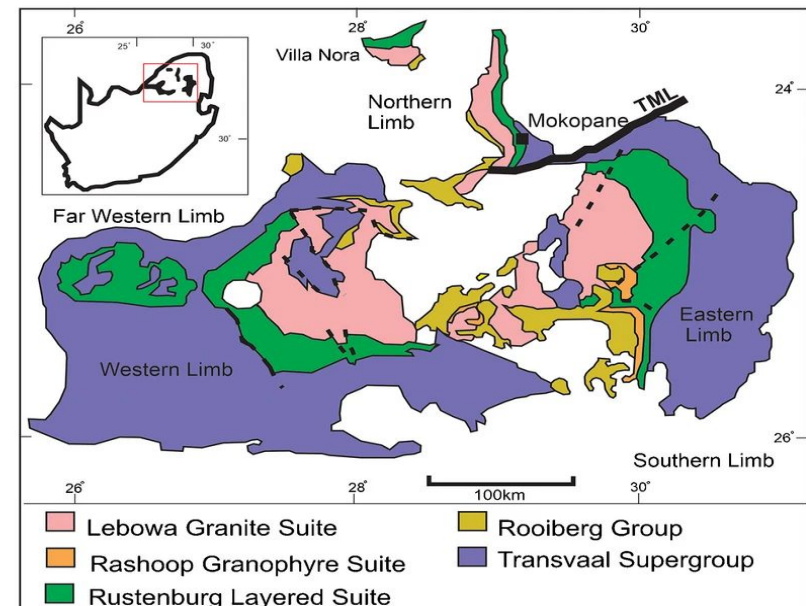


Platinum's Strategic Positioning and Economic Importance in South Africa

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PRESENTATION OUTLINE

1. Background
2. Assessment methods
3. SWOT and PESTEL Analyses
4. Strategic Positioning
5. Economic Importance
6. Proposed Framework
7. Conclusion and Recommendations

1. BACKGROUND

- Platinum is a rare, precious metal found within the Bushveld Igneous Complex (BIC) in South Africa
- South Africa is endowed with mineral resources and has a comparative advantage.
- The country has significant strategic importance in the global Platinum market.
 - As a major producer, it has leverage and a good strategic position in global supply and trade agreements.
 - The country dominates the market share of the PGMs.
- However, factors such as political instability, price fluctuations, water, electricity, infrastructure and electric vehicles pose risks to its strategic status.
- South African government has declared platinum as a strategic mineral.
- Strategic minerals are necessary for national security, industrialisation, economic growth and employment in the country.
- The proposed model aims to position platinum and enhance its economic importance strategically.

1.1. Application and Uses of PGMs

PRODUCT	PGM	APPLICATIONS
Automobiles	Pt,Pd,Rh,Pt,Pd,Ir Pt, Pd, Ru	Pollution control catalyst Spark plugs Engine control sensors, airbag initiators Electronics for engine management systems
Electronic equipment	Pt, Pd, Ru, Ir	Connectors, printed circuits, and resistors capacitors, lasers
Computers	Pt, Ru	Thin layer in hard disks to increase memory storage capacity
Jewellery	Pt, Pd, Rh	Rings, chains, pendants, watch cases and straps
Glass and ceramics	Pt, Rh	Glass fibre, display glass, optical glass, ceramic glass, tableware decorative patterns and finishes
Medical and biomedical	Pt,Pd,Rh,Ru,Ir,Os	Antitumor drugs, implants, and treatments for heart disease Cancer screening
Chemical and petroleum	Pt, Pd, Rh, Ru, Ir	Plastics, polyester, pharmaceutical ingredients, high-octane gasoline fertilisers and explosives, silicones
Aircraft engines	Pt	Turbine blades, spark plugs
Dental restorations	Pt, Pd, Ru, Ir	Dental inlays, crowns, and bridges
Fuel cells	Pt, Ru	Electric vehicles, standby and auxiliary power domestic power and heating

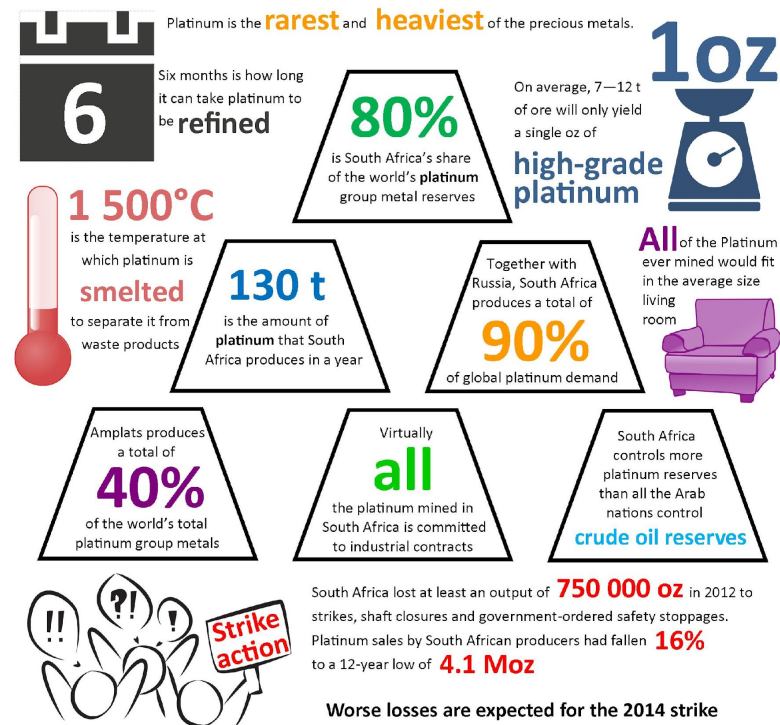
2. Assessment Methods

- A multi-layered, mixed-method quantitative metric.
- Strategic drivers and Economic factors.
- SWOT and PESTEL analyses.
- Analyses of data patterns, economic effects, mining output reserves and resources, operational efficiencies.
- Statistical Data - Platinum's National and Global Position & Economic and Employment contribution in the country.
- Developed Proposed Framework - Enhances strategic positioning and economic importance with Relevant Parameters to provide policy-making recommendations in South Africa.

3. SWOT AND PESTEL ANALYSES

3.1. SWOT- Strength

What you need to know about platinum mining in South Africa

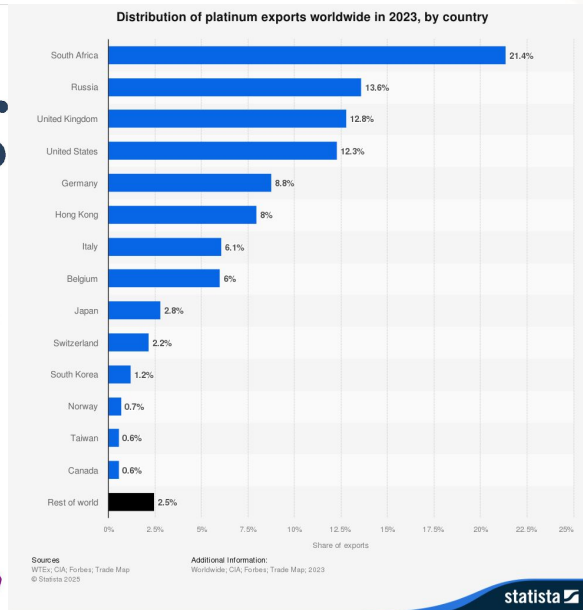


(Source: Mining IQ | <http://www.projectsia.co.za>)

By @VickySider



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Largest reserves in the world

Leading producer in the world

Leading exporter (global market share)

Platinum is a critical mineral for green technologies

Platinum is a strategic mineral for technology development

Platinum is listed as a strategic mineral (including other countries)

High economic and social contribution to the country

3.2. SWOT- Opportunities

In 2017

Direct employees	Platinum produced
 175,770 people	 253t
Employee earnings	Total sales
 R48.0bn	 R94.1bn
Royalties paid	Percentage of metals exported
 R0.8bn	 87%

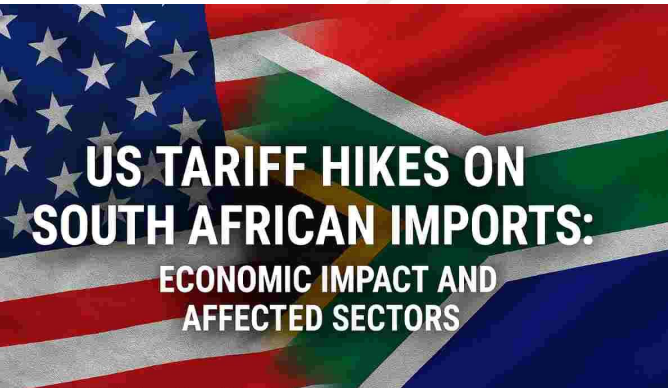
ECONOMIC CONTRIBUTION OF PLATINUM GROUP METALS	
Contributing factor	2024
1. Direct Employees	173,424
2. Employee Earnings (R billion)	76.8
3. Royalties (R billion)	3.6
4. Production (Tonnes)	256.5
5. Total Sales (R billion)	173.1



TOP 5 PGM IMPORTING COUNTRIES		
COUNTRY	QUANTITY(TONNES)	
	2024	2014
1. United States	71.1	40.6
2. Japan	67.5	57.0
3. United Kingdom	56.2	38.0
4. Germany	26.8	12.3
5. Hong Kong	25.8	23.4

- Hydrogen economy
- Industrialisation and technology innovation
- Downstream value chain development
- Demand for cleaner energy
- Job creation
- Strategic partnerships
- Global exporting opportunities

3.3. SWOT- Weakness



Infrastructural development

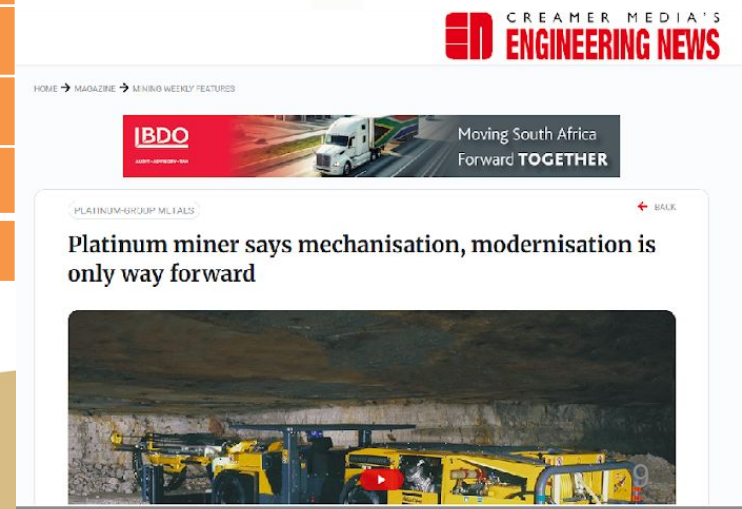
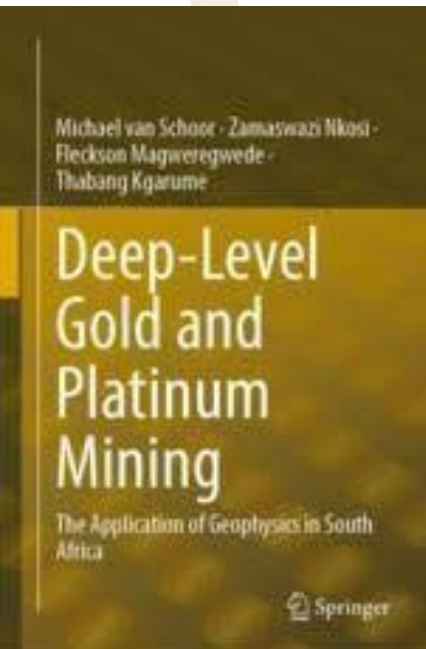
Insecurity of energy supply

Heavy reliance on the export market

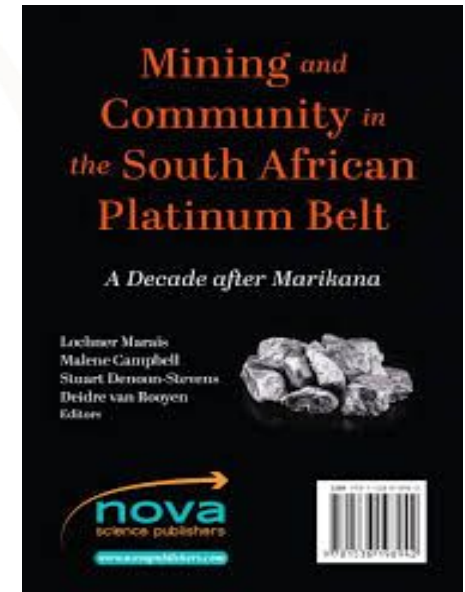
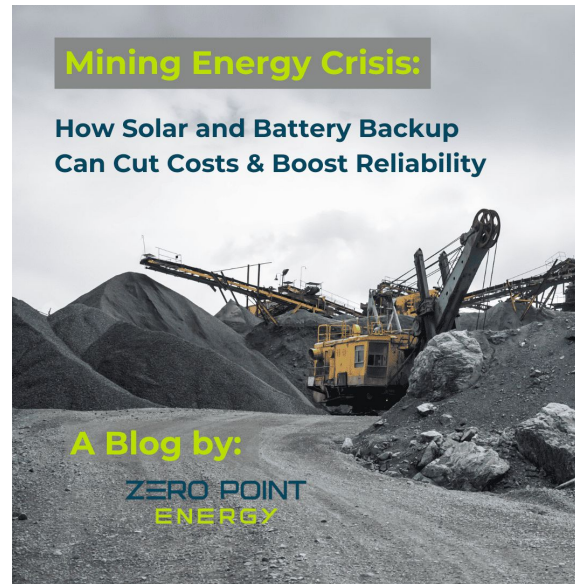
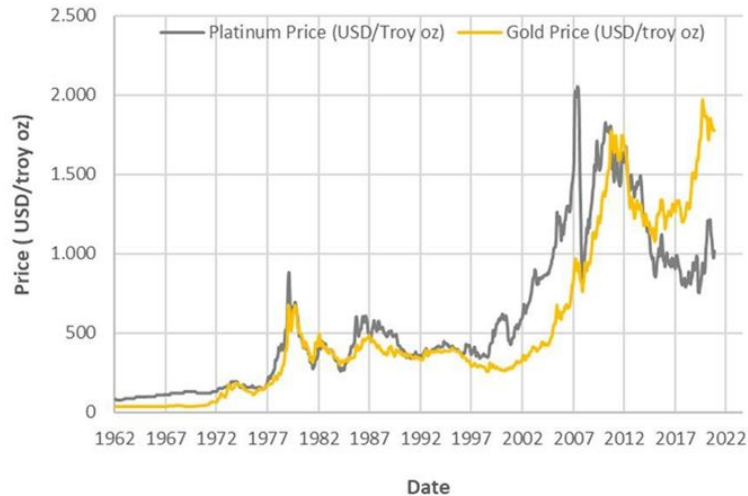
Inability to reach stable and lasting labour agreements

High production costs

Deep-level mining



3.4. SWOT- Threats



Energy crisis

Labour strikes

Market shifts and price volatility

Rising community tensions

Substitution and recycling

Geopolitical challenges

3.5. PESTEL ANALYSIS

PESTEL ANALYSIS- STRATEGIC FACTORS OF PLATINUM	
POLITICAL	ECONOMIC
Stable legal framework Conducive policy environment Clear ownership rules from the government Promotion of beneficiation and industrialisation Labour strikes and community tensions Trade agreements Geopolitical issues	GDP and exports Foreign investment Tax revenue Royalties Diversification Price volatility Operational and labour costs Supply and demand factors
SOCIAL	TECHNOLOGICAL
Increased employment and improved livelihoods Social benefits for the communities Impacts of automation and mechanisation Lack of training and skills development ESGS awareness and compliance	Mining expertise and technology Exploration, research and innovation Industrialisation and beneficiation Smart mining - automation and digitalisation
ENVIRONMENTAL	LEGAL
High water and electricity usage Land use and degradation Pollution and emissions control Sustainability compliance and reporting	Legal and policy framework Land claims and community rights Labour laws Licensing and environmental compliance

4. STRATEGIC POSITIONING

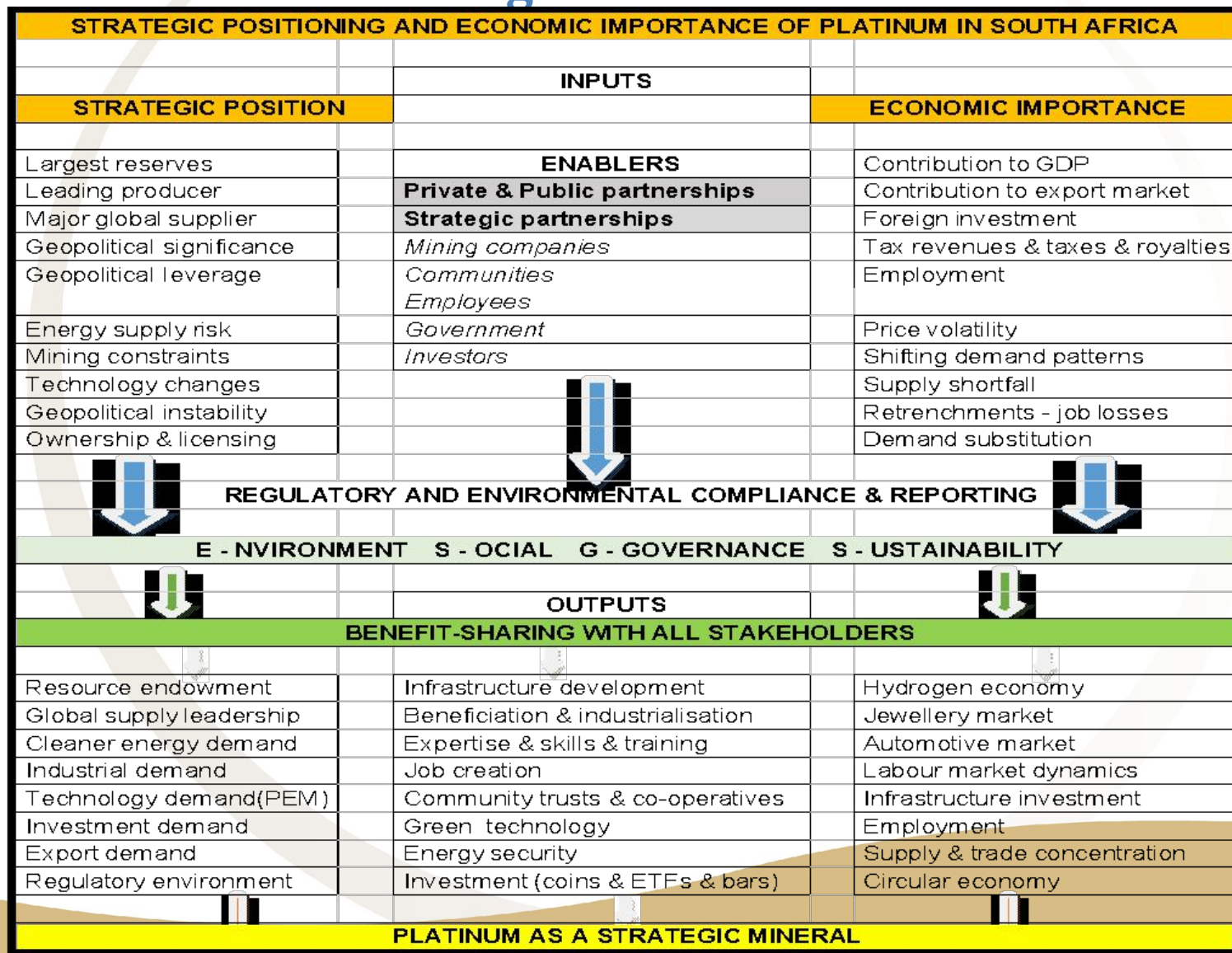
- *Strategic drivers* are supply, demand and economic importance.
- *Demand factors*: cleaner energy, industrial, technology, export and investment.
- *Positioning factors*: international collaboration, private partnerships, educational awareness, employee upskilling, research initiatives into new applications and utilisation of platinum.
- Utilisation of Platinum in various sectors, from jewellery, automotive, technology to renewable energy continue to drive the demand.

5. ECONOMIC IMPORTANCE

- Platinum contributes to economic growth, socio-economic development and employment.
- *Economic factors:* influences industrialisation, investment, and the advancement of alternative technologies.
- *Drivers of economic importance:* hydrogen economy, jewellery and automotive markets, infrastructure investment, beneficiation and industrialisation,

6. PROPOSED FRAMEWORK

Strategic and Economic Drivers



7. CONCLUSION AND RECOMMENDATIONS

- South Africa is the leading producer and exporter for PGM's.
- Cleaner energy promotes platinum demand.
- High-tech industries, resource endowment, economic and energy security, socio-economic contribution, exports, industrial and technological inputs lead to strategic importance and positioning of platinum.
- Government policy and strategic partnerships should focus on reducing identified weaknesses and threats.
- Strive for equal benefit-sharing in all sectors of the economy.
- Framework contributes to policy-making, economic growth, security of supply and benefit-sharing for all stakeholders.
- Proposed Framework promotes and sustains platinum as a strategic mineral in South Africa.



Thank you

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