Untying the Gordian Knot in the South African Goldfields

IWRA Webinar on Mining and Water

Anthony Turton
bronwyn@speakersinc.co.za
www.anthonyturton.com

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Evolution of Mine Policy

- **NP Victory**
  - Policy Paradigm I: British Hegemony & Gold
  - Policy Monopoly I: Simple Extraction

- **Armed Struggle**
  - Policy Paradigm II: Rise of Afrikaner Hegemony
  - Policy Monopoly II: Policy Instability

- **Internal Struggle**
  - Policy Paradigm III: Collusion between State and Industry
  - Policy Monopoly III: Protecting the Goose that Lays the Golden Eggs

- **Democracy**
  - Policy Paradigm IV: State Survival & Total Onslaught
  - Policy Monopoly IV: Policy Instability
  - Policy Paradigm V: Redistrib'n of Wealth & Privilege
  - Policy Monopoly V: Changed Architecture of Governance

Unresolved Policy Tension

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Mine Closure and Livelihood Impact

© Adler et al., 2007 & Turton, 2011
RSA Gold Production Life Cycle

**Current policy** drives this trajectory because it **attempts to internalize historic externalities**

An **alternative model** could follow this trajectory by **reinventing the business case for mining** in order to drive post-mining rehabilitation.

First peak was shallow gold driven by surface resources that were easily accessible.

Third peak is about the recovery of gold from tailings dams driven by metallurgical engineering.

Second peak was deep gold driven by ventilation engineering and rock mechanics.

Source: GDARD MRA Reclamation Project
Current environmental policy is inappropriate for Brownfields operations and will result in a macroeconomic and environmental disaster of unprecedented proportions.

The logical outcome is for disinvestment from late cycle mines resulting in the inevitable collapse of the industry with all residual liabilities being nationalized by the State.
Policy Reform

• Mismatch between Greenfields logic and Brownfields reality
• Offset’s not yet recognized
• Benefit of removing surface tailings and uranium hazard is cumulative downstream and potentially quantifiable
• Closure Mining is emerging as a model
• Being trialled at a marginal mine as part of Business Rescue
Benefits can only be shared if they exist in the first place.

Knowing what’s coming before it bites is called wisdom.

Thank You