

AMREC/PARC as a national-scale resource classification and management framework

From standardized reporting to criticality assessment

South Africa already has strong investor-facing reporting practice. The next step is to connect classified resource information to national planning, innovation, stewardship and system-risk analysis.

Classification is not the end product. It is the first layer of national resource intelligence.

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Resource information becomes strategic only when it moves through the full decision chain.



SAMREC is necessary. It is not enough for national resource management.

A stock-exchange reporting code serves one critical channel. A national resource system has more actors, more accountabilities and more consequences.

SAMREC reporting channel

- Exploration Results, Mineral Resources and Mineral Reserves
- Public reporting to markets and potential investors
- Competent-person discipline and investor confidence
- Necessary for capital formation

Investor-facing logic

The gap

Classified resource information must be made interoperable across institutions, not only disclosed to markets.

National resource system

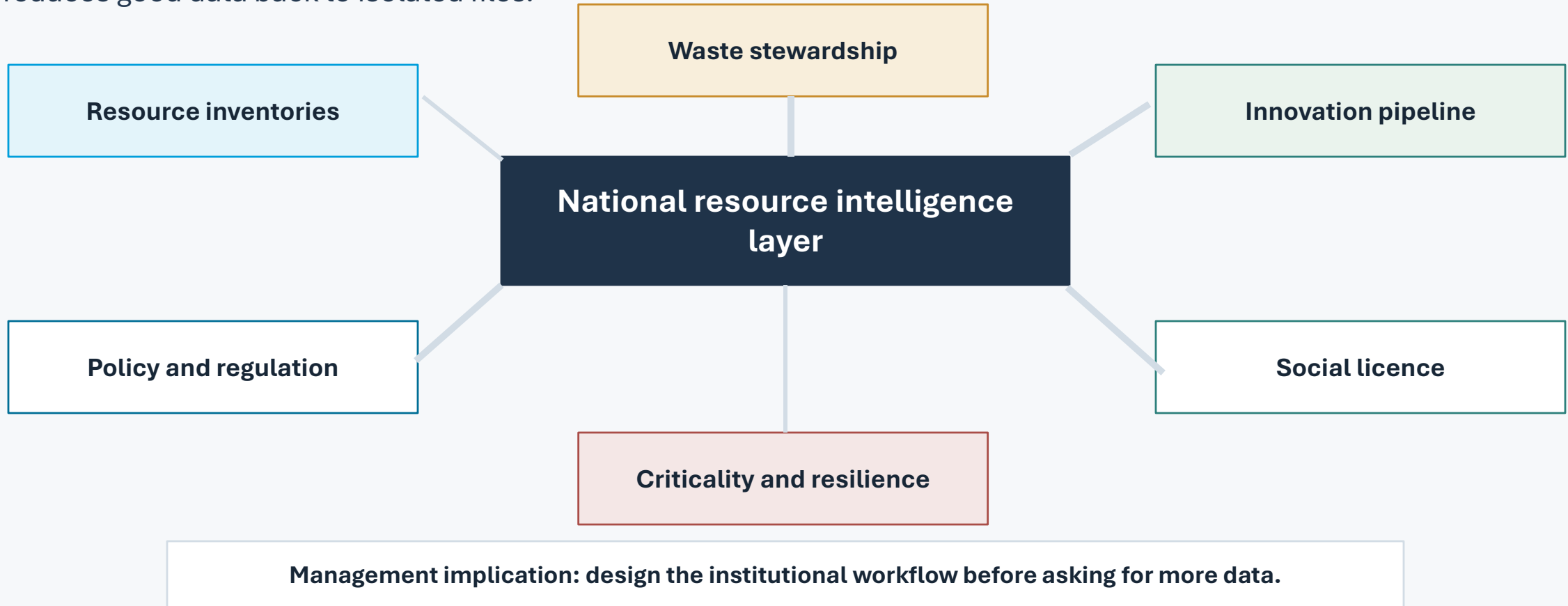
- Government policy and fiscal strategy
- Innovators solving operational and environmental constraints
- Communities, labour and social licence
- Waste and tailings stewards
- Infrastructure, water, energy and skills planners

Public-interest logic

AMREC/PARC complements SAMREC by adding the national management layer.

The missing layer is agency across the whole system

Information without a management pathway remains a user manual, not the motor. Fragmentation reduces good data back to isolated files.



Rigid order fails when it optimizes isolated parts while neglecting the whole resource system.

AMREC gives countries a harmonized classification base

AMREC adapts the UNFC logic for African resource management: one classification architecture across geology, feasibility and environmental-social-economic viability.

AMREC / UNFC decision space

- E** Environmental-social-economic viability
- F** Technical feasibility and project maturity
- G** Degree of confidence in estimates

National-scale use cases

Resource inventory

A common language for mapping minerals, energy and anthropogenic resources.

Governance coordination

Link ministries, geological surveys, regulators and planning agencies.

Reporting interoperability

Bridge public reports, government registers and institutional datasets.

Strategic prioritization

Prepare resource data for criticality, value-addition and risk screening.

What changes: resources are classified as projects in context, not merely as tonnes in the ground.

PARC extends reporting to public value

PARC keeps the discipline of public reporting, but widens the reporting object to include stakeholders, social/environmental performance and African development priorities.

Transparency

Clear, balanced information that users can understand and test.

Materiality

Relevant information for reasoned judgement by investors and stakeholders.

Competency

Qualified persons subject to enforceable ethical and professional rules.

Public value

Economic, social and environmental benefits considered as part of project reporting.

PARC environmental and social innovation reporting

Projects should report how they identify, test, monitor and improve sustainable extraction, production and environmental management solutions.

PARC ASM reporting pathway

A structured template can make artisanal and small-scale operations more visible, verifiable and governable.

ASM is part of the management system

For South Africa, the issue is not whether ASM exists. It is whether informal activity can be separated from illegality and brought into accountable reporting, stewardship and enterprise development.

1**Reality**

Small-scale activity, abandoned workings, local livelihoods and illegal mining pressures create a complex operating environment.

2**Formalisation**

South Africa has an ASM Policy and a Small-Scale Mining support architecture aimed at development and growth.

3**PARC contribution**

PARC provides structured ASM reporting: location, technical information, permits, governance, environmental and social impacts.

4**Outcome**

Better visibility can support safer work, enterprise graduation, environmental management and community accountability.

Distinctive PARC feature: ASM and social/environmental dimensions are integrated into the public reporting architecture.

This is also where waste management becomes a governance problem: weakly accountable stewardship is one of the most visible sources of social anger.

Africa's resource problem is fragmentation, not geology alone

Endowment becomes development only when information, institutions and value chains are integrated. Otherwise resources can amplify leakage, distrust and stranded opportunity.

~30%

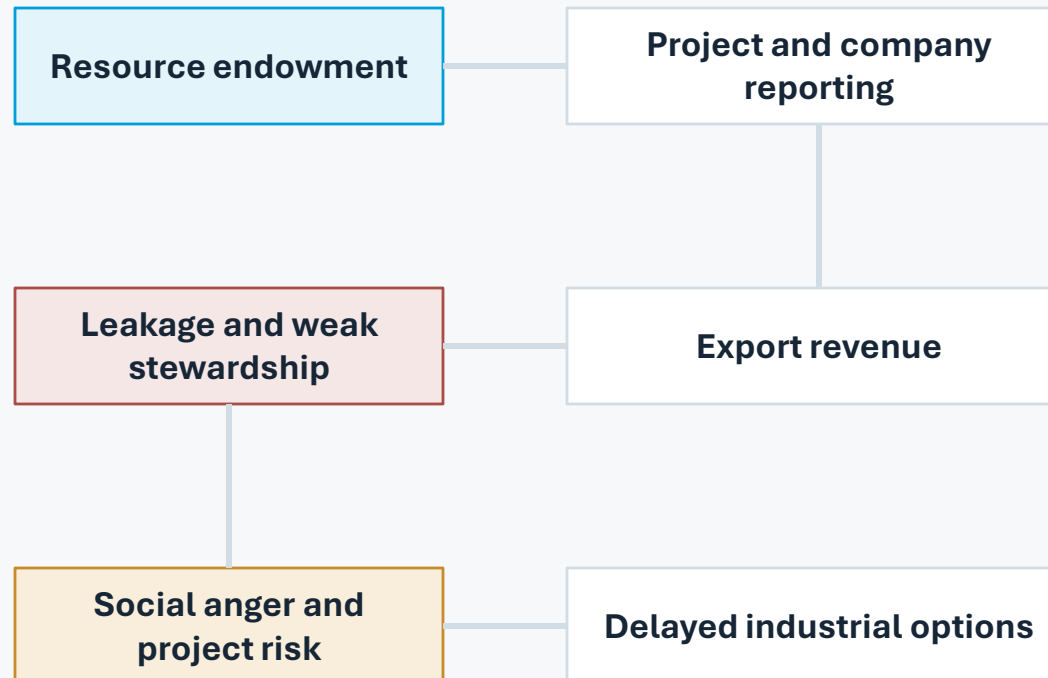
Sub-Saharan Africa share of proven critical mineral reserves, according to IMF analysis.

>70%

Global cobalt associated with the Democratic Republic of the Congo in the IMF framing.

USD 88.6B

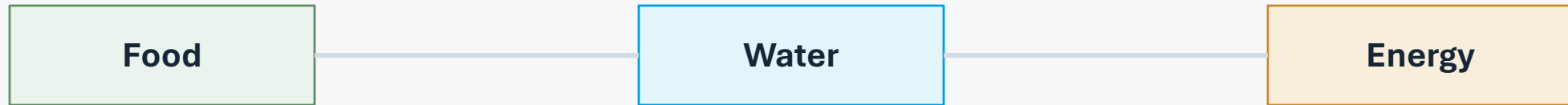
Estimated annual illicit financial flows from Africa in UNCTAD analysis.



The management shift is from reporting isolated assets to governing the whole resource system.

Criticality adds consequence to classification

A mineral is not critical in the abstract. It becomes critical when its disruption affects essential systems and when supply cannot adapt fast enough.



System Exposure

Ask how deeply the mineral is embedded in essential food, water and energy functions, and how much the system can absorb, substitute or recover from disruption.

Illustrative method: functional system importance plus system resilience.

Supply Risk

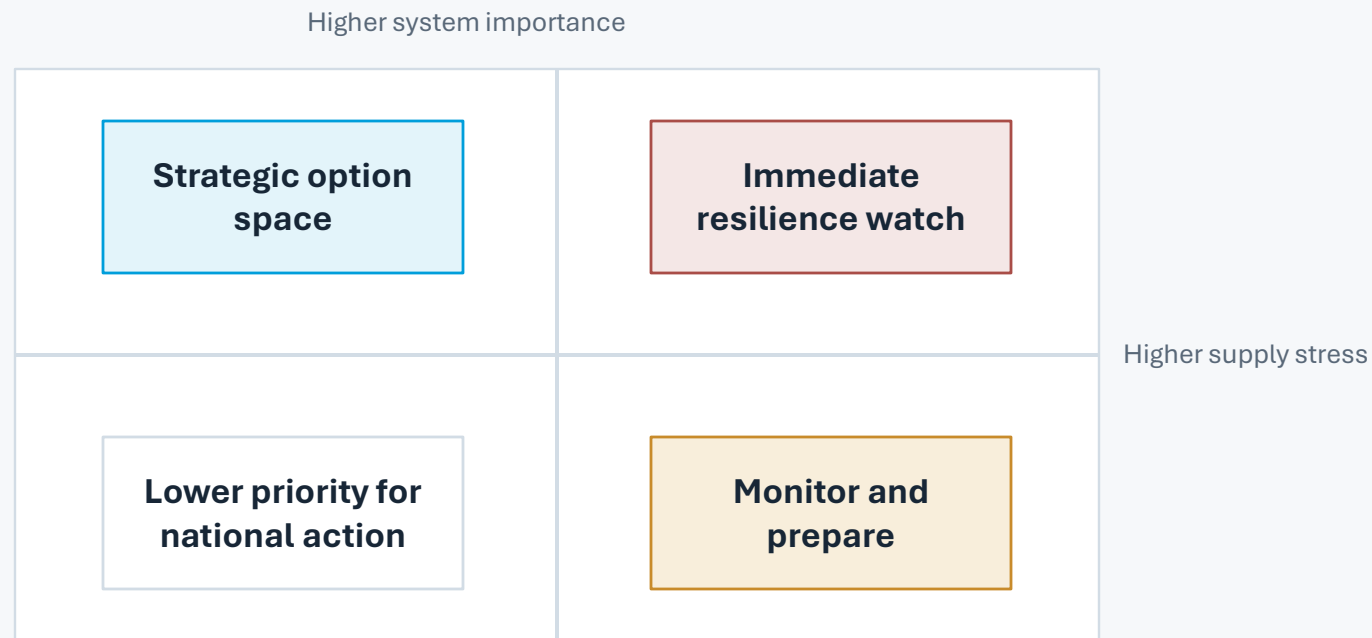
Ask where supply can fail across maturity, feasibility, economic viability, geological confidence, concentration, import exposure, recycling and ESG constraints.

UNFC/AMREC provides the project maturity and confidence logic.

Criticality assessment converts classified resources into planning-grade risk intelligence.

For South Africa, criticality is a planning tool

The value is not a generic list of critical minerals. The value is a disciplined national conversation about system exposure, supply resilience and industrial options.



South Africa-specific placement should be evidence-led: commodity data, project maturity, supply chains, water-energy constraints, recycling potential and industrial demand must be assessed together.

Planning questions

1. Which minerals are essential to food, water, energy and industrial resilience?
2. Where are the weakest points: resource maturity, processing, imports, ESG constraints, infrastructure or skills?
3. Which interventions create resilience without creating new dependencies?

This keeps prioritization rational and auditable.

Takeaway: move from reporting compliance to resource intelligence

1

Common language

Use AMREC/PARC to make resource information comparable across projects, commodities and institutions.

2

Wider accountability

Report what matters beyond investors: social licence, environmental management, waste, ASM and innovation.

3

Planning-grade intelligence

Extend classification into criticality assessment, value-addition screening and national risk management.

Closing message: the next step is not more data alone. It is classified information with accountable use.

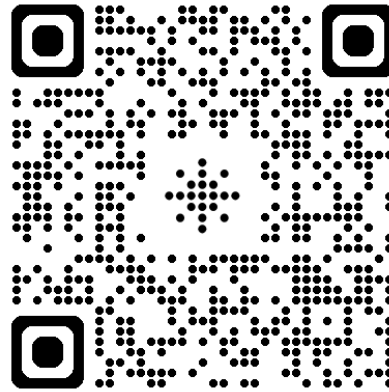
Integrate classification with planning layers

The practical product is not another static inventory. It is a national resource management dashboard and decision routine built on classified, comparable and accountable information.

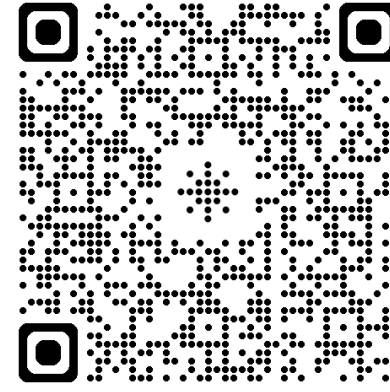
Innovative solution: connect AMREC/PARC classification to criticality, MidReVa screening and UNRMS governance routines.

6	National resource management dashboard	policy choices, scenarios, investment priorities, risk alerts
5	Midstream and value-addition analysis	asset repurposing, enabling conditions, location attractiveness
4	FWE criticality and system-risk layer	food, water, energy, resilience, supply-risk severity
3	PARC public value reporting	stakeholders, social/environmental performance, ASM, innovation
2	AMREC / UNFC classification	E-F-G maturity, viability, feasibility and confidence
1	Resource data foundation	geology, projects, waste, tailings, processing, infrastructure

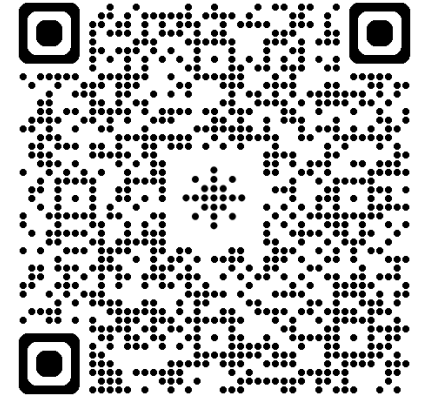
How this helps: it turns separate reports into a shared operating picture for policy, investment, innovation and stewardship.



Scan for UNFC
and UNRMS



Scan for
Criticality Tool



Scan for MidReVa
Tool

SUSTAINABILITY IN RESOURCE MANAGEMENT



Thank you!

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