In partnership with:

Jordan National Mining Sector Strategy

Strategy Report

Presented to the Ministry of Energy & Mineral Resources (MEMR) on 7 September 2023

Wood Mackenzie

We have completed the Strategic Vision, whose objective is to formulate actionable strategic recommendations based on the Baseline Analysis findings

The objectives & guiding principles discussed in the Vision Workshop underpinned our recommendations

Overall Objectives

Develop an actionable strategic plan which maximizes the socio-economic contribution of Jordan’s mining & metals value-chain through establishing an investor-friendly environment backed by a reliable institutional framework

1. **Baseline the current position of Jordan’s mining sector against world-class models**
2. **Set the strategic vision for the development of the sector, based on country’ specificities**
3. **Design an actionable implementation roadmap, with high-priority actions to be taken**

Delivery Streams

Baseline Assessment	Vision Setting	Roadmap Development
~8 weeks	~8 weeks	~5 weeks

Key Activities & Deliverables

1 **Baseline Analysis** → 2 **Strategic Vision** → 3 **Implementation Roadmap**

Mirror Workshop
Full sector baseline, inc. understanding of key opportunities & benchmarking
→ **Mirror Report**

Vision Workshop
Guiding principles and prioritized objectives of the expected end-sate

Strategy Workshop
Sector-wide vision, with informed strategic routes to achieve it
→ **Strategy Report**

Implementation Workshop
Actionable implementation plan, with critical path actions and investor promotion materials
→ **Implementation Plan**

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Executive Summary

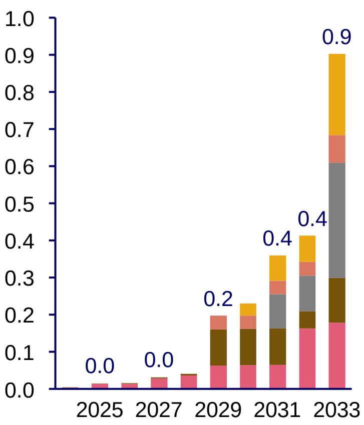
Based on the current project funnel, Jordan has a serious opportunity to grow and diversify its mining sector into a pillar of the national economy

Attracting FDI is a priority to accelerate exploration efforts & help develop new metallic minerals value-chains

Gross Domestic Product

Incremental GDP

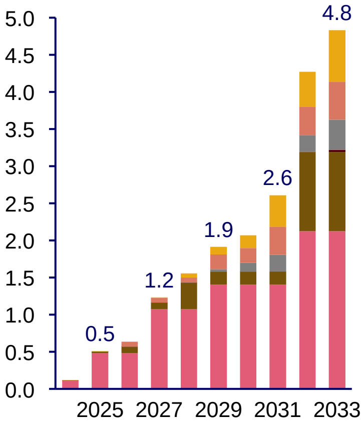
US$Bn, 2023 constant dollars



Sector Employment

Incremental employment

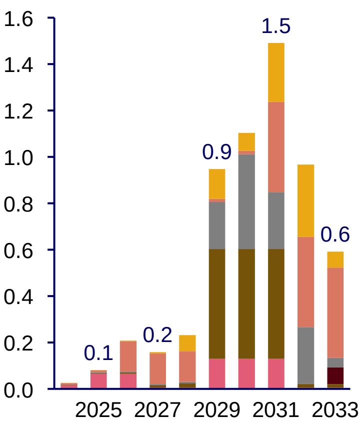
'000 direct employees



Foreign Direct Investment

Cumulative FDI

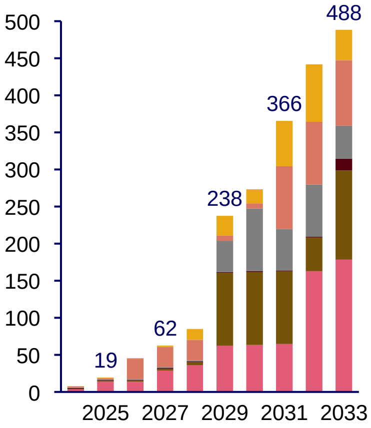
US$Bn, 2023 constant dollars



Fiscal Revenues

Incremental fiscal revenues

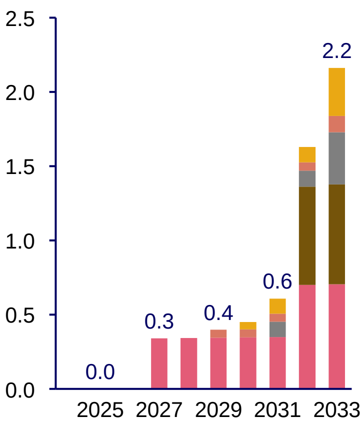
US$Mn, 2023 constant dollars



International Exports

Incremental exports

US$Bn, 2023 constant dollars



Gold | Copper | Lithium | REEs | Phosphate | Potash

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

The baseline assessment indicates that Jordan has got key foundations in place to grow its mining sector, but critical bottlenecks must be overcome

Engaging the required reforms is key to building trust with prospective investors to help develop the sector

Strengths

- Diverse **mineral potential** for mid-size deposits
- **Effective collaboration** across public institutions
- Nascent mining **ancillary value-chains exists**
- Top-down **Economic Modernization Vision**
- **Geopolitical stability** & security

Leverage

Weaknesses

- No **security of tenure** for MOU-holder to the EA
- The existing **fiscal regime** lacks clarity and is incomplete
- Unclear & **discretionary regulatory framework**
- Underpopulated **project development funnel**
- **Power costs** are among the highest globally
- **Water access** is limited for mining activities

Overcome

Opportunities

- **Geographic access** to 'western' supply-chains
- Accelerated **energy transition** globally
- Phosphate & potash **mining expertise**
- Ready access to a highly **educated workforce**
- **Promotional efforts** can easily be scaled-up
- Alignment with **decarbonization goals**

Capitalize

Threats

- Increasing **pressure on water usage**
- Intensifying **regional competition** for investment
- Deterioration of the **social license** to operate
- Perception of mining **impact on the environment**

Mitigate

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Expectations for each commodity changes over time based on the respective market attractiveness, geological potential & existing value-chains

Facilitating the spend of exploration capital in the short-term is key to unlocking mid-to-long term value

Defining success		Short Term (1-2 Years)	Mid Term (3-5 Years)	Long Term (6-8+ Years)
Brownfield Expansions	**Phosphate Potash**	• **Capacity expansions** (mining, processing, shipping, etc.) • Development of value-added **downstream industries** • Ongoing **exploration activities**		• Protection & strengthening of existing **competitive advantages** • **Continuous enhancements** of the existing value-chains
Greenfield Expansions	**Phosphate Potash Copper Lithium Copper Gold**	• Attracting **Exploration companies** • Granting of **new licenses** • **Financing** of exploration projects • Launch of **exploration programs** • Initiation of **scoping studies**	• Announcement of **positive exploration results** • Ramp-up of **exploration spend** • Publication of **maiden resource** estimates • Release of viable **pre-feasibility & feasibility studies** • Successful **sale of junior exploration projects** to developers • Development of **local ancillary services** (drilling, professional, etc.) • Start of **mine construction** activities • Start of **mine operation** activities • **Ongoing progress** on short-term success factors	
	Rare Earths	• Identification of **prospective exploration targets**		

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

In order to attract investors, Jordan needs to conduct relevant reforms to improve the transparency, uniformity and clarity of its investment framework

The current Jordanian mining investment framework is not competitive enough with regards to best-practice

Attributes	Features	Jordan Assessment	Key Objectives
Stability	Transparent		• Improve the **clarity and structure** of existing policies • Ensure that investors can **easily access & process** relevant policies
	Enforceable		• Continue to **promote Jordan as a stable socio-political regime** • **Keep enforcing contract's execution** as per the rule of law
Effectiveness	Uniform		• **Pre-define as many of the licensing terms** in the law as possible • **Standardize licensing agreements** across all sector participants
	Fair		• Facilitate the access to the relevant **investment incentives** • **Promote the competitiveness of the Jordanian fiscal regime**
Efficiency	Clear		• **Close the gap** with international best practices • Prevent the potential for **discretionary interpretations**
	Actionable		• Enable public institutions to cope with the **sector scale-up ambitions** • **Delineate appropriately governance functions** across public entities

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Low High

Key Bottlenecks

Based on our analysis, we have prescribed 14 licensing, fiscal, governance & regulatory strategic recommendations, 6 of which were identified as 'quick wins'

We have grouped strategic recommendations by reform type and assessed their short-term impact

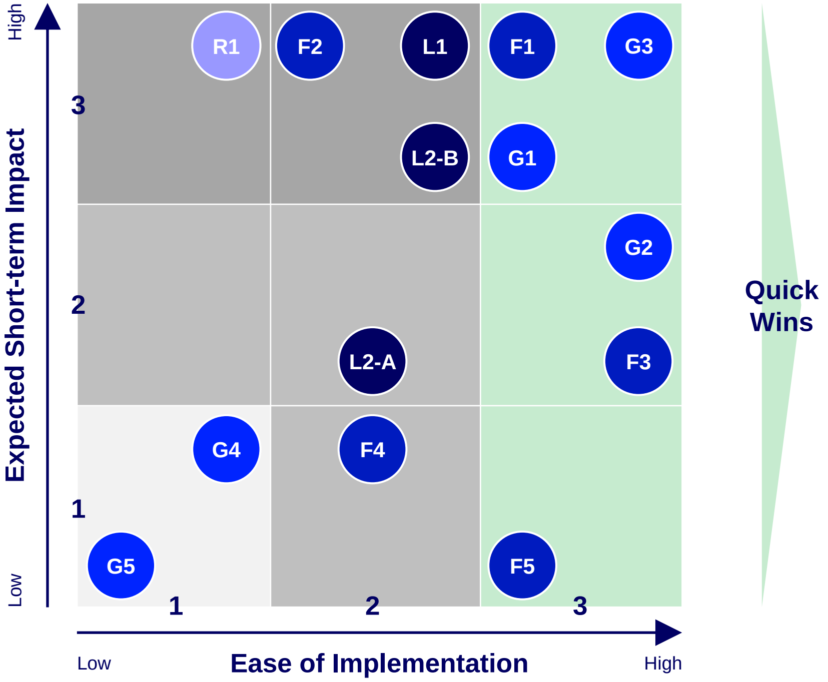
	Proposed Strategic Recommendations	Implementation Prioritization	Short-term Impact
F1	Work with the MOI to define mining-specific criteria ensuring the applicability of the investment incentives	Quick Win	High
G3	Establish a 'single window' through the Ministry to facilitate collaboration across relevant sector entities	Quick Win	High
G1	Dedicate resources to improve the quality of the geoscience database & its accessibility by investors	Quick Win	Medium
G2	Scale-up sector promotion efforts to address market mis-perceptions & start building trust with investors	Quick Win	Medium
F3	Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework	Quick Win	Low
F5	Define new globally competitive mineral royalty rates for lithium and rare earths	Quick Win	Low
L1	Pre-define as many exploration & production terms as reasonably possible by policy	Must Have	High
F2	Work with the MOF to reduce the Rent Fees in line with other competitive jurisdictions	Must Have	High
R1	Propose regulatory adjustments / additions to bring the regulatory framework in line with best-practices	Must Have	High
L2-B	Ensure successful exploration outcome results in awarding the mining license to the explorer	Must Have	Medium
L2-A	Remove copper, gold, lithium & rare-earths from the 'strategic minerals' category	Important	Medium
F4	Insert a fiscal stabilization clause in the Executive Agreement to secure the incentives application	Important	Low
G4	Establish a national geological survey to assume the Database Promotion mandate	Low Priority	Low
G5	Conduct a redesign of the mining institutional governance structure to delineate key functions	Low Priority	Low

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Reform Type: Licensing | Fiscal | Governance | Regulatory

Quick-wins will help put Jordan on the right track and demonstrate the positive momentum of the mining sector transformation

Investors confidence will be buoyed by both outlining the strategic vision as well as prompt execution



- **G3** — **Establish a 'single window' through the Ministry to facilitate collaboration across relevant sector entities**
- **F1** — **Work with the MOI to define mining-specific criteria ensuring the applicability of the investment incentives**
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- **G2** — **Scale-up sector promotion efforts to address market mis-perceptions & start building trust with investors**
- **F3** — **Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework**
- **F5** — **Define new globally competitive mineral royalty rates for lithium and rare earths**

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Initiatives Prioritization: **Quick Win** **Must Have** **Important** **Low Priority**

We have ranked the identified ‘quick wins’ based on a qualitative assessment of human & material resources requirements to drive their implementation

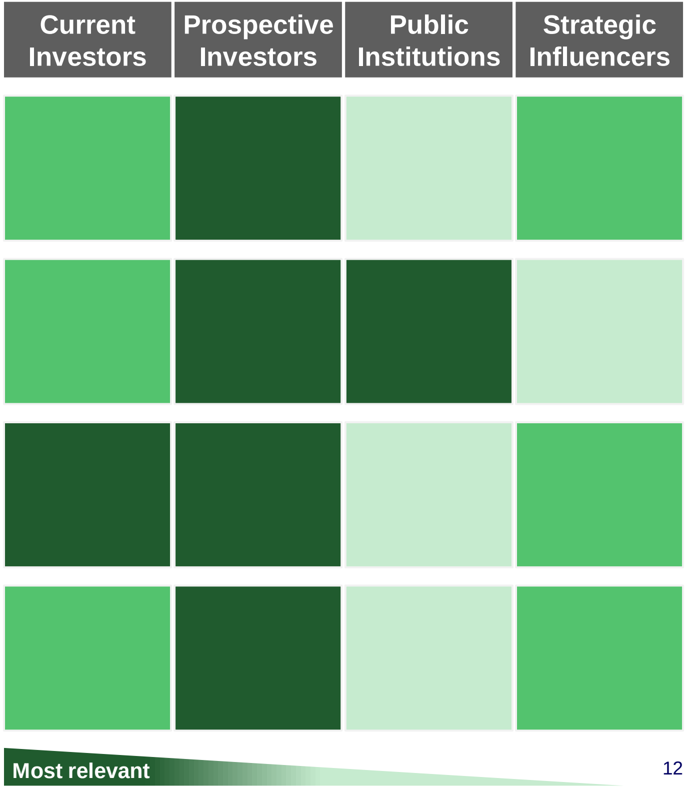
We have also highlighted key principles which will be driving the implementation roadmap

	Ranked ‘Quick Wins’ Strategic Recommendations	Implementation Principles	Key Resources	
			Human	Material
F1	**Work with the MOI to define mining-specific criteria ensuring the applicability of the investment incentives**	• Synchronize with the MoI to firm-up the accessibility for exploration & mining to the suite of investment incentives • If need be, obtain government endorsement to clarify the law		-
G3	**Establish a ‘single window’ through the Ministry to facilitate collaboration across relevant sector entities**	• Obtain endorsement from all relevant Ministries, and establish a joint task-force to align on the most optimal approval workflow • Deploy the relevant IT infrastructure to power the ‘single window’		$
F3	**Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework**	• Coordinate with a third-party to define relevant clarifications (e.g. quotation period, deductions, invoicing, administration process) • Obtain government endorsement to issue a new regulation		$
F5	**Define new competitive mineral royalty rates for lithium and rare earths (and other relevant metallic minerals)**	• Coordinate with a third-party to conduct a fiscal modelling analysis and define the rates along with their application terms • Obtain government endorsement to issue a new regulation		$$
G2	**Scale-up sector promotion efforts to address market mis-perceptions & start building trust with investors**	• Establish a dedicated ‘investment promotion’ team at MEMR • Obtain government endorsement to unlock additional budget • Enable the team to drive promotional efforts		$$$
G1	**Dedicate resources to improve the quality of the geoscience database & its accessibility by investors**	• Establish a dedicated ‘database promotion’ team at MEMR • Enable the team to conduct the work (more resources & time-consuming) <u>**or**</u> outsource it to a third-party (costlier but faster)		$$$

Several engagement platforms can be leveraged to communicate sector aspirations, and are applicable to the relevant stakeholders to different extents

Prospective investors are key to driving exploration, and should be targeted by the different platforms

Engagement Platforms		
Attending Mining Events	• Bring together **industry professionals** • Elevate the **country's visibility** • Facilitate **networking** opportunities • Demonstrate **investment potential**	**Relevant examples:** • PDAC, SME, IMARC, Indaba, FMF, LME Week, …
Hosting Mining Events	• Showcase the **investment destination** • **Shortlist** prospective investors • Connect **local industrial ecosystem** • **Fast-track** investment process	**Relevant examples:** • Investment forms, site visits, executive workshops, …
Producing Relevant Publications	• Document **investment opportunities** • **Disseminate** relevant information • Showcase **industry expertise** • **Educate** prospective investors	**Relevant examples:** • Sector strategy, mineral potential, success stories, …
Maintaining an Online Presence	• Establish **global credibility** • Provide 'real time' **updates** • Facilitate the **investor's experience** • Enable **information dissemination**	**Relevant examples:** • Geo-portal, ministry website, social media, …



Source: Wood Mackenzie, SRK & Mayer Brown analysis

Introduction

Wood Mackenzie

The Baseline Analysis has shown that Jordan has a significant potential to grow its mining sector, however, key policy reforms must be engaged (1/2)

Overview of the market's perception of Jordan's Operational Enablers against the Baseline Analysis findings:

		Prioritized Investment Decision Factors	Policy Impact	Market Perception	Jordan Attractiveness	Policy-making Implications
Operational Enablers	1	**Quality of the mineral potential**	Low	Positive		• Facilitate & accelerate exploration efforts to uncover & define mineral resources
	2	**Availability of required infrastructure**	Medium	Negative		• Coordinate with relevant authorities to improve in-country access & connectivity
	3	**Access to utilities (power, water, etc.)**	Medium	Neutral		• Coordinate with relevant authorities to facilitate access to utilities at a lower cost
	4	**Quality of the geological database**	High	Negative		• Develop a reliable & compelling database & provide access to relevant stakeholders
	5	**Benefits of the geographical location**	Low	Positive		• Optimize the location & capacity of the port at Aqaba to serve neighboring regions
	6	**Socio-economic agreements**	Medium	Neutral		• Formalize socio-economic agreements in order to distribute value across communities
	7	**Access to skilled labor**	Medium	Neutral		• Coordinate with relevant authorities to improve education & skill-up local talents
	8	**Access to local financing**	Medium	Neutral		• Coordinate with relevant institutions to facilitate access to local financing

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Low High

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Overview of the market's perception of Jordan's Operational Enablers against the Baseline Analysis findings:

Prioritized Investment Decision Factors			Policy Impact	Market Perception	Jordan Attractiveness	Policy-making Implications
Public Governance	1	Enforcement of the 'rule of law'	High	Positive		• Publicize the strategy and socialize successes across the public
	2	Transparency of the legal system	High	Neutral		• Make relevant policies & procedures easily and clearly accessible by all stakeholders
	3	Effectiveness of the public institutions	High	Negative		• Design a more efficient institutional governance model to facilitate licensing
	4	Openness to foreign investment	High	Positive		• Promote the investment openness of Jordan to foreign entities
	5	Fairness of the fiscal regime	High	Neutral		• Facilitate the access to the investment incentives to help optimize project economics
	6	Execution of contractual agreements	High	Positive		• Formalize the 'security of tenure' in order to de-risk the investment path
	7	Availability of investment incentives	High	Neutral		• The Investment Law prescribes several incentives applicable to the mining sector
	8	Ease of starting a business	High	Negative		• Design a more efficient institutional governance model to ease business setup

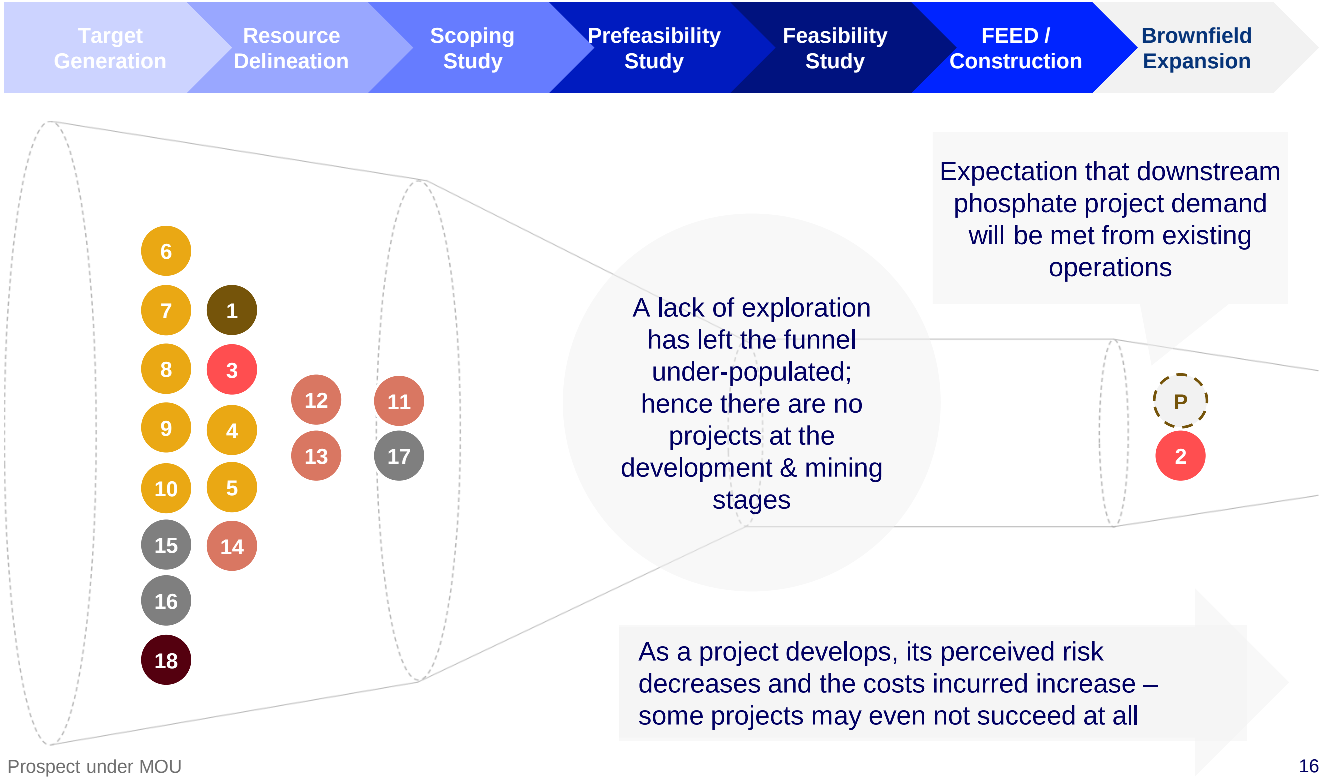
Source: Wood Mackenzie, SRK & Mayer Brown analysis

Low High

Mitigating misperceptions and engaging the required policy reforms is critical to encourage exploration in order to repopulate the project development funnel

Advancing projects through the funnel is key to unlocking future investment potential of all development phases

Commodity	#	Geological Prospects	
Phosphate	1	Al Risha	★
Potash	2	APC Capacity expansion	★
	3	Lisan	★
Gold	4	Wadi Abu Khusheiba	★
	5	Wadi Hower	★
	6	Wadi Sabra	★
	7	Wadi Mizher	
	8	Wadi Al Marsad	
	9	Jebel Al-Mubarak	★
	10	Ein-El-Hasheem	
Copper	11	Wadi Abu Khusheiba	★
	12	Feinan	★
	13	Khirbet El Nahas / Wadi Jariya	★
	14	Umm El Amad / Wadi Malaqa	★
Lithium	15	Feinan (hard-rock)	★
	16	Lisan (clays)	
	17	Dead Sea (brine tailings)	★
Rare Earths	18	Dubaydib Sandstone	★

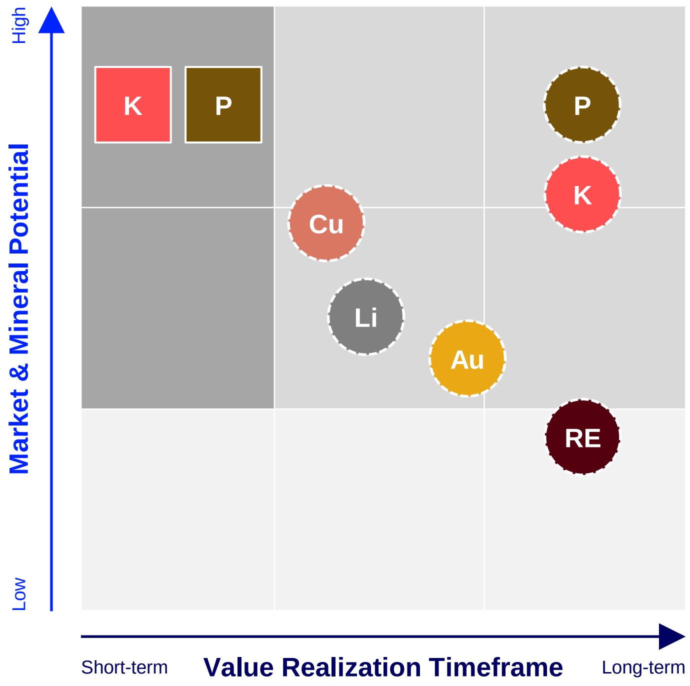


Source: Wood Mackenzie, SRK & Mayer Brown analysis

★ Prospect under MOU

Not all commodities are alike and each demands different degrees of government interventions to achieve the envisioned outcomes

Brownfield expansions have the highest potential in short term, with greenfield projects requiring time to mature



1

- **Brownfield expansions**
- Attractive market & high confidence geological potential
- Short-term payoff
  - ➢ **<u>Strategic acceleration</u>: enable infrastructure (transportation, utilities, etc.) and unlock contracts**

2

- **Greenfield projects**
- Prospective market & geological potential to be confirmed
- Mid-term payoff
  - ➢ **<u>Active promotion</u>: develop a globally competitive policy framework and accelerate exploration efforts**

3

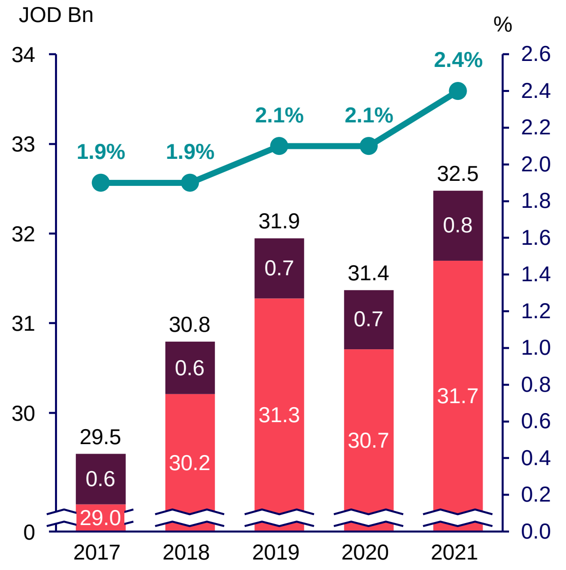
- **Greenfield projects**
- Risky market & low confidence geological potential
- Long-term payoff
  - ➢ **<u>Opportunistic pursuits</u>: regulate lightly and pursue passive exploration promotion opportunities**

Source: Wood Mackenzie, SRK & Mayer Brown analysis   Brownfield   Greenfield

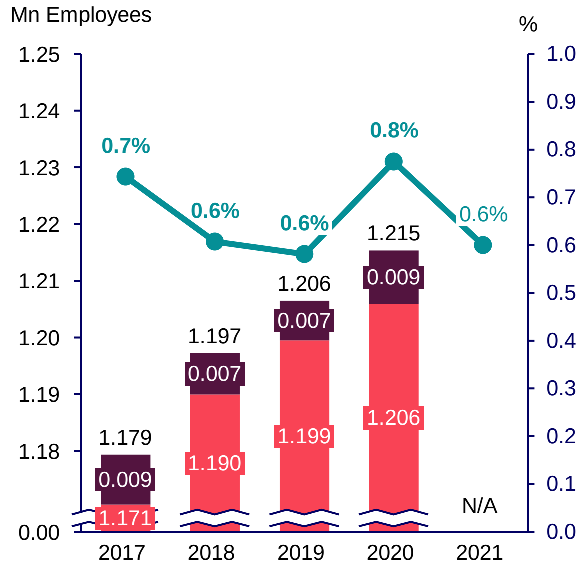
As it stands, the Jordanian mining sector is worth ~2.4% of the GDP, employs ~9.4k people and is responsible for ~10.4% of exports

The mining sector has one of the highest GDP productivity per employee at ~JOD73 k per employee

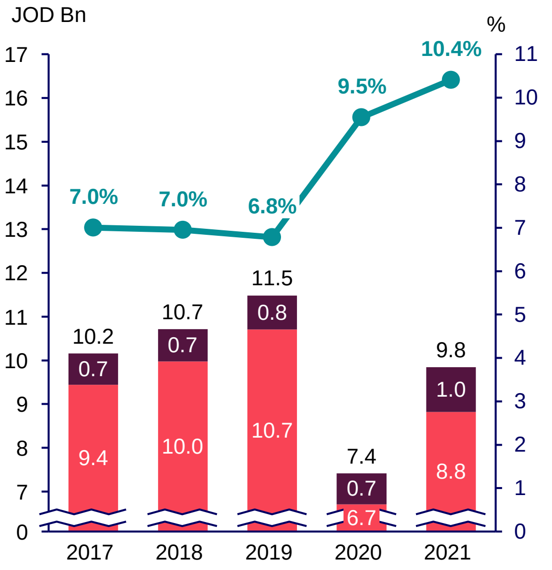
Mining contribution to GDP



Mining contribution to employment



Mining contribution to exports



Mining & quarrying (RHS) Mining & quarrying Other economic sectors

Source: Wood Mackenzie, SRK & Mayer Brown analysis, Jordan Central Bank, Jordan Department of Statistics Note: figures at current market prices

Jordan has key foundations in place to grow its mining sector, but critical bottlenecks must be overcome to establish a trusted investment environment

The government must focus on factors which can be highly influenced through policy-making

Strengths

- Diverse **mineral potential** for mid-size deposits
- **Effective collaboration** across public institutions
- Nascent mining **ancillary value-chains exists**
- Top-down **Economic Modernization Vision**
- **Geopolitical stability** & security

Leverage

Weaknesses

- No **security of tenure** for MOU-holder to the EA
- The existing **fiscal regime** lacks clarity and is incomplete
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- Underpopulated **project development funnel**
- **Power costs** are among the highest globally
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Overcome

Opportunities

- **Geographic access** to ‘western’ supply-chains
- Accelerated **energy transition** globally
- Phosphate & potash **mining expertise**
- Ready access to a highly **educated workforce**
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Capitalize

Threats

- Increasing **pressure on water usage**
- Intensifying **regional competition** for investment
- Deterioration of the **social license** to operate
- Perception of mining **impact on the environment**

Mitigate

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Strategic Targets

Most countries around the world seek to achieve economic prosperity, which can be unlocked through several economic levers

The GDP is a function of domestic consumption, investment, spending as well as the balance of trade

Accounts for spending on both domestic & foreign goods & services

Subtracts imported goods & services

Gross Domestic Product =

Monetary value of all final economic goods & services produced in a country during a specific period of time

- It includes all final goods & services, that are not resold in any other form
- Final users include households, businesses & the government

Households Consumption +

Consumers' spending to acquire durable goods, non-durable goods (e.g. groceries) and services

- High consumer confidence indicates that consumers are willing to spend
- Low consumer confidence reflects future uncertainty & unwillingness to spend

Businesses Investment +

Private domestic capital expenditure on business activities (e.g. machinery, inventories)

- It increases the productive capacity of an economy and boosts employment
- Investing also involves buying foreign-made items across several categories

Government Spending +

Government consumption expenditure (e.g. payroll,, education, healthcare, military)

- It includes any expenditure made by the government for a currently produced item or service, regardless of whether it was created domestically or internationally

Balance of Trade

Net exports: goods & services that are locally made & exported, minus purchased imports

- Imports are the goods & services purchased from the rest of the world, rather than buying locally, leading to an outflow of funds.
- The GDP increases when exports exceed imports

Source: Wood Mackenzie, SRK & Mayer Brown analysis

The economic levers can be optimized through policy-making, although not concurrently, so Jordan will need to establish its strategic priorities

The mining sector contributes in terms of employment, foreign direct investment, revenues and exports

Economic Levers

Gross Domestic Product =

Households Consumption
+
Businesses Investment
+
Government Spending
+
Balance of Trade

Mining Economic Impacts

Sector Employment

- **Objective**: reduce unemployment through providing an increased amount of quality jobs in the country
- **Impact**: contribute to higher societal living standards, and increased spending across the economy

Foreign Direct Investment

- **Objective**: attract and retain foreign capital
- **Impact**: enable investment in the country to generate direct and indirect business activity

Fiscal Revenues

- **Objective**: provide the government with a fair share of the mining sector's cash flow generation
- **Impact**: contribute to higher tax revenues for subsequent public spending & redistribution across society

International Exports

- **Objective**: facilitate the export of locally development mining / metals goods & services across foreign markets
- **Impact**: maintain a sustainable balance of trade, protecting the national currency

Source: Wood Mackenzie, SRK & Mayer Brown analysis

In addition to the economic metrics, there are strategic country-specific drivers which may encourage Jordan to favour some policies over others

We have highlighted selected examples which may be relevant for Jordan:

Content Localization
Ensure that a high proportion of **industrial inputs are sourced locally** within the country (e.g. labor, material), without compromising the sector economics

National Heritage
Preserve unique attributes (e.g. activities, products, sites, culture) which have historically contributed to defining the country's national identity

National Security
Secure critical industries (e.g. high-technology) to **reinforce the country' sovereignty and self-sufficiency** in times of instability (e.g. war, pandemic)

Environmental Protection
Prioritize the **preservation of the country's natural environment** (e.g. water, air, biodiversity) for future generations to come

Social Stability
Protect the stability of the country's population and encourage the **socio-economic development** of areas of influence whilst respecting indigenous people's rights

International Geopolitics
Strengthen the mechanisms which allow the country to maintain & extend its **spheres of influence**, both regionally & globally

Technological Advancement
Accelerating the acquisition of **specialized knowledge and know-how** which would help the country unlock sector-specific capabilities

Value-chain Integration
Develop **end-to-end integration of specific value-chains**, which would enable the country to establish unique competitive advantages

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Each country has its own mining sector-specific priorities which influence the most appropriate strategy to achieve the envisioned impacts

Jordan will need to define its strategic priorities, which will form the foundation of the strategy

Jurisdictions	Strategic Priorities	Mining Economic Impacts				Policy-making Implications
		Sector Employment	Foreign Direct Investments	Government Revenues	International Exports	
Saudi Arabia	• The mining sector is leveraged to drive the **development of mid-to-downstream** ancillary value-chains locally					• De-risking and facilitating foreign investment as much as possible, notably through the **deployment of enabling infrastructure**
Ontario	• The economy is diversified, so mining is contributes mainly to the **sustainable development of remote communities**					• Maintaining a progressive & fair approach to risk & profit-sharing, to **maximize the impact on the community**
Western Australia	• While the mining sector is mature, the economy still relies heavily on its revenues to **fund public spending**					• Secure a fair share of profits for **redistribution across society** while maintaining a competitive investment environment
Ecuador	• The mining sector is being developed as an **alternative growth pillar** to oil & gas which is affecting biodiverse areas					• Capture as much returns as reasonably possible to **fund public spending**, while strictly protecting the environment

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Low High

Wood Mackenzie

Based on the market attractiveness, geological potential & existing value-chains, there are different expectations for each of the commodities over time

Facilitating the spend of exploration capital in the short-term is key to unlocking mid-to-long term value

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Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

There are three main approaches to calculate GDP; the production approach is the most commonly used and is applicable to the mining sector

Provided perfect data is applied, all three methodologies should yield the same results

Overview of the different GDP calculation approaches

Production Approach	• Takes the total value of **output** from a sector based on producer prices (e.g. mine-gate prices, excluding transport) • Subtracts **intermediate consumption** for the sector • If there are any **taxes** directly applicable to the sector's output, these need to be added, and **subsidies** subtracted
Income Approach	• Determines GDP by adding all **incomes** in the economy, including: private wages, corporate profits (gross operating surplus), interest • **Indirect taxes** on products & imports are added and subsidies are deducted
Expenditure Approach	• Sums all categories of expenditure to arrive at an estimate of GDP, including: consumption, investment, government spending, net exports (exports less imports)

Review of the 'Production Approach' methodology

Mining Sector Gross Domestic Product = **Production Output** - **Intermediate Consumption**

Production Output:

Production Volume
Estimated annual production

x

Production Value
Commodities price forecast

Intermediate Consumption:

Consumables, maintenance, equipment, royalties, etc.

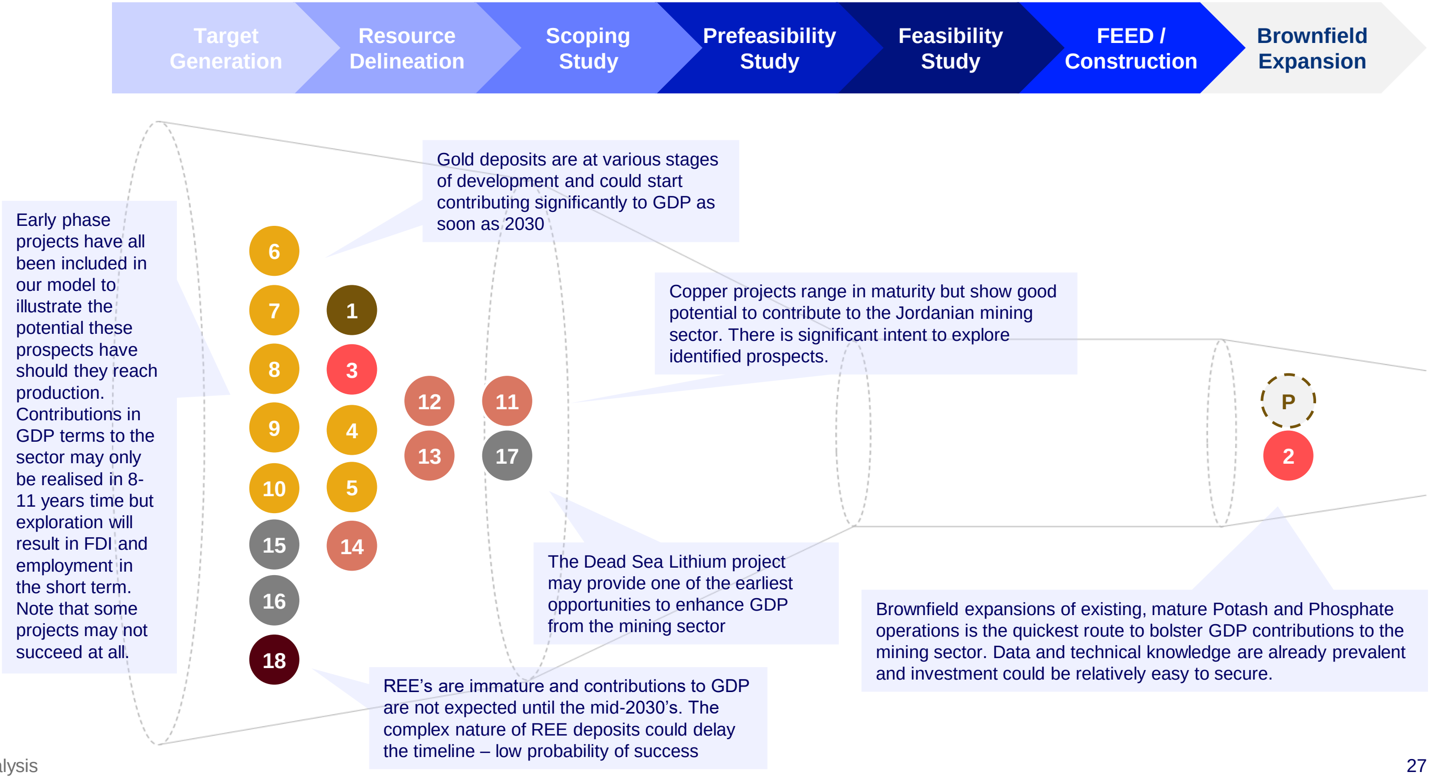
Salaries are part of the value added, so are not included here

Source: Wood Mackenzie, SRK & Mayer Brown analysis

In order to forecast the sector potential, we have conducted high-level modelling of the project development funnel

We are only modelling known strategic mineral prospects, so the funnel is expected to keep maturing over time

#	Geological Prospects
1	Al Risha
2	APC Capacity expansion
3	Lisan
4	Wadi Abu Khusheiba
5	Wadi Hower
6	Wadi Sabra
7	Wadi Mizher
8	Wadi Al Marsad
9	Jebel Al-Mubarak
10	Ein-El-Hasheem
11	Wadi Abu Khusheiba
12	Feinan
13	Khirbet El Nahas / Wadi Jariya
14	Umm El Amad / Wadi Malaqa
15	Feinan (hard-rock)
16	Lisan (clays)
17	Dead Sea (brine tailings)
18	Dubaydib Sandstone



Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

We have also defined commodity-level 'chance of success' factors in order to temper the absolute maximum growth down to a realistic forecast

The 'chance of success' assessment accounts for technical & commercial criteria as per the Baseline Analysis

Commodity	Technical Assessment	Commercial Assessment	CoS*
Phosphate	• **Infrastructure (transportation, utilities) availability and cost** may act as bottlenecks for Al Risha project • Potential **JPMC expansion** could come online in the short-term	• The **existing upstream and downstream footprint** is beneficial • **Robust demand growth** is expected to outpace capacity increases resulting in opportunities to **augment global supply**	70%
Potash	• **Brine availability and ESG considerations** will need to be taken into account in the Dead Sea • The Lisan project is **structurally very complex**	• The **existing upstream and downstream footprint** is beneficial • Undersupply of raw potash compared to **projected demand**, which are bolstered by the rising **potash intensity of use**.	70%
Gold	• **Data supporting gold projects is relatively limited,** including primarily geochemical data only • Requires **capital investment** in excess of ~US$300m / project	• Ongoing global geopolitical risks and economic volatility are expected to keep **driving gold's value as a safe haven** currency/investment	45%
Copper	• Resource evaluations need upgrading and **locations within Dana Nature Reserve** have social implications • Requires capital investment in excess of ~US$720m / project	• **Sustained demand growth**, driven by the energy transition, will help maintain **positive fundamentals** and put **upward pressure on prices**	55%
Lithium	• **Geochemical data is not well understood** for the Feinan & Lisan deposits, and the Dead Sea project will require **staged pilot assessments**	• **The market immaturity causes long-term uncertainties**, especially from a technology perspective, which are expected to **negatively impact prices**	45%
Rare Earths	• **Early-stage exploration** evaluation using limited drilling and trench data • Requires **capital investment in excess** of ~US$900m / project	• The REE supply-chain is **dominated by China end-to-end**, which can make it very risky to establish a competitively stable value-chain in the long-term	25%

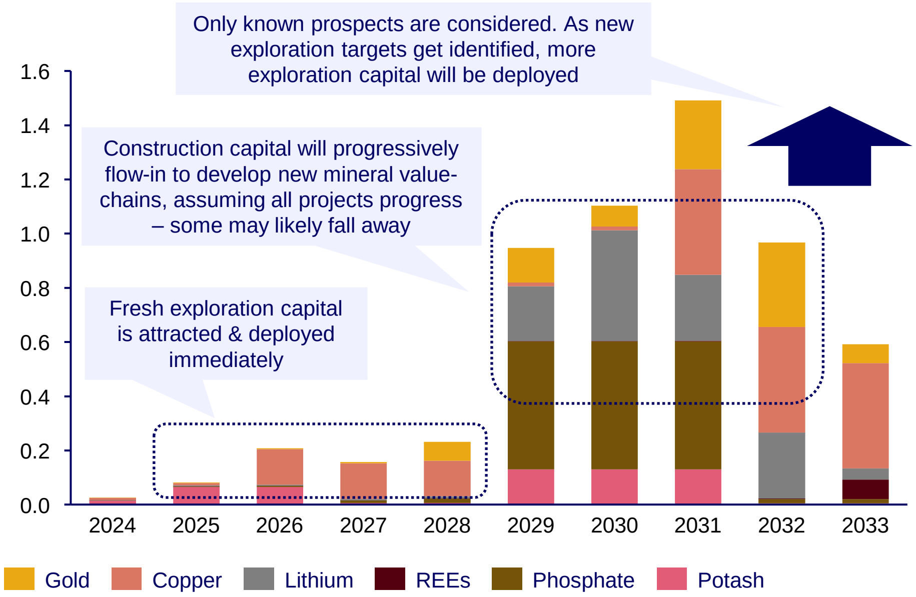
Source: Wood Mackenzie, SRK & Mayer Brown analysis. Note: CoS = Chance of Success, relative to each project

When implemented, the proposed strategic recommendations could lead to significant mining sector diversification outside of phosphate and potash

Attracting FDI is a priority to accelerate exploration efforts & help develop new metallic mineral value-chains

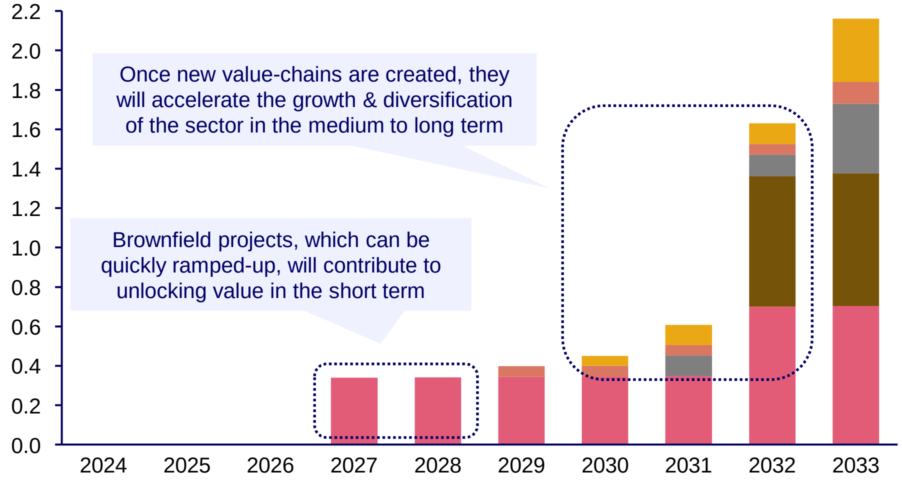
Incremental Foreign Direct Investments Contribution

10-year forecast (2024 – 2033), US$Bn, 2023 real



Incremental International Exports Contribution

10-year forecast (2024 – 2033), US$Bn, 2023 real



Source: Wood Mackenzie, SRK & Mayer Brown analysis

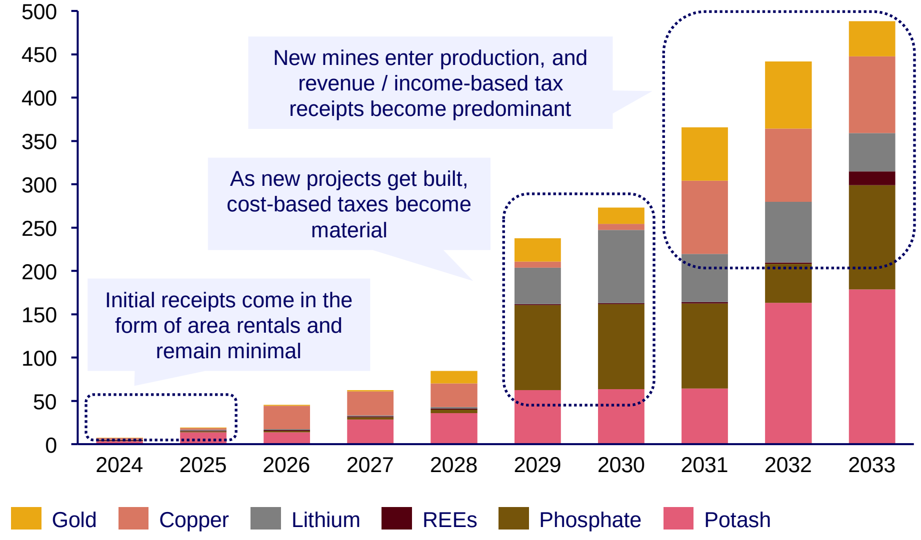
Wood Mackenzie

Ultimately, the national mining sector will continue to grow and mature until it becomes a pillar of the Jordanian economy

Cost-based taxes will initially contribute most to fiscal revenues, until revenue and income-based taxes kick-in

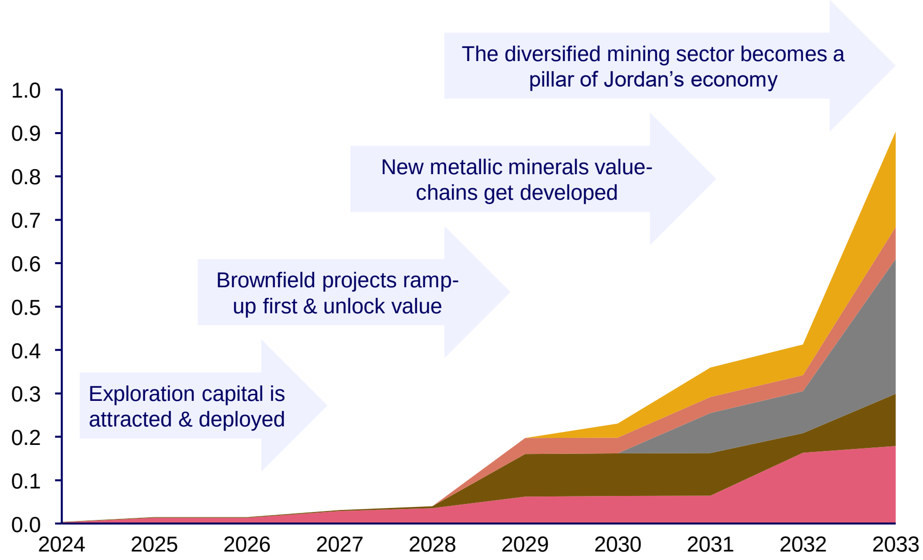
Incremental Government Take Contribution

10-year forecast (2024 – 2033), US$Mn, 2023 real



Incremental Gross Domestic Product Contribution

10-year forecast (2024 – 2033), US$Bn, 2023 real



Source: Wood Mackenzie, SRK & Mayer Brown analysis

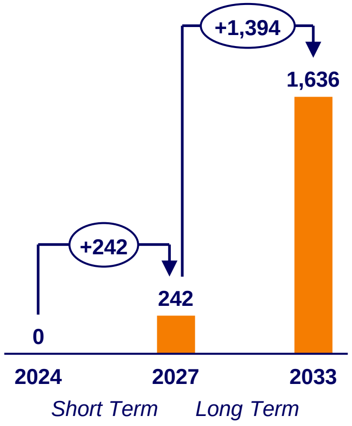
As a result of our analysis, we can forecast the potential socio-economic benefits which the new prospective mining projects could unlock in Jordan

These include indirect and induced effects across other sectors of the economy

Gross Domestic Product

Incremental GDP

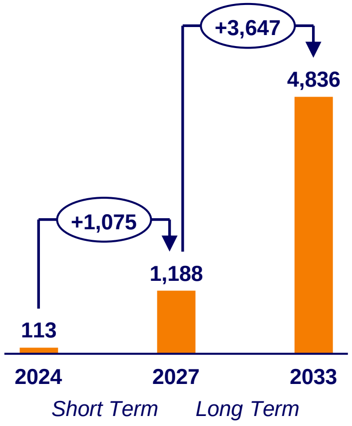
US$Mn, 2023 constant dollars



Sector Employment

Incremental employment

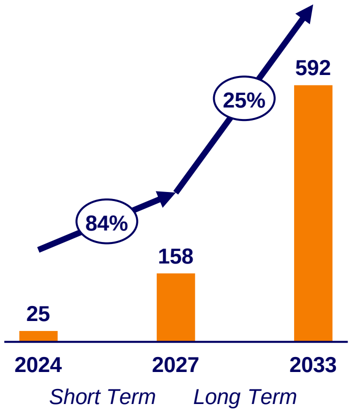
 # direct employees



Foreign Direct Investment

Cumulative FDI

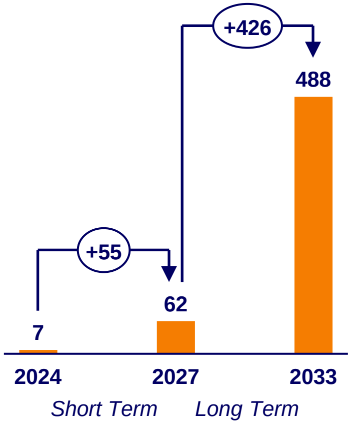
US$Mn, 2023 constant dollars



Fiscal Revenues

Incremental fiscal revenues

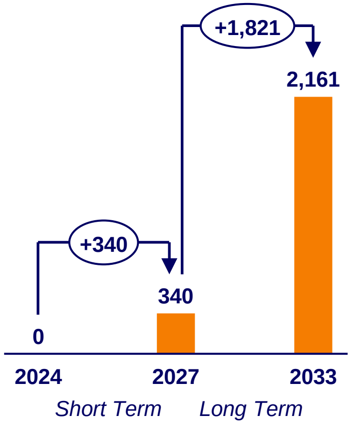
US$Mn, 2023 constant dollars



International Exports

Incremental exports

US$Mn, 2023 constant dollars



Source: Wood Mackenzie, SRK & Mayer Brown analysis

Strategic Recommendations

Licensing Reforms

Governance Reforms

Fiscal Reforms

Regulatory Reforms

Downstream Developments

The strategic recommendations will aim to address the critical bottlenecks which were identified as part of the Baseline Analysis

Addressed the required reforms and relevant accelerators is key to building trust with prospective investors

Proposed Strategic Reforms & Accelerators	Critical Bottlenecks
1 Licensing Reform	• MOU and EA **terms are independently negotiated** for different operators • The strategic minerals licensing process **requires two government ratifications (inc. Parliament)** • There is **no security of tenure** for MOU holders
2 Fiscal Reform	• The **fiscal regime is incomplete (e.g. copper / gold / lithium rare earths mineral royalties)** • **Rent Fees are excessively high** • **The access to investment incentives is uncertain**
3 Governance Reform	• **The institutional structure include shared authorities across several governance functions** • The existing **geoportal (and underlying database) is not comprehensive & accessible** enough • **Investment promotion remains relatively passive**
4 Regulatory Reform	• The mining regulatory framework (law, bylaws, instructions) is **not comprehensive enough** • Several gaps exist, leaving **room for substantial discretionary decisions** • **Relevant legislations are not consistently cross-referenced (e.g. environment, investment)**
5 Downstream Accelerators	• **Power costs are very high, and are a critical enabler of downstream processes** • **Water is scarce, and its access is a critical enabler of downstream processes** • **Downstream processes may generate toxic wastes, which should be carefully managed**

Source: Wood Mackenzie analysis

In order to attract foreign investors, Jordan needs to establish and maintain a mining investment framework that is stable, effective and efficient

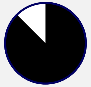
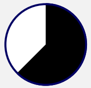
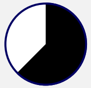
We have defined the typical attributes of a competitive & attractive mining investment framework

Attributes	Features	Description	Perception of Government	Impact on Investors
Stability	**Transparent**	Policies are **openly available and understandable** by the investor and other relevant stakeholders	• Best-practice governance • Stakeholder engagement	• Facilitates investment promotion • Enables informed decision making
	Enforceable	**Public and private institutions are accountable**, under the law, to execute those policies	• Contracts execution • Clauses stabilization	• Protects investors' rights • Mitigates unforeseen risks
Effectiveness	**Uniform**	Policies apply across all businesses in similar circumstances to ensure **equity amongst investors**	• Regulatory stability • Equitable treatments	• Allows fair competition • Reduces risks of arbitrage
	Fair	**Policies are balanced** so that both the government and investors get their fair share of project returns	• Openness to foreign investment • Distributional behavior	• Boosts stakeholder engagement • Establishes a trusted partnership
Efficiency	**Clear**	**The law provides sufficient details** to clarify its execution basis, as well as any exceptions	• Regulatory enforcement • Revenue collection	• Increases investor confidence • Provides long-term visibility
	Actionable	The enforcement of the law is supported by **appropriate level of administrative resources**	• Enhanced resource allocation • Compliance with regulations	• Streamlines processes • Increases ease of doing business

Source: Wood Mackenzie, SRK & Mayer Brown analysis

The Baseline Analysis indicates that the current Jordanian mining investment framework is not competitive enough with regards to best-practice expectations

Implementing a framework in line with global best practice will ensure a more competitive investment climate

Attributes	Features	Jordan Assessment	Key Objectives
Stability	Transparent		• Improve the **clarity and structure** of existing policies • Ensure that investors can **easily access & process** relevant policies
	Enforceable		• Continue to **promote Jordan as a stable socio-political regime** • **Keep enforcing contract's execution** as per the rule of law
Effectiveness	Uniform		• **Pre-define as many of the licensing terms** in the law as possible • **Standardize licensing agreements** across all sector participants
	Fair		• Facilitate the access to the relevant **investment incentives** • **Promote the competitiveness of the Jordanian fiscal regime**
Efficiency	Clear		• **Close the gap** with international best practices • Prevent the potential for **discretionary interpretations**
	Actionable		• Enable public institutions to cope with the **sector scale-up ambitions** • **Delineate appropriately governance functions** across public entities

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Low  High

Key Bottlenecks

The strategy will focus on reforming the key investment decision factors that can be highly impacted by public policy: licensing, fiscal, governance & regulatory

Strategic Accelerators will become increasingly important once exploration efforts are initiated

Prioritized Investment Decision Factors

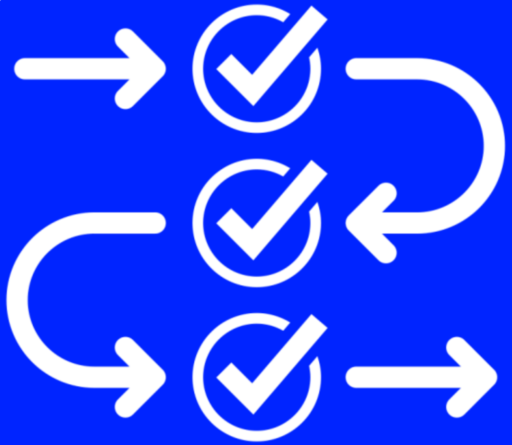
Operational Enablers	1	Quality of the mineral potential
	2	Availability of required infrastructure
	3	Access to utilities
	4	Quality of the geological database
	5	Benefits of the geographical location
	6	Socio-economic agreements
	7	Access to skilled labor
	8	Access to local financing
Public Governance	1	Enforcement of the 'rule of law'
	2	Transparency of the legal system
	3	Effectiveness of the public institutions
	4	Openness to foreign investment
	5	Fairness of the fiscal regime
	6	Execution of contractual agreements
	7	Availability of investment incentives
	8	Ease of starting a business

Proposed Strategic Reforms & Accelerators

1	**Licensing Reform**	Streamline & de-risk the investment process, exploration-to-mining through defining a predictable & realistic licensing route
2	**Fiscal Reform**	Establish an investor-friendly environment in attracting exploration capital and maintaining a fair fiscal burden across the mine lifecycle
3	**Governance Reform**	Empower governmental institutions with the appropriate structure & resources to deliver effectively and efficiently
4	**Regulatory Reform**	Attract and retain potential investors through defining stable, comprehensive and clear policies and procedures
5	**Downstream Accelerators**	Unlock mine lifecycle economics through enabling globally-competitive operational input costs
	Inherent Factors	Capitalize on strengths & opportunities

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Licensing Reform



Based on our diagnosis of the licensing framework, we have highlighted the most critical findings which will form the basis of our proposed reforms

Licensing unpredictability and incoherency are the key factors impacting competitiveness

Competitive impact on the investment framework	Stability		Effectiveness		Efficiency	
	Transparent	Enforceable	Uniform	Distributional	Clear	Actionable
1 **The licensing process is unpredictable** • The process involves **two government ratifications**: **Cabinet-level** to secure the MOU and **Parliament-level** to secure the Exploration Agreement • There is **no security of tenure** for MOU-holder provided successful exploration outcomes	✕		✕		✕	
2 **The licensing framework lacks clarity** • The proposed **exploration period varies** from one MOU to another, and **does not match delivery expectations** as per international standards • The Memorandum of Understanding and Executive Agreement terms are **independently negotiated** across different operators	✕		✕	✕	✕	✕

Source: Wood Mackenzie, SRK & Mayer Brown analysis

✕ Indicates a negative impact on the competitiveness of Jordan's mining investment framework

Wood Mackenzie

The "strategic minerals" licensing process, which is currently under MEMR's mandate, requires two separate Council of Ministers & Parliamentary approvals

The two-step government approval process adds excess decision points to the licensing process

Existing Jordanian Mining Legislation		
Natural Resources Law	**Art. 8**	The Ministry […] shall place tenders or solicit offers on a competitive basis to exploit one site or more […] for purposes of survey, exploration and exploitation of petroleum, oil shale coal and strategic minerals. […] any Person can submit direct proposals to the Ministry [...]
	Art. 9	[…] the Minister shall submit his recommendation to the Council of Ministers to render a suitable decision […] as a prelude to signing the partnership agreement […]. Ratification […] are ratified in accordance with the provisions of Article (117) of the Constitution.
Bylaw for Exploitation Projects of Petroleum, Oil Shale & Strategic Minerals	**Art. 5**	The Committee shall […] make the decision on accepting the Direct Proposal upon the recommendation of the Projects Committees and to qualify the holder of the Direct Proposal for contracting under the Memorandum of Understanding
	Art. 9	The Minister shall deliver the recommendation of the Committee on the approval of signing the Memorandum of Understanding to the Council of Ministers to take proper decisions and authorize the signing to the Minister.

Implications

- **MEMR solicits offers** to exploits strategic minerals, and processes Direct Proposals
- MEMR recommends to proceed with any MoU **based on the Committee review**
- The signature of a MoU by MEMR must be **approved by the Cabinet first**
- Any **EA must be sanctioned by a law**, to be ratified by the Parliament

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Compared with other jurisdictions globally, the Parliamentary ratification is very unusual, and the Council of Ministers' approval could also be simplified

Across jurisdictions, the Ministry of Mines is typically authorized to approve both exploration & mining licences

Selected Jurisdiction	Exploration License Issuer	Exploitation License Issuer	Parliamentary Ratification	Concession Codification
Jordan	MOU: Council of Ministers License: EMRC	EA: Council of Ministers License: EMRC	**Required**	Executive Agreement
Egypt	Parliament	President	**Required**	Law
Saudi Arabia	Ministry of Industry & Mineral Resources	Ministry of Industry & Mineral Resources	**Not required**	Mining License
Ontario	Ministry of Energy, Northern Development & Mining	Ministry of Energy, Northern Development & Mining	**Not required**	Mining Lease
West. Australia	Department of Mines and Petroleum	Department of Mines and Petroleum	**Not required**	Mining Lease
Ghana	Minister of Lands and Natural Resources	Minister of Lands and Natural Resources	**Not required**	Mining Agreement
Mongolia	Mineral Resources & Petroleum Authority	Mineral Resources & Petroleum Authority	**Not required ***	Mining Licence
Peru	Ministry of Energy & Mines	Ministry of Energy & Mines	**Not required**	Mining License

Implications

- The **Ministry of Mines is typically responsible** for issuing both exploration and exploitation licenses
- **Parliamentary ratification is typically not required** to issue the exploitation license. In Egypt, work has been done to streamline the exploration license process.
- The **mining concessions is typically codified in the mining license** (or similar) not in a law or agreement

Source: Wood Mackenzie, SRK & Mayer Brown analysis. Note: * Parliament has the right to declare a potential deposit as strategic, giving the State the right to acquire up to 34% of the equity in the project.

There appears to be several divergences across the MoUs, even for similar commodities, and misalignments with the project development expectations

Substantial discretionary negotiations result in unequal treatments across the active companies

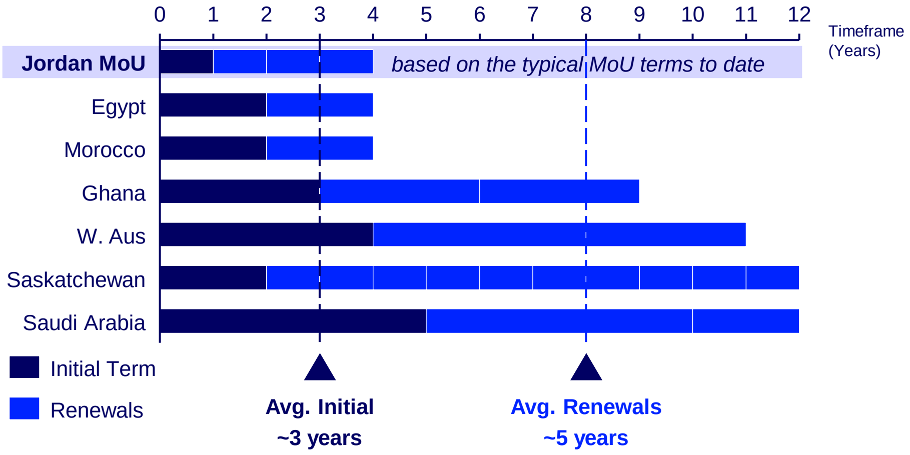
Key Terms	Selected Memorandums of Understanding				Implications
	Armico	Solvest	Manaseer	ENEC	
Commodity Type	• Phosphate • Gold • Lithium	• Copper • Gold	• Copper	• Rare Earths	**Multi-commodity agreements** are preferred in anticipation of bi-product exploration findings
Exploration Period	• Phosphate - 12 Months • Gold - 12 Months • Lithium -12 Months	• Copper - 12 Months • Gold - 14 Months	• 16 Months	• 10 years	**Exploration period terms** (initial & renewals) should be mostly standardized
Exploration Area	• Phosphate - 305 km^2 • Gold – 54 km^2 • Lithium – 36 km^2	• Copper – 20-28 km^2 • Gold - 155 km^2	• Not recorded in the MoU	• 2,388 km^2	**Exploration blocks** should follow pre-defined uniform criteria (size, shape, ratio, etc.)
Key Deliverable	• FS within MOU exploration period	• PFS within MOU exploration period	• FS within MOU exploration period	• FS within MOU exploration period	**Work programmes** should be detailed, and realistically aligned with the exploration period

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Also, Jordan's MoU tenure is relatively short initially to cater for exploration needs and provides little room for renewals, which remain discretionary

The exploitation licence term is sufficient, but should remain renewable until the know ore has been exhausted

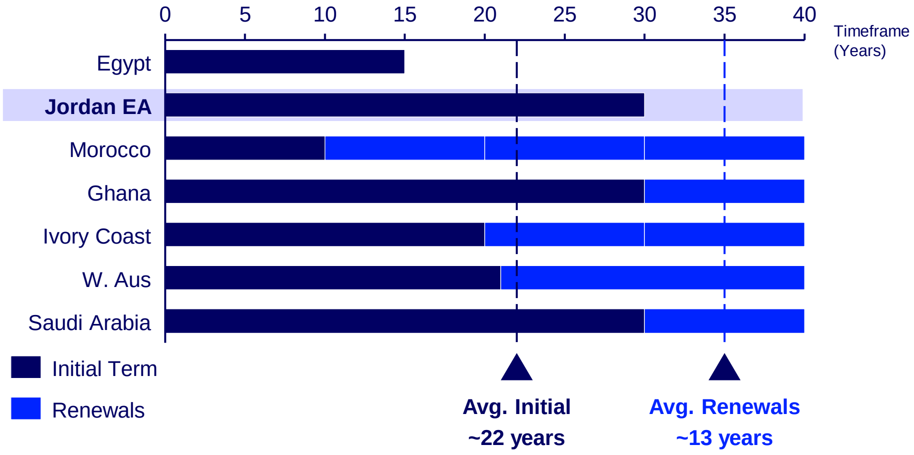
Selected exploration license periods



Implications

- The **initial 1-year exploration period** is insufficient
- The **total 4-year (including extensions)** exploration period is insufficient
- The **discretionary 1-year renewal** process is cumbersome

Selected global exploitation license periods



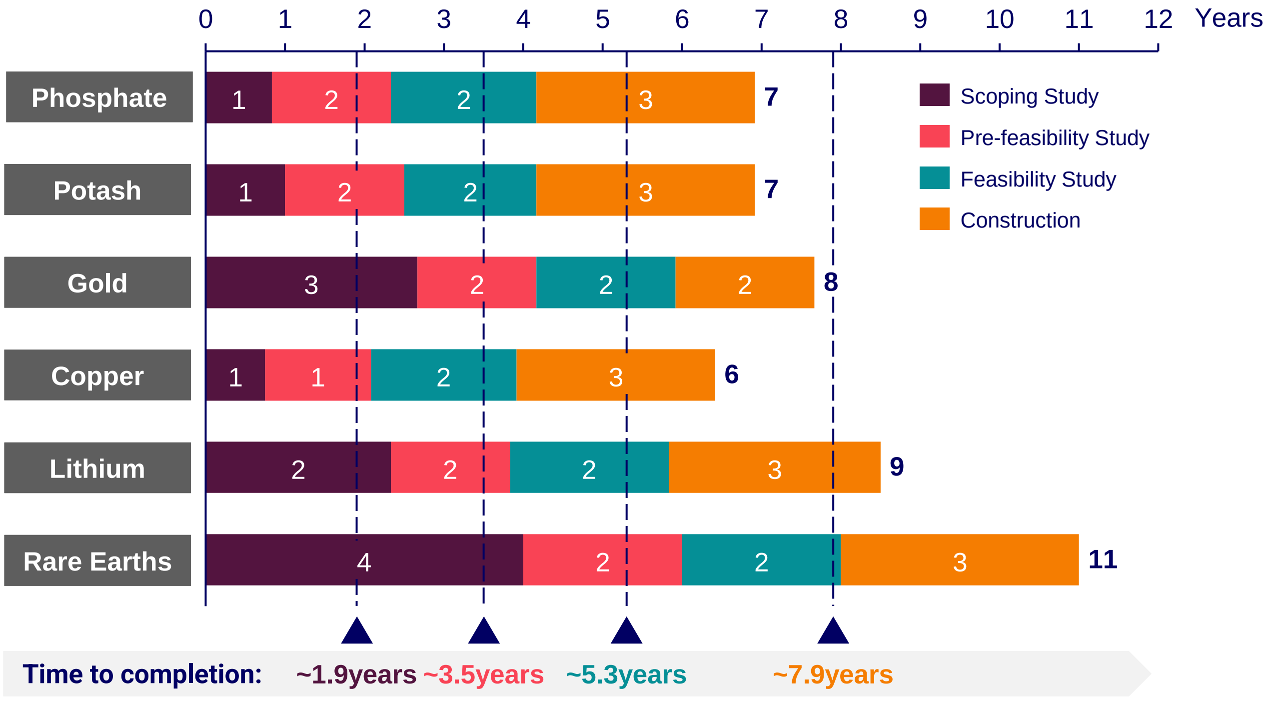
Implications

- The **initial 30-year exploitation** period is sufficient
- The lack of **intermediary renewals** is positive
- There is no **option to extend the license** beyond the 30-year initial term

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Typically, mine project development from exploration to production is a time consuming process when best-practice standards are followed

Projects development lifecycle are expected to range between 7 to 11 years, depending on the commodity



Scoping Study
- 50% cost estimation accuracy
- Inferred / Indicated resource estimate
- Preliminary Economic Assessment

Pre-feasibility Study
- 70% cost estimation accuracy
- Indicated / Measured resource estimate
- Preliminary ESIA study

Feasibility Study
- 80% cost estimation accuracy
- Proven / Probable reserve statement
- Approved ESIA study

Source: Wood Mackenzie, SRK & Mayer Brown analysis. Note: ESIA – Environmental & Social Impact Assessment

Wood Mackenzie

Standardizing as many exploration & production licensing terms in the law as reasonably possible will help de-risk the approval process (1/2)

Reduced discretionary negotiations bring more stability and increase confidence for prospective investors

Licensing Terms	Typical Codification		Operational Relevance		Rationale	Implications
	Legislation	Agreement	Exploration	Production		
Duration & Renewal Terms	✓		✓	✓	▲ Simplifies administration, encourages investment ▼ Ignores geological diversity, hinders adaptability	• Establish the initial term period of the license • Define clear criteria for automated renewal
Capital Deployment Schedule		✓	✓		▲ Enables tailored investment based on project complexity ▼ Does not accounts for investment environment	• Review and acceptance of the Feasibility Study as a basis for responsible project development
Environment & Social Obligations	✓	✓	✓	✓	▲ Ensure commitment to sustainability ▼ Does not adapt to stakeholder needs	• Require the production of agreed ESIA / ESMP • Stipulate that those plans must be followed
Dispute Resolution Mechanisms	✓		✓	✓	▲ Reduces legal uncertainties and potential costs / delays ▼ May not suit all disputes, lacks customization	• Stipulate that disputes are subject to negotiation first, then submitted to local arbitration to settle if need be

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Rationale: Advantage ▲ Disadvantage ▼

Standardizing as many exploration & production licensing terms in the law as reasonably possible will help de-risk the approval process (2/2)

Reduced discretionary negotiations bring more stability and increase confidence for prospective investors

Licensing Terms	Typical Codification		Operational Relevance		Rationale	Implications
	Legislation	Agreement	Exploration	Production		
Fiscal Terms & Investment Incentives	✓		✓	✓	▲ Ensures equity and terms / incentives stabilization ▼ Reduces customization to specific project needs	• Establish fiscal stabilization provisions to prevent sudden & significant changes to the pre-agreed fiscal terms
Operational Data Sharing & Reporting	✓		✓	✓	▲ Builds geo-database for future promotion ▼ May not adapt to operational constraints	• Define information reporting mechanisms (frequency, format, …) with provisions for sensitive data treatment
Change of Control & Transfer	✓		✓		▲ Prevents abrupt changes and maintains continuity ▼ May not address project / stakeholder concerns	• Stipulate the conditions under which the license can be transferred or assigned to another entity
Community & Stakeholder Engagement	✓	✓	✓	✓	▲ Ensures uniform treatment, avoids inconsistencies ▼ Ignores unique needs, preferences, and concerns	• Require the production of agreed ESIA / ESMP • Stipulate that those plans must be followed

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Rationale: Advantage ▲ Disadvantage ▼

We recommend a three-phase approach to define the new licensing framework and apply it to the relevant sector participants, whether new or prospective

Current MoU-holders need to be consulted in order to collaboratively settle on the new licensing terms

Proposed Phases	Phase 1	Phase 2	Phase 3
Key Objectives	**Define** Consult with private and public entities to jointly define the new operation and production licensing terms	**Implement** As soon as approved, apply the new licensing terms to new license applications (exploration or production)	**Migrate** Upon license renewal, apply the new licensing terms to existing sector participants
Legislative Implications	• **Define which terms are set to be codified in the law**, and which will remain to be privately negotiated within the relevant agreements	• **Amend existing regulations where available, or produce new ones where need be**, to codify the newly defined licensing terms	
Implementation Implications		• The **new licensing framework prevails** for new applications • **Existing MoU holders remain subject to the same / old terms**	• **Existing MoUs are migrated to the new licensing framework**, whether it is about extending the exploration license or applying for a mining one

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

Based on our analysis, we have summarized the strategic reforms which must be engaged to improve Jordan's mining licensing framework

Overview of the proposed licensing strategic recommendations

Licensing Reform - Strategic Recommendations	Expected Short-Term Impact	Difficulty of Implementation
1 **Pre-define as many exploration & production terms as reasonably possible by policy** Sub-recommendations: 1. Maintain old-MoUs unchanged during the revision process 2. Consult with MoU-holders in defining the new terms 3. Migrate old MoUs to the new framework upon renewal	Reduce discretionary negotiations	**Government Endorsement**: High / Medium / Low **Legislative Amendments**: High / Medium / Low
2 **Provide MoU-holders with confidence in their ability to obtain a mining license through pursuing:**		
A **Remove copper, gold, lithium & rare-earths from the 'strategic minerals' category**	Streamline the application process & accelerate turnaround	**Government Endorsement**: High / Medium / Low **Legislative Amendments**: High / Medium / Low
A' ~~**Remove the Cabinet and Parliamentary approval requirements for the MOU and EA**~~ **(Not feasible)**	Reduce the number of decision points & prevent push-backs	High / Medium / Low High / Medium / Low
B **Ensure successful exploration outcome results in awarding the mining license to the explorer** Sub-rec.: Commit on the license approval timeframe	Provide confidence in the 'right to mine'	High / Medium / Low High / Medium / Low

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Low High

The proposed licensing strategic recommendations have varying degrees of implications with respect to policymaking

For each, we have indicated the industry best-practices and our specific recommendations for Jordan

	Licensing Strategic Recommendations	Implementation Vehicle (For Discussion)						Key Actions for MEMR
		Constitution	Law	Bylaw	Instruction	Agreement	Initiative	
1	**Pre-define as many exploration & production terms as reasonably possible by policy**		Best Practice	Best Practice ★	Best Practice			• Launch consultations with relevant stakeholders to converge on the terms to define in the law vs. agreements • Engage a study to define the industry best-practice for defining each term
2A	**Remove copper, gold, lithium & rare-earths from the 'strategic minerals' category**						★	• Engage with the Cabinet to obtain endorsement • Validate with EMRC its readiness to assume the expanded mandate
2B	**Ensure successful exploration outcome results in awarding the mining license to the explorer** Sub-rec.: Commit on the license approval timeframe		Best Practice	Best Practice	Best Practice ★			• Execute the recommendation through issuing an Instruction or amending the existing Bylaw

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Best Practice: hatched cells — Short-term Recommendation: ★

Governance Reform

Based on our diagnosis of the institutional framework, we have highlighted the most critical findings which will form the basis of our proposed reforms

Institutional overlap and sub-optimal promotional efforts are the key factors impacting competitiveness

Competitive impact on the investment framework	Stability		Effectiveness		Efficiency	
	Transparent	Enforceable	Uniform	Distributional	Clear	Actionable
1 **Unusual governance shared authorities exist** • **MEMR and EMRC have a shared authority** in terms of Regulation & Licensing, which may cause issues as the sector starts scaling-up • The **'database promotion' mandate currently falls under MEMR**, which may face resource issues as the sector starts scaling-up	⊗				⊗	⊗
2 **Sector promotional efforts are sub-optimal** • The existing **geoscience database is not comprehensive & accessible enough**, to enable prospective investors to evaluate opportunities • **Public-facing investment promotion remains relatively passive**, which limits the exposure of Jordan to the global investment community					⊗	⊗

Source: Wood Mackenzie, SRK & Mayer Brown analysis

⊗ Indicates a negative impact on the competitiveness of Jordan's mining investment framework

Although the institutional collaboration is very efficient so far, Jordan is uniquely characterized by overlaps across several of the governance roles

Shared authorities create inefficiencies, which may become problematic once the sector scales up

Governance Roles	Strategy & Policymaking	Investment Promotion	Regulation & Licensing	Control & Enforcement	Database Promotion	Operations & Investments
	Ministry of Energy & Mineral Resources	MEMR + MOI	MEMR + EMRC	EMRC + MOF	Ministry of Energy & Mineral Resources	Government Invest. Management Co.
	Ministry of Petroleum				Egyptian Mineral Resources Authority	
	Ministry of Industry & Mineral Resources				Saudi Geological Survey	Public Investment Fund
	Ministry of Mines				Ontario Geological Survey	Private Companies
	Department of Mines & Petroleum				Geological Survey of Western Australia	Private Companies

- Puts the **mining sector in competition** with others to attract promotional resources
- Requires **cross-Ministerial educational efforts** to convey sector-specific expectations

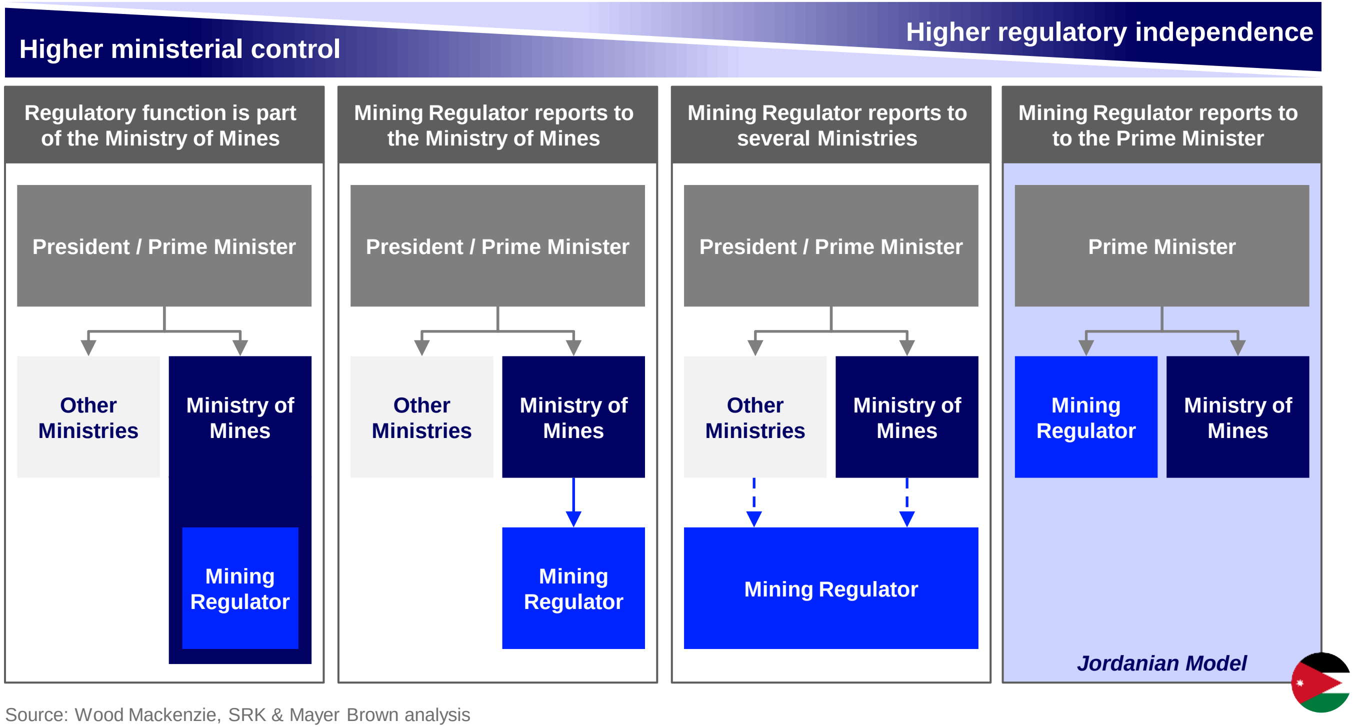
- Triggers potential **conflicts of interest** between policy-making & enforcement roles
- **Complicates the investor onboarding** due to distinct licensing authorities & routes

- Requires Ministry to **divert its attention away** from core strategy & policy-making roles
- Adds significant **pressure onto Ministerial resources** once the sector scales-up

Source: Wood Mackenzie, SRK & Mayer Brown analysis

In terms of Control & Enforcement, different models exist to govern the relationship between MEMR & EMRC, but retaining ministerial control is critical

Governmental hierarchy helps ensure that policies get consistently & efficiently translated into regulatory actions



Implications

- Regulations serve policies so **regulatory bodies should report to / be accountable to a policy-making Ministry**, in some shape or form
- If a Ministry owns KPIs for the performance of a sector, it should have a **means of control over any agencies enforcing policies**
- A **regulatory body should report to one ministry only**. Where lines of authority are blurred, bodies may seek to unilaterally shape their mandate

Source: Wood Mackenzie, SRK & Mayer Brown analysis

In terms of Database Promotion, Jordan may consider establishing a formal geological survey in the mid-to-long term, to cope with its growth ambitions

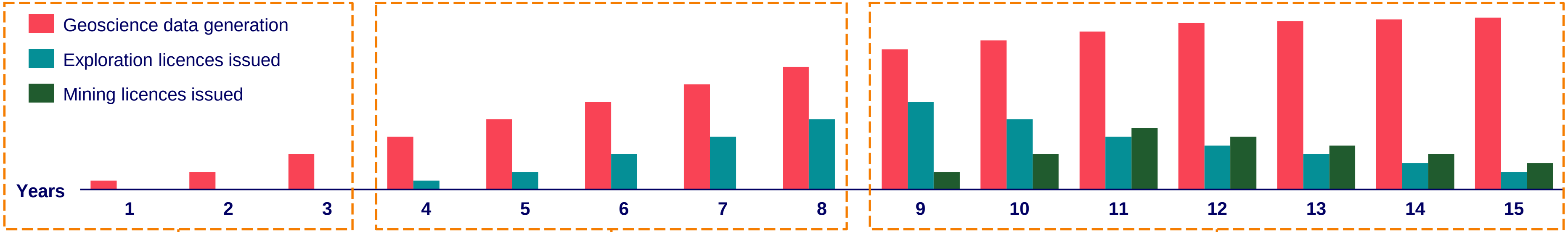
It is typical best practice for mining-focused jurisdictions to establish a dedicated geological survey

Typical return (exploration & mining licenses issued) on geoscience data generation profile

Ministry highlights the potential
Timeframe: short-term
Exploration : early-stage prospecting
Production : none

Private sector scales-up exploration
Timeframe: medium-term
Exploration : large-scale exploration studies
Production : none

Mining operations get developed & exploration continues
Timeframe: long-term
Exploration : ongoing exploration work
Production : active generation of production data



- MEMR should **dedicate specialized (GIS) resources** to facilitate geoscience data collection, analysis & promotion

- As the data volume & complexity increase, having a dedicated geological survey would enable Jordan to **systematically promote areas of mineral prospectivity**

- As the mining sector scales up, mining operations will start across different commodities, and will generate **production data** as well
- The geological survey would require **diverse skillsets to cope with industry needs**, and may expand services (e.g. laboratory)

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

Potential investors rely on a quality geoscience database in order to ascertain the geological prospectivity, and decide whether to pursue exploration efforts

While the existing database builds on quality historical information, several information gaps exist

Geoscience Data Type		Database Promotion Recommendations	Frequency		Achievability	
			One-off	Recurrent	Ease	Cost
Geological	Geological Maps	**Geo-reference, translate & digitize all available datasets** (maps, reports, etc.) & **complement with public Arabian Peninsula data**	✓	✓	▼	$$$
Geological	Alteration Patterns	**Acquire multispectral remote sensing public imagery** (Sentinel 2, Landsat 8, Aster, etc) and apply a band ratio to visualize alterations	✓		▲	$$
Geological	Drilling Data	**Digitize the existing drillhole database** (geo-location, logging, analysis results, etc.) and **ensure future drillholes are digitized too**	✓	✓	▼	$$$
Geochemical	Mineral Occurences	**Compile mineral occurrences from existing reports & maps** and **conduct focused country-wide geo-chemical sampling**	✓	✓	▼	$$
Geophysical	Magnetic Surveys	**Overlay country-wide geophysical survey** (magnetic and radiometry) which was conducted in the past	✓		▲	$
Geographical	Administrative Data	**Overlay publicly available administrative data** (roads, railways, airports, cities, etc.)	✓	✓	▲	$
Environmental	Protected Areas	**Maintain environmentally protected areas up-to-date** (national parks, protected & prohibited areas, etc.)		✓	▲	$
Cadastre	Open Blocks	**Ensure existing licence details are completed** (owner, status, etc.) and **maintain open blocks for exploration** up-to-date	✓	✓	▲	$

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Ease: Low ▼ High ▲ Cost: Low **$** High **$$$**

Wood Mackenzie

Prioritizing will result in a short-term impact on prospective investors, and trigger a positive change momentum for other recommendations

Given its resource constraints, MEMR may consider outsourcing some of these activities to execute faster

Ranked Database Promotion Recommendations	Achievability: Ease	Achievability: Cost
Overlay publicly available administrative data (roads, railways, airports, cities, etc.)	▲	$
Overlay country-wide geophysical survey (magnetic and radiometry) which was conducted in the past	▲	$
Ensure existing licence details are completed (owner, status, etc.) and **maintain open blocks for exploration** up-to-date	▲	$
Maintain environmentally protected areas up-to-date (national parks, protected & prohibited areas, etc.)	▲	$
Acquire multispectral remote sensing public imagery (Sentinel 2, Landsat 8, Aster, etc) and apply a band ratio to visualize alterations	▲	$$
Compile mineral occurrences from existing reports & maps and **conduct focused country-wide geo-chemical sampling**	▼	$$
Digitize the existing drillhole database (geo-location, logging, analysis results, etc.) and **ensure future drillholes are digitized too**	▼	$$$
Geo-reference, translate & digitize all available datasets (maps, reports, etc.) & **complement with public Arabian Peninsula data**	▼	$$$

Implications

- **Prioritize** recommendations which are relatively easy to implement and require minimal budget
- Consider **outsourcing selected recommendations** to specialized companies to accelerate their execution

In parallel, improve the capabilities & performance of the geoportal, including:

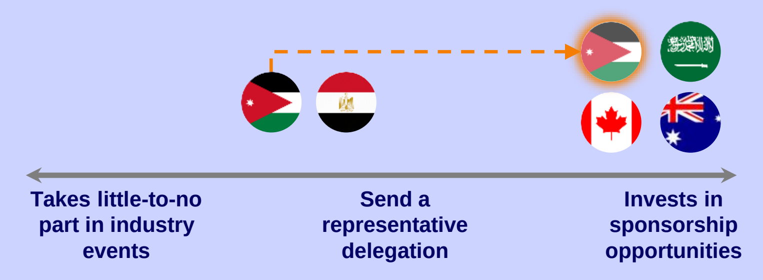
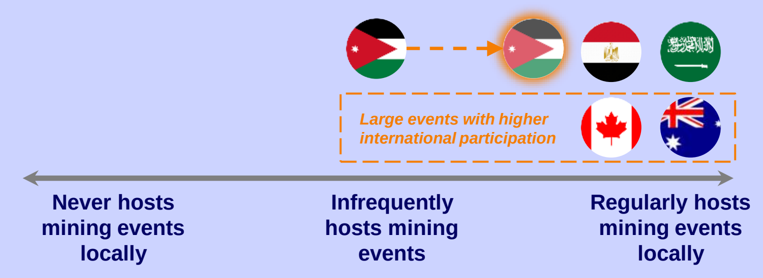
- Collate all of the available geoscience data in a **consistent and unified view**
- Integrate a **license management system** to check-in status or apply for a license
- Provide **multilingual support**, for navigating the portal & accessing data
- Maintain **optimal speed and a user-friendly interface**

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Ease: Low ▼High ▲ Cost: Low $ High $$$

In parallel, Jordan will need to be more proactive about its promotional efforts towards the investment community in order to trigger a positive momentum

There is an opportunity to scale-up local and international investment promotion to elevate Jordan's profile

Platforms	Promotional Ambitions	Key Objectives	Strategic Enablers
Attending Mining Events		• **Elevate Jordan's profile globally** as an up-and-coming mining investment destination • **Unlock global networking opportunities** with industry stakeholders (investors and beyond: lenders, etc.)	• **Increase domestic awareness** of the benefits of participating in industry events • **Obtain backing from key stakeholders** to unlock the necessary support and resources
Hosting Mining Events		• **Expose local private and public stakeholders** to the broader mining industrial ecosystem • **Showcase Jordan's investment opportunities** to shortlisted high-potential investors	• Obtain **endorsement from the government** to actively host mining events in-country • **Build partnerships with industry stakeholders** to garner sponsorship, support & expertise

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Ultimately, separating key institutional roles in the longer term would reflect best-practice of mining sector governance worldwide

The potential future state represents a long-term goal for MEMR to achieve in line with international peers

Strategy & Policymaking	Investment Promotion	Regulation & Licensing	Control & Enforcement	Database Promotion	Operations & Investments

Current state of the Jordanian mining institutional framework

Strategy & Policymaking	Investment Promotion	Regulation & Licensing	Control & Enforcement	Database Promotion	Operations & Investments
Ministry of Energy & Mineral Resources	MEMR + MOI	MEMR + EMRC	EMRC + MOF	Ministry of Energy & Mineral Resources	Government Invest. Management Company

Potential future state to be achieved in the long-term

Strategy & Policymaking	Investment Promotion	Regulation & Licensing	Control & Enforcement	Database Promotion	Operations & Investments
Ministry of Energy & Mineral Resources			Energy & Minerals Regulatory Commission	National Geological Survey	Government Invest. Management Company

Ministry of Energy & Mineral Resources:

- Development & execution of the sector strategy
- Coordination of all sector-level public entities
- Promotion of investment opportunities globally
- Management of the licensing cadastre

Energy & Minerals Regulatory Commission:

- Compliance monitoring with sector regulations
- Operational & financial audit of exploitations
- Performance forecast to estimate tax revenues
- Markets monitoring to assert products quality

National Geological Survey:

- Collection of national-level geoscience data
- Consolidation of a unified geoscience database
- Data dissemination across relevant audiences
- Eventual provision of laboratory services

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

Given the ongoing positive institutional collaboration across entities, we recommend a two-phase transformation with minimal impacts in the near-term

Phase 2 would only be launched after the initial ‘quick wins’ strategic recommendations have been implemented

Institutional status quo → ← Industry best practice

	Immediate focus	
Proposed Phases	**1** Facilitate collaboration across relevant sector entities Establish a ‘single window’ through the Ministry	**2** Streamline the institutional governance process Redesign the sector institutional structure
Key Objectives	• **Minimize disruptions** to existing operations • **Optimize interfaces** across the different sector entities • Keep attention focused on **‘quick wins’ implementation** • Facilitate the **investors’ onboarding process**	• Address **duplication inefficiencies** • Reduce **interfacing points** with the external entities • Prevent potential **conflicts of interest** • Deliver on **sector growth aspirations**
Key Challenges	• Generates **incremental improvements only** • Requires **more decision points** to drive implementation • Puts **increased pressure on existing resources** • Cannot **cope with sector scale-up**	• Requires **higher government endorsement** • Requires **more resources** to implement changes • Triggers potentially **irreversible changes** • Generates potential **resistance to change**

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Based on our analysis, we have summarized the strategic reforms which must be engaged to improve Jordan’s mining governance framework

Overview of the proposed governance strategic recommendations

	Governance Reform - Strategic Recommendations	Expected Short-Term Impact	Difficulty of Implementation: Government Endorsement	Difficulty of Implementation: Legislative Amendments
1	**Dedicate resources to improve the quality of the geoscience database & its accessibility by investors**	Increased investor confidence in the country’s prospectivity	High Medium Low	High Medium Low
2	**Scale-up sector promotion efforts to address market mis-perceptions and start building trust with investors**	Improved market perception about the country’s potential	High Medium Low	High Medium Low
3	**Establish a ‘single window’ through the Ministry to facilitate collaboration across relevant sector entities** Sub-rec.: Commit on the application review timeframe	Optimized institutional collaboration	High Medium Low	High Medium Low
4	**Establish a national geological survey to assume the Database Promotion mandate**	Systematic and centralized data collection and assessment	High Medium Low	High Medium Low
5	**Conduct a redesign of the mining institutional governance structure to delineate key functions**	Streamlined institutional governance process	High Medium Low	High Medium Low

Long-term recommendations

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Low High

Wood Mackenzie

The proposed governance strategic recommendations have varying degrees of implications with respect to policymaking

For each, we have indicated the industry best-practices and our specific recommendations for Jordan

	Governance Strategic Recommendations	Implementation Vehicle (For Discussion)						Key Actions for MEMR
		Constitution	Law	Bylaw	Instruction	Agreement	Initiative	
1	**Dedicate resources to improve the quality of the geoscience database & its accessibility by investors**						Best Practice ★	• Build in-house human & material capabilities to assume the mandate
2	**Scale-up sector promotion efforts to address market misperceptions and start building trust with investors**						Best Practice ★	• Establish an internal working group to engage with MOI • Participate in active promotion efforts
3	**Establish a 'single window' through the Ministry to facilitate collaboration across relevant sector entities**						Best Practice ★	• Encourage the ongoing efforts of the internal working group • Leverage the outcome of the Strategy
4	**Establish a national geological survey to assume the Database Promotion mandate**		Best Practice	Best Practice	Best Practice		★	• Start building domestic awareness about the industry best practice
5	**Conduct a redesign of the mining institutional governance structure to delineate key functions**		Best Practice	Best Practice	Best Practice		★	• Start building domestic awareness about the industry best practice

Long-term recommendations

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Best Practice

Short-term Recommendation ★

Fiscal Reform

Based on our diagnosis of the fiscal framework, we have highlighted the most critical findings which will form the basis of our proposed reforms

Fiscal regime incompleteness and high burden are the key factors impacting competitiveness

Competitive impact on the investment framework	Stability		Effectiveness		Efficiency	
	Transparent	Enforceable	Uniform	Distributional	Clear	Actionable
1 **The fiscal regime has gaps** • No royalty rates are currently defined for **Lithium and Rare Earths**, currently under exploration • **Phosphate and Potash** royalties have been individually negotiated with active operators • **Gold and Copper** royalties follow a different basis than others, and are not enacted yet	✗		✗		✗	
2 **The path to fiscal competitiveness is uncertain** • **Registration Fees, Rent Fees, VAT, Import Duty and Profit-based Taxes** are on the higher end of the competitive benchmarking range • There are **uncertainties regarding the access the investment incentives** for the new 'strategic minerals'	✗			✗		

Source: Wood Mackenzie, SRK & Mayer Brown analysis

✗ Indicates a negative impact on the competitiveness of Jordan's mining investment framework

Mineral royalty rates for phosphate, potash, copper and gold are currently defined, although their legislation & calculation follow different principles

Lithium and rare-earths mineral royalty rates are currently not included in the existing fiscal regime

Mineral Commodity	Overview of the mineral royalty rate calculation	Is the rate set on a value or unit basis?	Is the rate officially enacted?	Is the rate negotiated individually?
Phosphate	5% of sales or 1.250 JD per tonne (the higher of)	Value or Unit-based	Yes	Yes
Potash	125 JD per tonne (not exceeding 25% of profits)	Unit-based	Yes	No
Gold	R (%) = 3 x (Price of gold in \$/oz) - 0.3	Value-based	No	No
Copper	R (%) = 0.75 x (Price of copper in \$/t) + 0.3	Value-based	No	No
Lithium			No	
Rare Earths			No	

Implications

- Negotiated royalty rates are non equitable and are less transparent
- Unit-based royalty rates are mostly relevant for homogenous minerals
- Price based royalty rates can encourage poor behaviour in companies

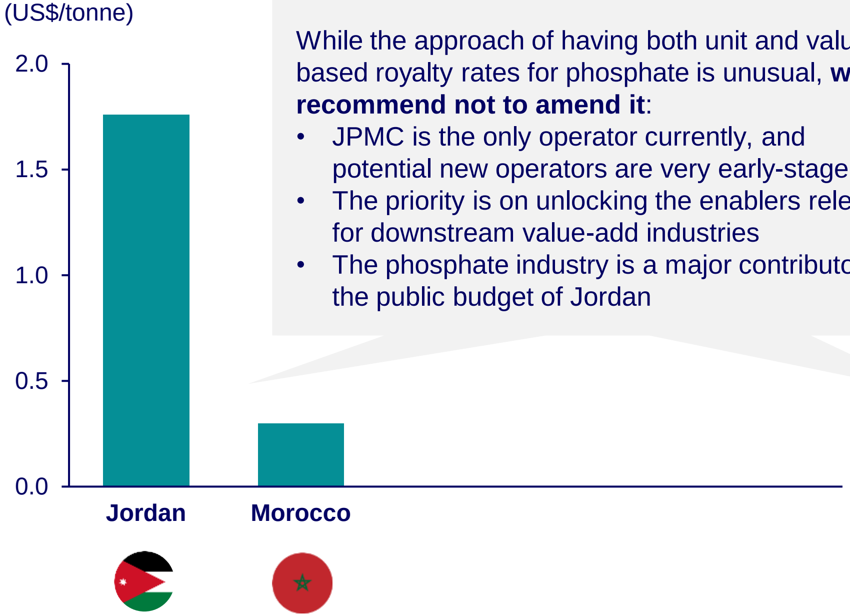
- Prospective investors may be deterred due to the lack of visibility – the financial risk is not defined

Source: Wood Mackenzie, SRK & Mayer Brown analysis

For phosphate, we recommend maintaining the actual mineral royalty principles which were agreed with JPMC, and extend the same to potential new entrants

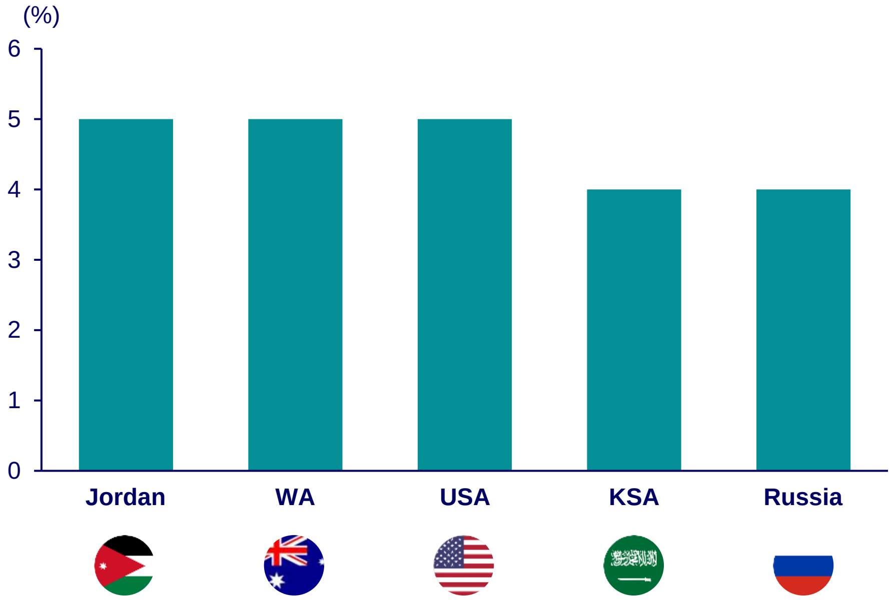
Eventually, the approach could be simplified with a value-based (%) rate only, which is most common

Phosphate mineral royalty rate benchmarking



While the approach of having both unit and value-based royalty rates for phosphate is unusual, **we recommend not to amend it**:

- JPMC is the only operator currently, and potential new operators are very early-stage
- The priority is on unlocking the enablers relevant for downstream value-add industries
- The phosphate industry is a major contributor to the public budget of Jordan

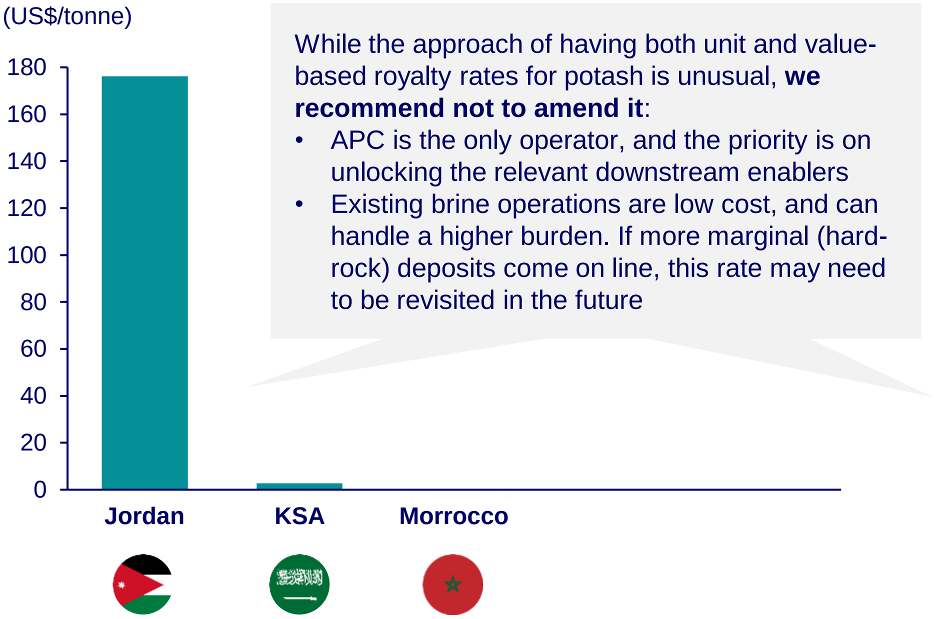


Source: Wood Mackenzie, SRK & Mayer Brown analysis

For potash, we recommend maintaining the actual mineral royalty principles which were agreed with APC, although they appear not to be globally competitive

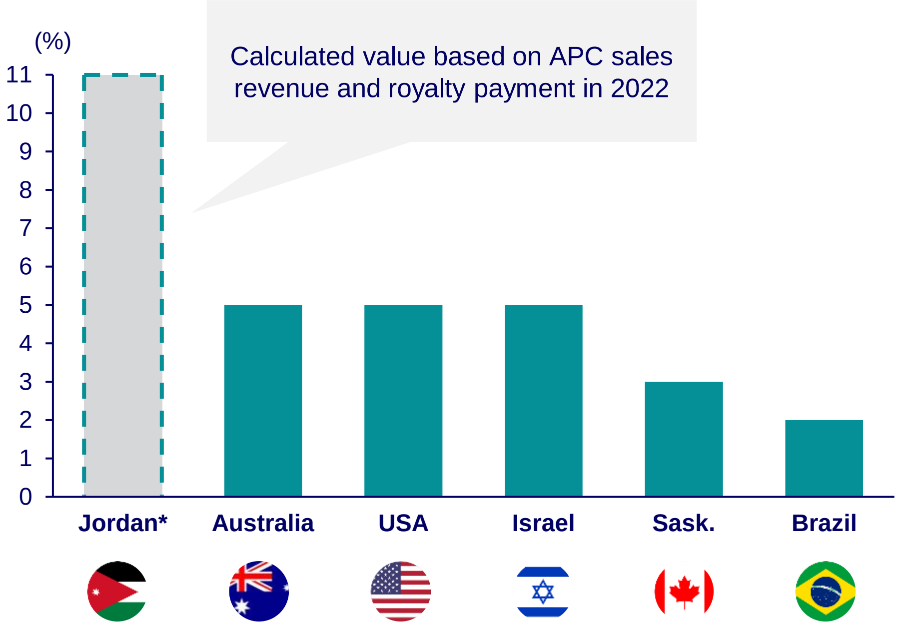
Jordan's priority in potash is to foster downstream value-add developments

Potash mineral royalty rate benchmarking



While the approach of having both unit and value-based royalty rates for potash is unusual, **we recommend not to amend it**:

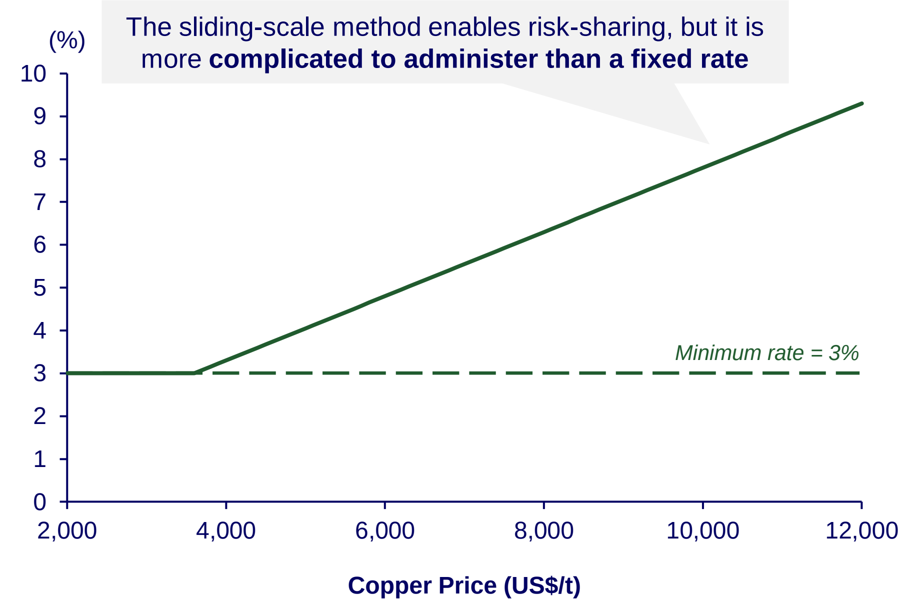
- APC is the only operator, and the priority is on unlocking the relevant downstream enablers
- Existing brine operations are low cost, and can handle a higher burden. If more marginal (hard-rock) deposits come on line, this rate may need to be revisited in the future



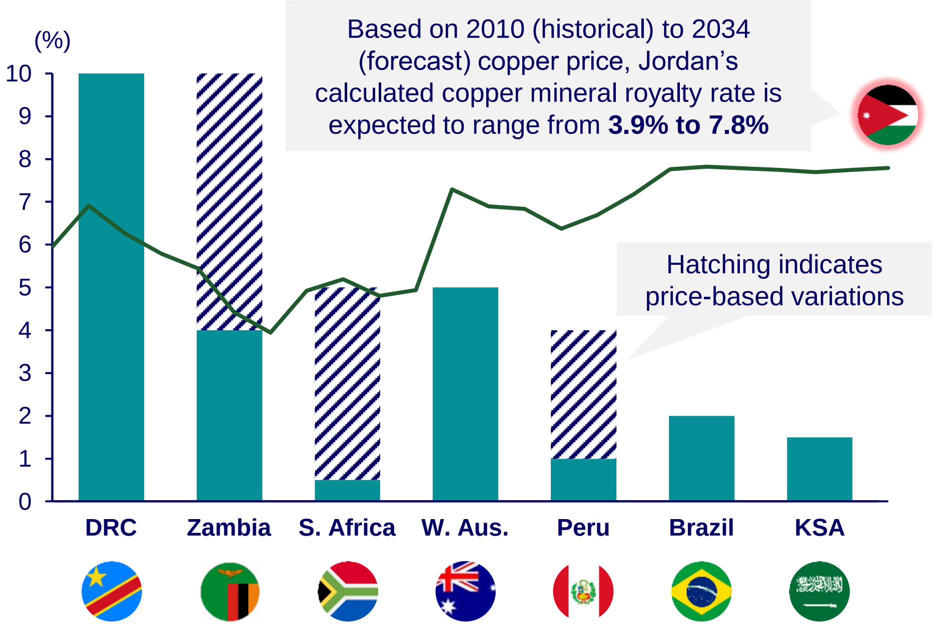
For copper, we recommend adopting the proposed price-based formula, but more clarity is required regarding the execution mechanism

Clarifications are necessary for the quotation period, administration process, deductions, invoicing process etc.

Jordan copper royalty calculation methodology*



Copper mineral royalty rate benchmarking

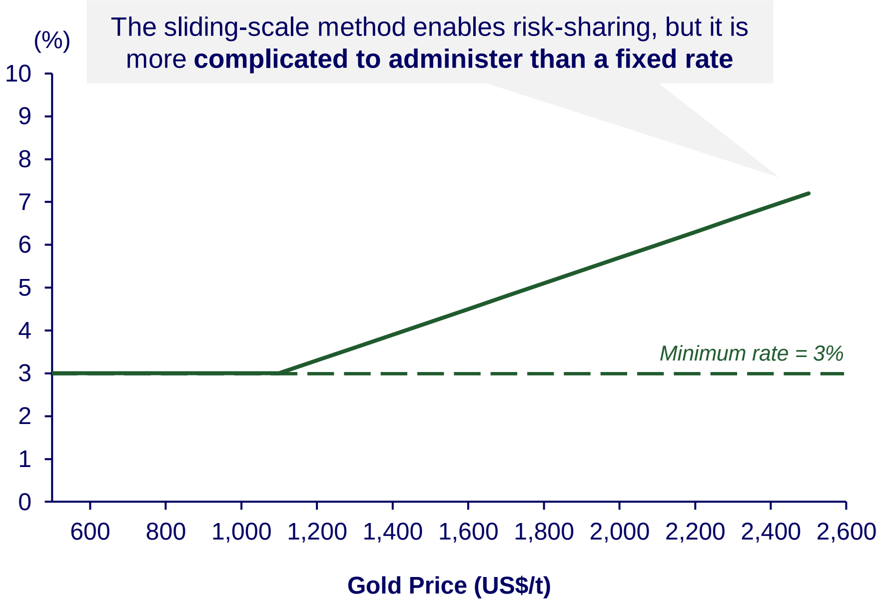


Source: Wood Mackenzie, SRK & Mayer Brown analysis. Note: Copper royalty rate is calculated by the following formula: royalty Rate = 0.75 x Copper Price ($/t) + 0.3

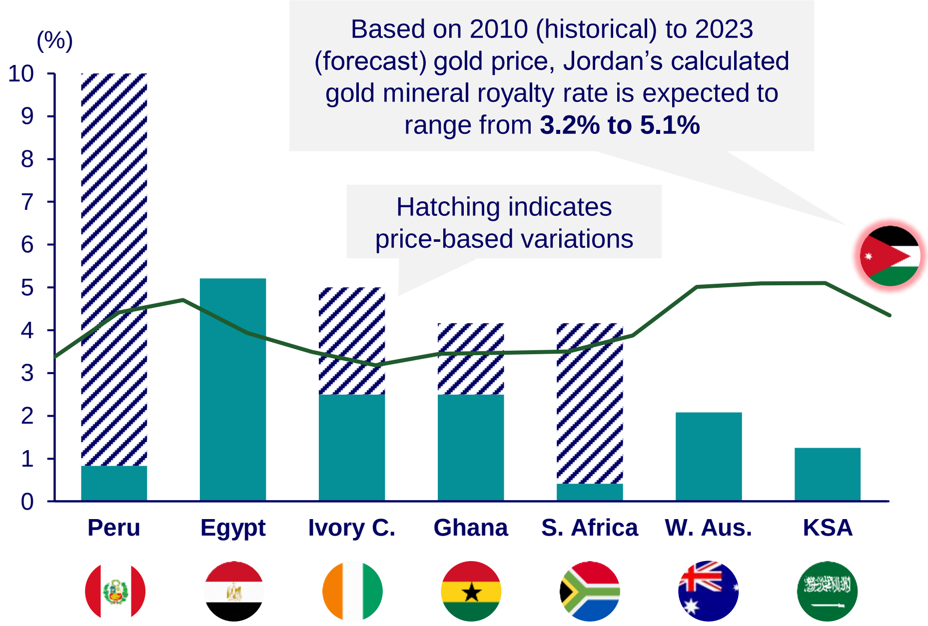
Similarly for gold, we recommend adopting the proposed price-based formula as long as more clarity is provided regarding the execution mechanism

Clarifications are necessary for the quotation period, administration process, deductions, invoicing process etc.

Jordan gold royalty calculation methodology*



Gold mineral royalty rate benchmarking

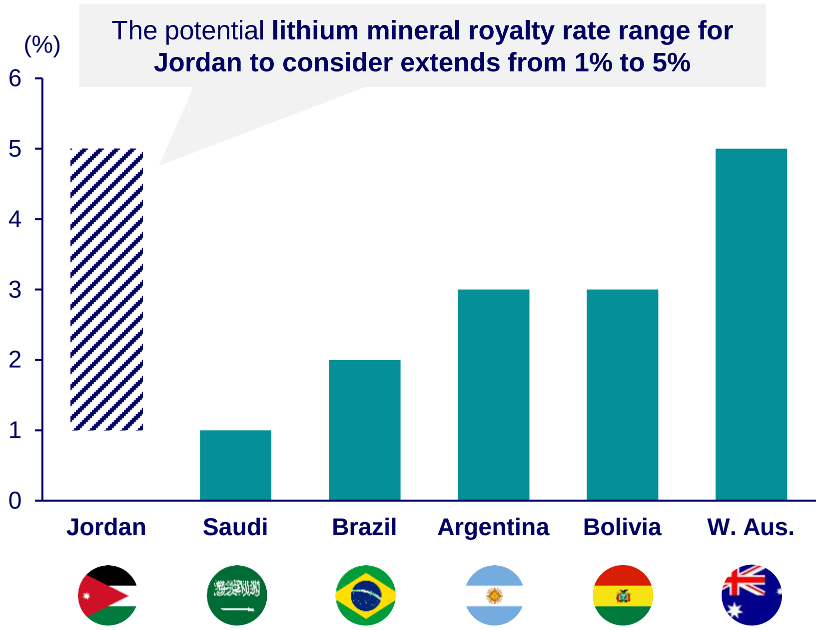


Source: Wood Mackenzie, SRK & Mayer Brown analysis. Note: Gold royalty rate is calculated by the following formula: royalty R (%) = 3 x (Price of gold $/oz) - 0.3

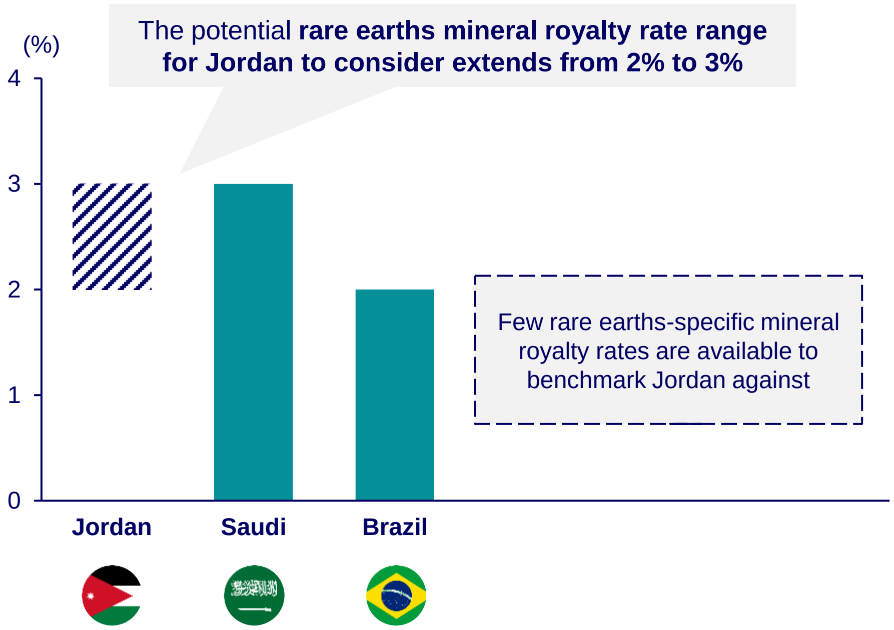
For lithium and rare earths, we recommending defining mineral royalty rates which are aligned with competitive jurisdictions globally

We have provided relevant benchmarks for Jordan to consider to help define the rates

Lithium mineral royalty rate benchmarking



Rare earths mineral royalty rate benchmarking



Source: Wood Mackenzie, SRK & Mayer Brown analysis

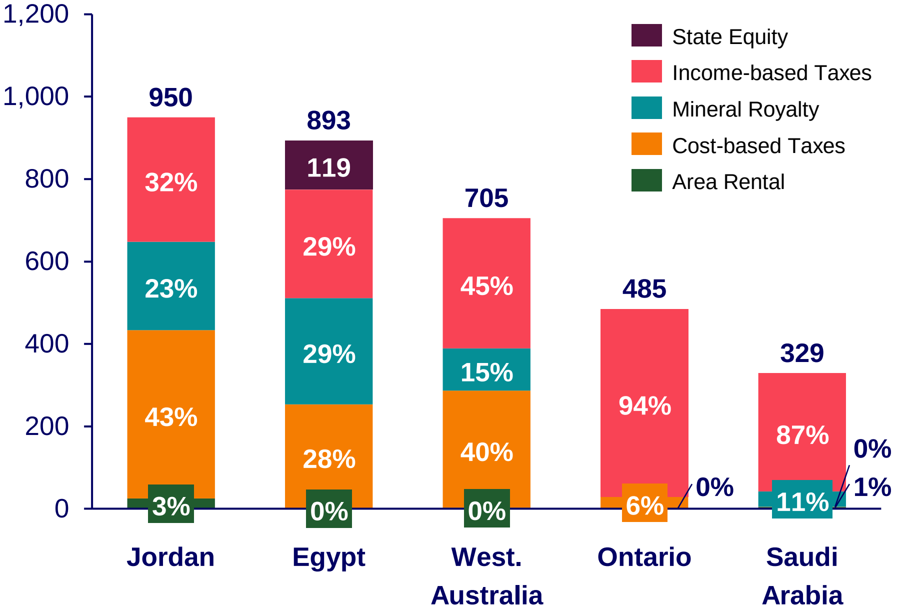
Wood Mackenzie

The current Jordanian mining fiscal regime appears unattractive to investors, due to a relatively high government take across three of the major tax categories

The government take is also uniquely geared toward revenue and cost-based taxes (less risk sharing)

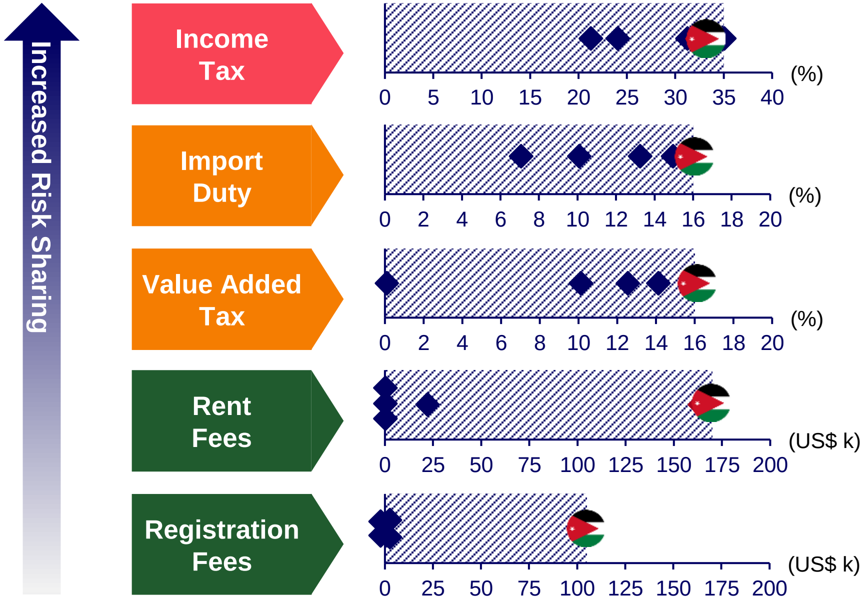
State cash flow generation breakdown (before incentives)

$Mn, illustrative gold project (real 2023 terms, 1,550$/oz Au price undiscounted)



Selected Fiscal Benchmarks

(Jordan vs. KSA, Egypt, Ontario, Western Australia)



Source: Wood Mackenzie, SRK & Mayer Brown analysis Note: Jordan's fiscal regime was benchmarked against Saudi Arabia, Egypt, Western Australia and Ontario – not including the Investment Law incentives

However, the 'Regulating the Investment Environment' regulation prescribes a range of incentives which could be obtained through a discretionary application

The 'basic incentives' includes provisions for customs duties, sales tax and income tax

Tax Category	Basic Incentives		Project Economics Materiality		Commodities Eligibility					
			Pre-Production	Production	P	K	Au	Cu	Li	RE
Import Duty	**Art. 14A**	**Fixed assets, production requirements, inputs, and spare parts** shall be **exempted from customs** duties by means of a decision issued by the Minister	◕	◔	✓	✓	✓	✓	✓	✓
VAT	**Art. 14B**	**Fixed assets, production requirements and inputs, and spare parts** shall be **subject to zero-rate sales tax** by means of a decision issued by the Minister	◑	◑	✓	✓	✓	✓	✓	✓
Income Tax	**Art. 19** **Art. 21** **Art. 22A**	[…] employ at least 250 Jordanian […] **exemption from the income tax for 4 years** from the date of the actual operation, and a **reduction** […] **by 50% the following year** **exemption from income tax for a period of 5 years** […] in category A areas […] reduction by 75% […] in category B areas […] reduction by 50% […] in category C areas [..] phosphate, potash [..] and any other natural ores **determined by the Council of Ministers** are excluded […]	○	●	✗	✗	?	?	?	?

Source: Wood Mackenzie, SRK & Mayer Brown analysis

✓ Applicable ✗ Not Applicable ? To be confirmed

Low ○ ◔ ◑ ◕ ● High

Article 26 of the regulation sets out eight other criteria which may allow companies to access 'additional incentives', on top of the 'basic incentives'

The applicability of these incentives to the mining industry and their achievability varies for each criteria

1 […] employing not less than 350 Jordanians
- Mid-scale mining projects should be able to achieve hiring 350+ Jordanians across operational functions

2 […] employing female employees of not less than 50%
- Although the mining industry has been making great progress towards gender equity, such target is unlikely to be reached

3 […] targeting export markets with of not less than 50%
- Most metallic commodities are aimed at export markets, so this threshold should be easily achievable

4 […] with local added value of not less than 50%
- Companies investing in downstream industries will be able to achieve this criteria, which is unlikely in early years

5 […] transfer of knowledge, technology & digital transformation
- Mining companies increasingly capitalize on digital technologies (software and hardware) and may achieve this objective

6 Strategic Economic Activities […]
- Must have an investment >75 million JOD and meet two other criteria listed, which is potentially achievable

7 Public-Private Partnership Projects […]
- May be possible for phosphate or potash companies which the government have a vested interest in

8 […] targeting distant areas and areas of poverty
- Remote mines may qualify for this incentive, and some active MOUs are currently located in such areas

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Very likely | Likely | Unlikely

Assuming a company meets the criteria to be defined as a Strategic Economic Activity (#6), it would become eligible for six ‘additional incentives’

While some incentives relate to fiscal terms, others provide operational incentives

Additional Incentives Provisions	Mining Tax Implications	Pre-production Materiality	Production Materiality
75% exemption on charges of selling the lands owned by public treasury for the purposes of establishing the Economic Activity, providing the project is operational within 3 years	Not relevant	○	○
5-year exemption from land rent for land owned by the public treasury for the purposes of establishing the Economic Activity	Rent Fees	◕	◔
50% contribution to the cost of the electric energy bill or allowing it to be deducted from the receivables due on the Economic Activity towards the Official Entity for a period of 5 years	Not relevant	◔	◕
10-year exemption from taxes on buildings and lands as well as the regulatory revenues that are due on the Economic Activity for a period of 10 years from the date of the decision	Not relevant	◑	◑
50% exemption on fees for registering lands and tax on selling the real-estate on which the Economic Activity will be constructed, provided there are 25 Jordanian employees	Not relevant	◑	◑
Deduction of costs of establishing the infrastructure services to the Economic Activity from the dues to the Official Entity within 5 years after the date of actual operation	Income Tax	◔	○

Low ○ ◔ ◑ ◕ ● High

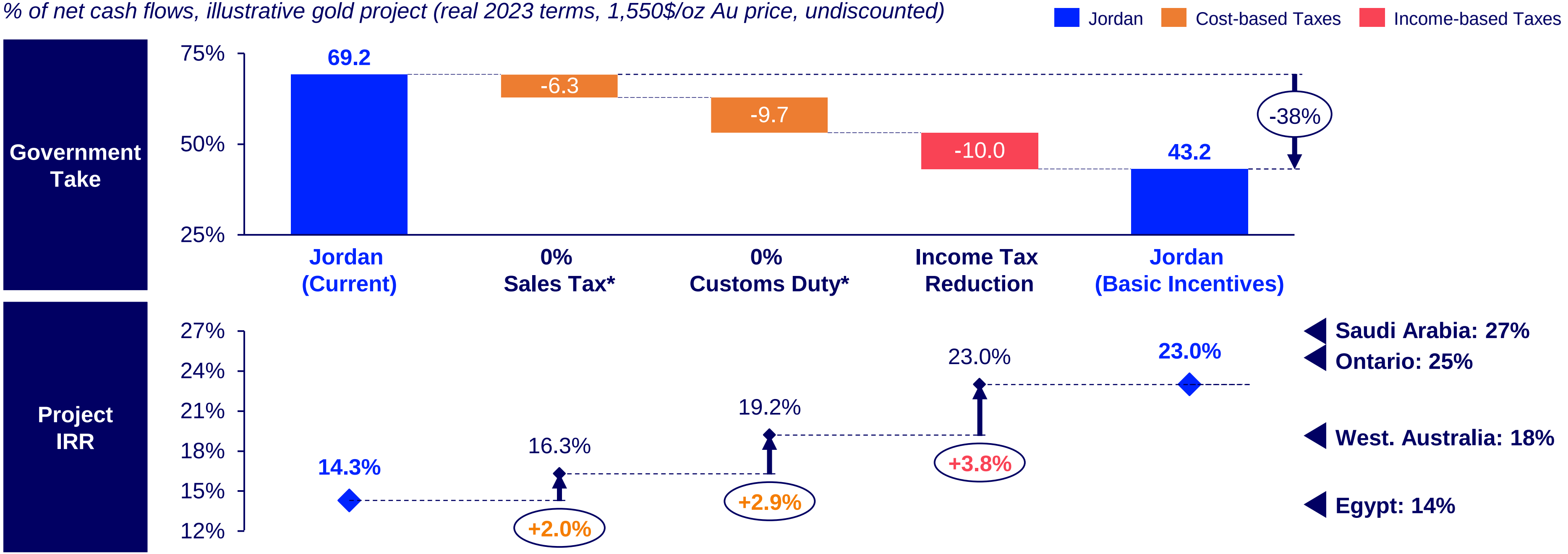
Source: Wood Mackenzie, SRK & Mayer Brown analysis

Our analysis indicates that with the 'basic incentives' applied, the Jordanian mining fiscal regime would become very competitive against other jurisdictions

The government take naturally decreases and the project IRR increases subsequently to be competitive

Impact of the basic incentives on the Government Take and Project IRR in Jordan

% of net cash flows, illustrative gold project (real 2023 terms, 1,550$/oz Au price, undiscounted)



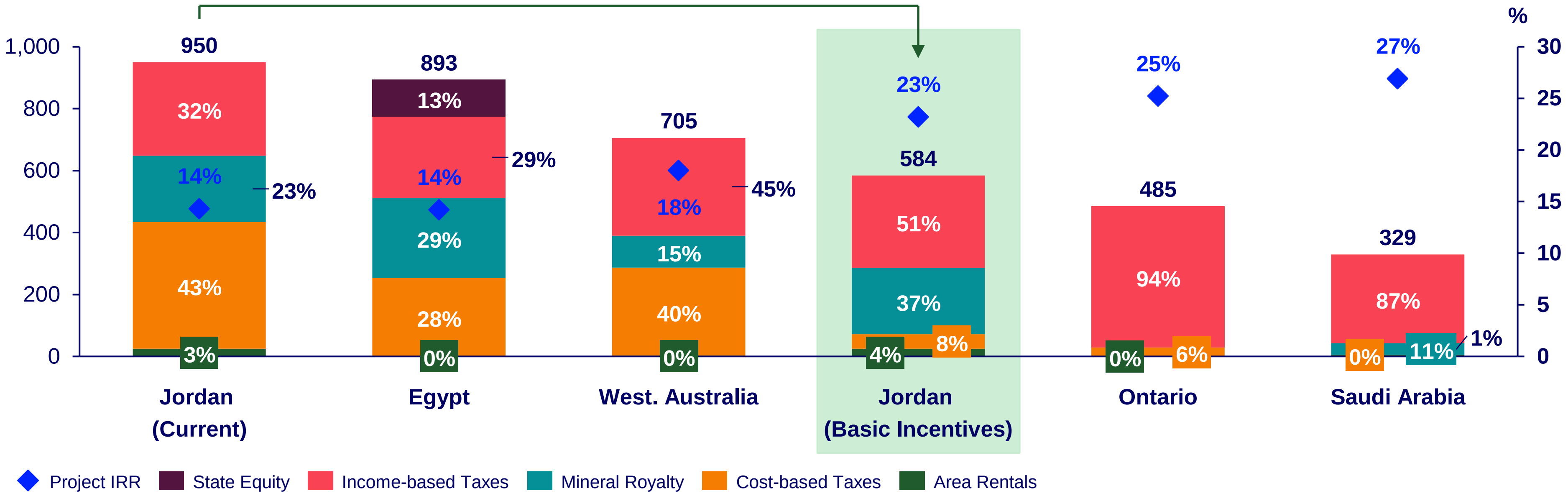
Source: Wood Mackenzie, SRK & Mayer Brown analysis. Note: *applied to fixed assets, production requirements, inputs, and spare parts.

As a result, when the basic incentives are applied, the fiscal regime in Jordan appears highly competitive, falling within the middle of the peer group

Jordan can attract interest in it's mining sector by promoting and enabling access to the available incentives

State cash flow generation breakdown

$Mn, illustrative gold project (real 2023 terms, 1,550$/oz Au price undiscounted)



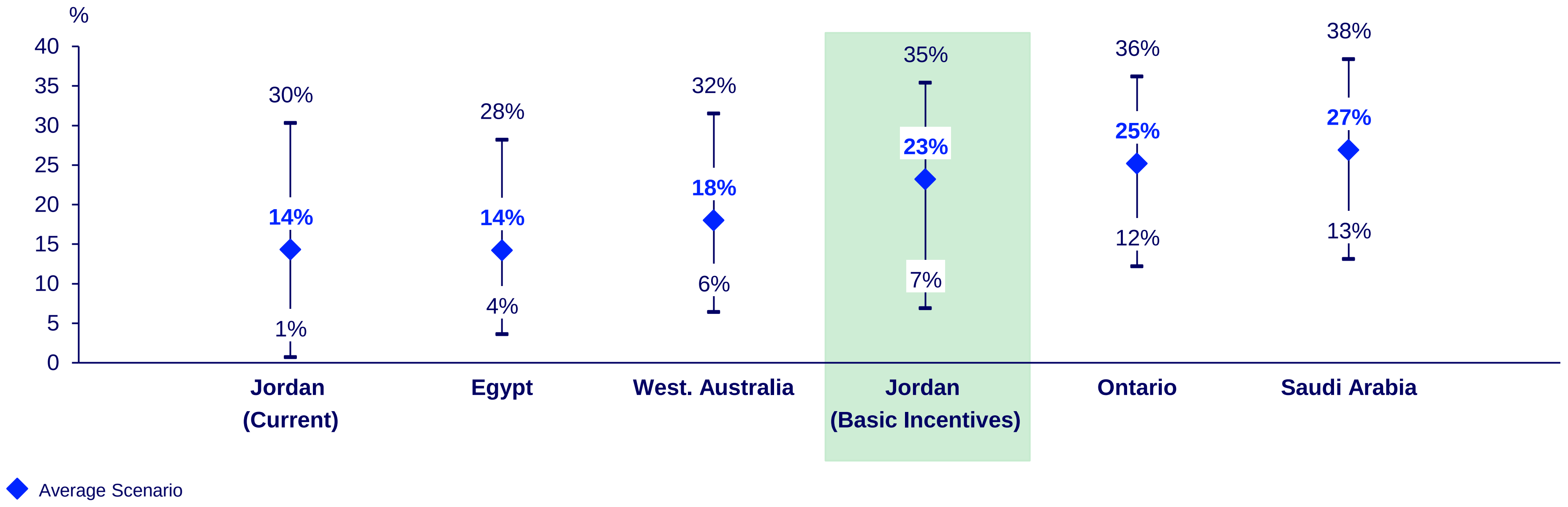
Source: Wood Mackenzie, SRK & Mayer Brown analysis Note: Jordan's fiscal regime was benchmarked against Saudi Arabia, Egypt, Western Australia and Ontario. Based on Au price $1,550/oz.

Ultimately, the IRR will vary based on individual project technical & commercial parameters, but Jordan's relative competitive positioning remains the same

Based on different simulated project scenarios, we can see the modelled IRR in Jordan ranging from 7% to 35%

Simulated project IRR variation based on different project scenarios

%, illustrative gold projects (real 2023 terms, 1,550$/oz Au price undiscounted)



Source: Wood Mackenzie, SRK & Mayer Brown analysis

Based on our analysis, we have summarized the strategic reforms which must be engaged to improve Jordan's mining fiscal framework

Overview of the proposed fiscal strategic recommendations

#	Fiscal Reform - Strategic Recommendations	Expected Short-Term Impact	Difficulty of Implementation: Government Endorsement (High / Medium / Low)	Difficulty of Implementation: Legislative Amendments (High / Medium / Low)
1	**Work with the MOI to define mining-specific criteria ensuring the applicability of the investment incentives**	Make the Jordanian mining fiscal regime globally competitive	Medium	Medium
2	**Work with the MoF to reduce the Rent Fees in line with other competitive jurisdictions**	Make sure initial exploration capital is invested 'in the ground'	High	Medium
3	**Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework**	Copper exploration projects are at an advanced stage	Low	Medium
4	**Insert a fiscal stabilization clause in the Executive Agreement to secure the incentives application**	Provide certainty with regards to project economics	High	Low
5	**Define new competitive mineral royalty rates for lithium and rare earths (and other relevant metallic minerals)**	Lithium & rare-earths exploration projects are still early stage	Low	Medium

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Low High

The proposed fiscal recommendations have varying degrees of implications with respect to policymaking

For each, we have indicated the industry best-practices and our specific recommendations for Jordan

	Fiscal Strategic Recommendations	Implementation Vehicle (For Discussion)						Key Actions for MEMR
		Constitution	Law	Bylaw	Instruction	Agreement	Initiative	
1	**Work with the MOI to define mining-specific criteria ensuring the applicability of investment incentives**			★	★			• Establish an internal working group to engage with MOI
2	**Work with the MoF to reduce the Rent Fees in line with other competitive jurisdictions**			★	★			• Establish an internal working group to engage with MOF
3	**Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework**		←	★	→			• Finalize execution mechanisms details • Work with the Cabinet to ensure rates are set into legislation
4	**Insert a fiscal stabilization clause in the Executive Agreement to secure the incentives application**					★		• Establish an internal working group to engage with MOF in defining terms
5	**Define new globally competitive mineral royalty rates for lithium and rare earths**		←	★	→			• Engage a third-party study to conduct a thorough analysis

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Best Practice

Short-term Recommendation ★

Regulatory Reform

Based on our diagnosis of the regulatory framework, we have highlighted the most critical findings which will form the basis of our proposed reforms

While the Jordanian mining regulatory framework addresses the key topics, it lacks clarity and several gaps exist

Competitive impact on the investment framework	Stability		Effectiveness		Efficiency	
	Transparent	Enforceable	Uniform	Distributional	Clear	Actionable
The Law is not comprehensive enough • The Natural Resources Law includes substantial discretionary elements in the allocation of licenses • There are no detailed provisions relating to the 'work it or lose it' principle in the Law • There is no clear path to exploitation licence and a requirement to negotiate and agree on the EA • Any breach of the Law has the potential to lead to a loss of licence, without any concept of materiality • There is limited reference to the principle that the law should encourage the 'social license to operate • Very few provisions in the law in connection with a transparent and balanced environmental review	✕				✕	✕

Source: Wood Mackenzie, SRK & Mayer Brown analysis

✕ Indicates a negative impact on the competitiveness of Jordan's mining investment framework

Wood Mackenzie

The various licensing, fiscal and governance strategic recommendations which are proposed may imply different regulatory changes

We have grouped strategic recommendations by reform type and highlighted required changes to legislation

	Proposed Strategic Recommendations	Impacted Legislation
L1	**Pre-define as many exploration & production terms** as reasonably possible by policy	Law, Bylaws, Instructions
L2-A	**Remove copper, gold, lithium & rare-earths from the 'strategic minerals' category**	Decree
L2-B	**Ensure successful exploration outcome results in awarding the mining license to the explorer**	Bylaws, Instructions
G1	Dedicate resources to **improve the quality of the geoscience database & its accessibility by investors**	Initiative
G2	**Scale-up sector promotion efforts** to address market mis-perceptions & start building trust with investors	Initiative
G3	**Establish a 'single window' through the Ministry** to facilitate collaboration across relevant sector entities	Initiative
F1	Work with the MOI to **define mining-specific criteria ensuring the applicability of the investment incentives**	Law, Bylaws, Instructions
F2	Work with the MOF to **reduce the Rent Fees in line with other competitive jurisdictions**	Law, Bylaws, Instructions
F3	**Enact the proposed copper & gold mineral royalty rates equations** within the regulatory framework	Law, Bylaws, Instructions
F4	**Insert a fiscal stabilization clause** in the Executive Agreement to secure the incentives application	Agreement
F5	**Define new globally competitive mineral royalty rates for lithium and rare earths**	Law, Bylaws, Instructions
G4	**Establish a national geological survey** to assume the Database Promotion mandate (Long-term)	Law, Bylaws, Instructions
G5	**Conduct a redesign of the mining institutional governance structure** to delineate key functions (Long-term)	Law, Bylaws, Instructions

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Impact Legislation: Aggressiveness

Reform Type: Licensing | Fiscal | Governance | Regulatory

Wood Mackenzie

Besides, a comprehensive legal analysis must be undertaken to review in detail the current mining regulatory framework and bring it in line with best-practices

While the current framework addresses key topics defined in the Model Mining Code, it lacks clarity & gaps exist

1. **Fair license allocation** The license award procedure should be contained in a segregated section of the law and detailed enough to **prevent discretionary decision-making**

2. **Work it or lose it** **Detailed work programmes** required from license holders are needed (along with a statement that failure to follow it could lead to forfeiture following a remedy period)

3. **Exploration period sufficient for discovery** Extensions should generally be automatic and **not subject to discretion** (although the exploration area can be reduced)

4. **Right to mine** Exploration license holders need a **clear path to award of exploitation licence** following successful exploration outcomes, governed by a standard form of Executive Agreement

5. **Mining period sufficient for mining discovery** License holders should be **permitted to hold on rights until work has ceased or the known ore has been exhausted**; renewals should not be discretionary

6. **Objective, clear and fair grounds for forfeiture** Any breach cannot lead to immediate forfeiture of the license; there has to be some concept of **materiality along with a remedy period**

7. **Social license to operate to be encouraged** **More provisions relating to community engagement** should be incorporated, without surrendering a ‘community veto’ over the approval of a project

8. **Transparent & balanced environmental review** The process should **define clear & objective criteria**, with the assistance of expert input, within established time frames, and with a right of appeal or review

9. **Reserve power of state to encourage development** Provide authority for **MEMR to act as coordinating agent** for other government approvals to overcome obstacles (regulatory, financial, ...)

10. **Fiscal freedom** The **transfer of a mining licence** is permitted, with approval of the Cabinet, but there are no apparent provisions relating to an exploration licence; those should be added

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Most critical (items 1, 4, 6)

Based on our analysis, we have summarized the strategic reforms which must be engaged to improve Jordan's mining regulatory framework

Overview of the proposed regulatory strategic recommendations

Regulatory Reform - Strategic Recommendations	Expected Short-Term Impact	Difficulty of Implementation
1 **Launch a project to propose regulatory adjustments / additions to bring the mining regulatory framework in line with international best-practices** <u>Sub-recommendations</u>: 1. Integrate proposed licensing, fiscal and governance regulatory amendments as outlined previously as part of the regulatory overhaul 2. Close the gaps with the Model Mining Code (10 principles as outlined previously) which were identified during the Baseline Analysis 3. Review all relevant legislations which may impact the Jordanian mining sector (e.g. environmental, investment) to ensure consistent cross-references	Establish a globally competitive comprehensive, clear and consistent regulatory framework	**Government Endorsement**: High / Medium / Low — Medium **Legislative Amendments**: High / Medium / Low — High

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Low High

Wood Mackenzie

The proposed regulatory recommendations have varying degrees of implications with respect to policymaking

For each, we have indicated the industry best-practices and our specific recommendations for Jordan

	Fiscal Strategic Recommendations	Implementation Vehicle (For Discussion)						Key Actions for MEMR
		Constitution	Law	Bylaw	Instruction	Agreement	Initiative	
1	**Launch a project to propose regulatory adjustments / additions to bring the mining regulatory framework in line with international best-practices**		Best Practice ←	Best Practice ★	Best Practice ★			• Engage a third-party study to draft proposed adjustments / additions to the mining regulatory framework • Establish an internal working group to engage with all relevant Ministries (MOI, MOE, MOF, etc.) in ensuring policy cross-references

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Best Practice (hatched) Short-term Recommendation ★

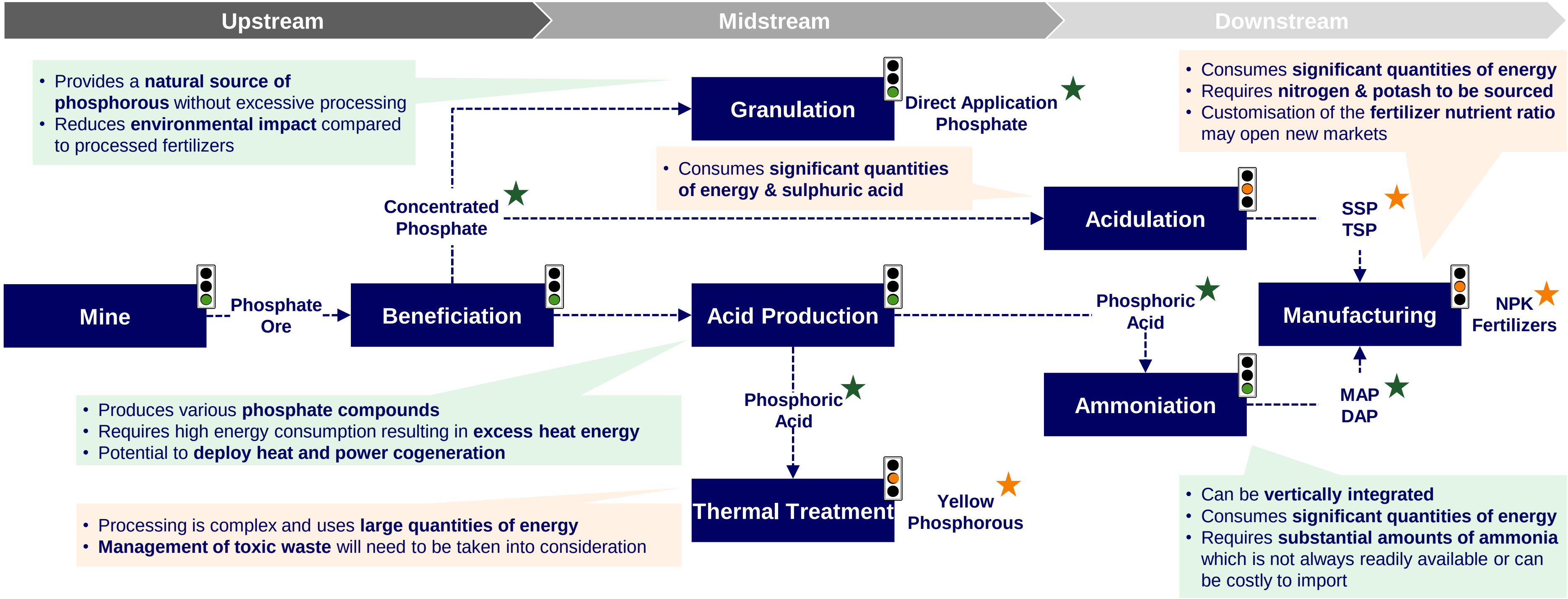
Downstream Developments

Wood Mackenzie

Jordan's long track record in the phosphate industry has resulted in robust vertical value-chain integration which can be leveraged to expand the sector

As a result the sector is able to quickly adapt to take advantage of favourable market conditions

Phosphate



Source: Wood Mackenzie, SRK & Mayer Brown analysis ★ Value-added Products

Jordan's experience could be leveraged to expand the sector, with enablers required to promote development of some downstream products

For likely viable products, focus on upstream development to underpin future downstream opportunities

Phosphate

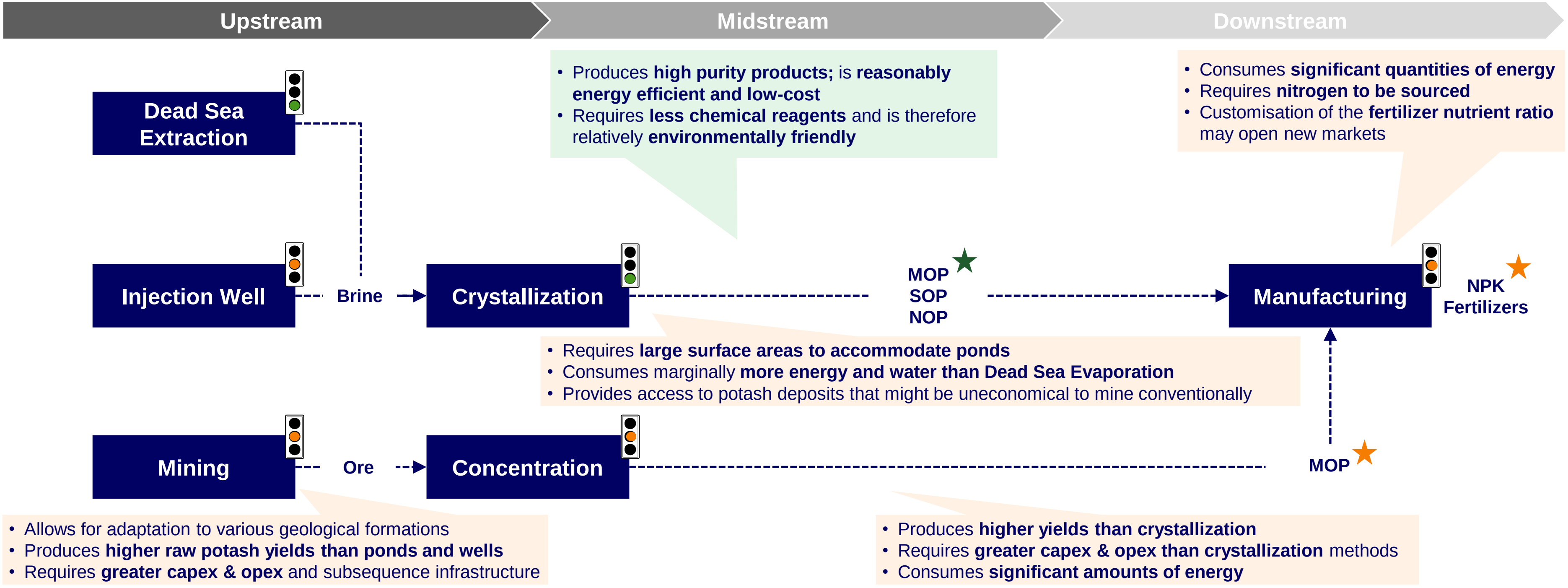
Upstream / Midstream / Downstream	Products	Achievability	Investment Enablers
Mining and Beneficiation (Upstream)	Concentrated Phosphate	Likely viable	• Competitive access to utilities • Competitive fiscal regime • Risk reduction (right to mine, stable, predictable governance, permitting, etc.)
Granulation (Midstream)	Direct Application Phosphate	Likely viable	
Acid Production (Midstream)	Phosphoric Acid	Likely viable	
Thermal Treatment (Midstream)	Yellow Phosphorous	May require enablers	• Power costs, access to water • Management of toxic waste • Process inputs (sulphuric acid)
Acidulation (Downstream)	SSP TSP	May require enablers	
Ammoniation (Downstream)	MAP DAP	Likely viable	• Competitive access to utilities • Sourcing sufficient ammonia
Manufacturing (Downstream)	NPK Fertilizers	May require enablers	• Power costs, access to water • Sourcing nitrogen and potash

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Jordan currently processes potash through solar evaporation, but solution and / or conventional mining may offer an alternative sources for feedstock

Exploration and development of the identified hard-rock potash deposits under MOU will be required

Potash



Source: Wood Mackenzie, SRK & Mayer Brown analysis ★ Value-added Products

Wood Mackenzie

Mining and concentration, and manufacturing NPK fertilizers will require enablers to unlock these parts of the value chain

For likely viable products, focus on upstream development to underpin future downstream opportunities

Potash

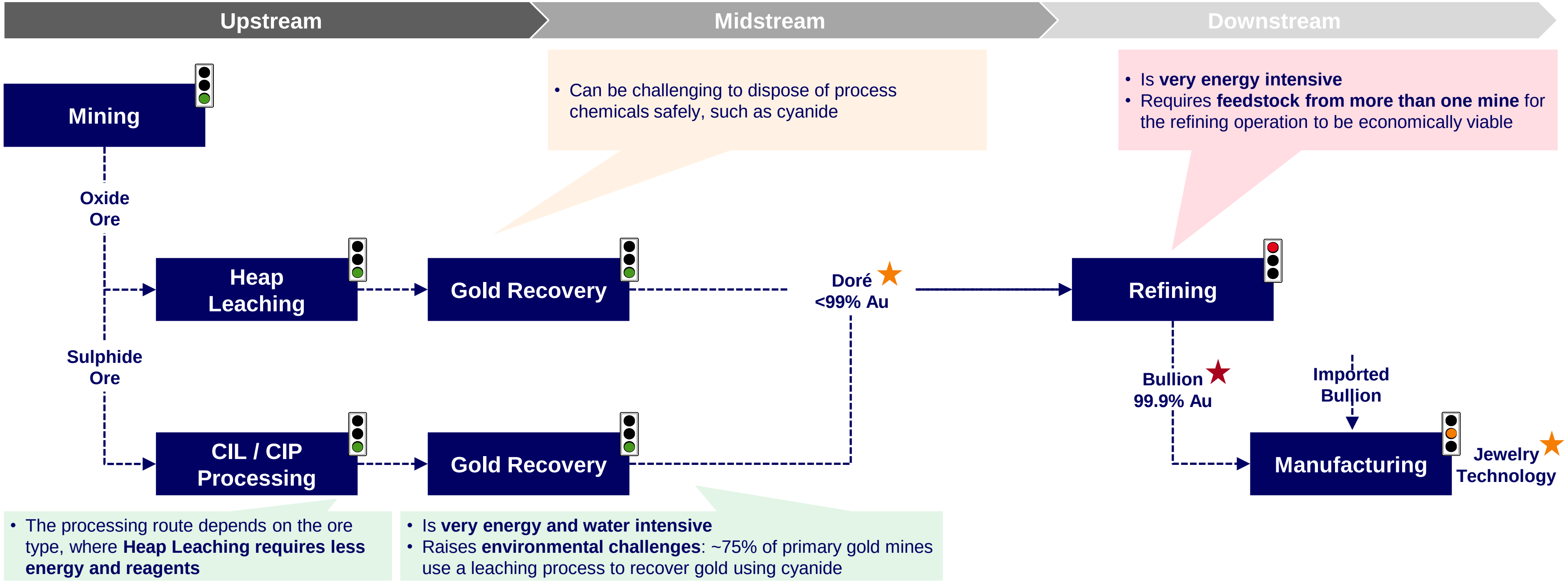
Upstream	Midstream	Downstream	Products	Achievability	Investment Enablers
Dead Sea Extraction Injection Well	Crystallization		MOP SOP NOP	Likely viable	• Competitive access to utilities • Competitive fiscal regime • Risk reduction (right to mine, stable, predictable governance, permitting, etc.)
Mining	Concentration		MOP	May require enablers	• Power costs • Competitive OPEX • CAPEX reduction
		Manufacturing	NPK Fertilizers	May require enablers	• Power costs, access to water • Supply of nitrogen feedstock

Source: Wood Mackenzie, SRK & Mayer Brown analysis

The gold processing methodology is highly variable depending on the mineralogical properties of the gold-bearing ore

Processing can require chemicals such as cyanide & mercury, increasing environmental challenges

Gold



Source: Wood Mackenzie, SRK & Mayer Brown analysis

★ Value-added Products

Producing doré could be achievable if certain enablers are addressed, mainly power costs, access to water and managing disposal of harsh process chemicals

Jewellery-making and technology manufacturing remain possible with imported gold bullion

Gold

Upstream	Midstream	Downstream	Products	Achievability	Investment Enablers
Mining → Heap Leaching	Gold Recovery		Doré (<99% Au)	Likely viable	• Competitive access to utilities • Competitive fiscal regime • Risk reduction (right to mine, etc.)
CIL/CIP Processing	Gold Recovery		Doré (<99% Au)	May require enablers	• Power cost, water access • Appropriate facilities to dispose of process chemicals (e.g. cyanide)
		Refining	Bullion (99.9% Au)	Dependent on enablers	• Multiple operational local mines • Low-cost power; capex reductions • Very significant financial incentives
		Manufacturing	Jewellery, Technology	May require enablers	• Locally produced gold bullion • Imported gold bullion (trade policy, low-cost gas and reliable local demand are key success factors

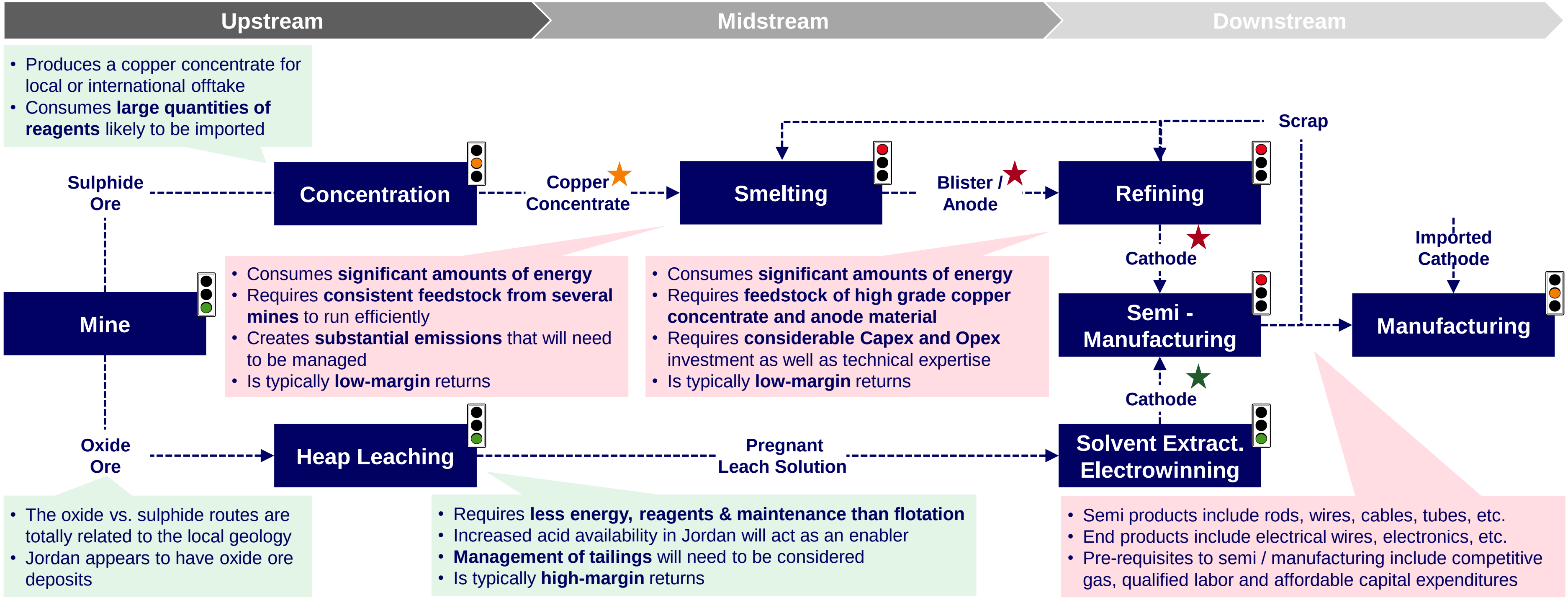
Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

Depending on the deposit type, oxide or sulphide, copper production largely follows a conventional smelting and refining process

Jordan's copper deposits appear to be oxides, thus amenable to beneficiation by leaching & SxEw

Copper



Source: Wood Mackenzie, SRK & Mayer Brown analysis ★ Value-added Products

Wood Mackenzie

While copper semis and manufacturing opportunities may be possible without mines, development of copper mines will help unlock downstream segments

Known copper deposits to-date are oxide, so leached cathode is an immediate opportunity

Copper

Upstream	Midstream	Downstream	Products	Achievability	Investment Enablers
Sulphide Mining	Heap Leaching	SxEw	Cathode	Likely viable	• Competitive access to utilities • Competitive fiscal regime • Risk reduction (right to mine, etc.)
Sulphide Mining & Concentration			Concentrate	May require enablers	• Power cost, water access
	Smelting		Blister / Anode	Dependent on enablers	• Multiple operational local mines • Low-cost gas; capex reductions • Very significant financial incentives • Toxic waste policy/management
	Refining		Cathode	Dependent on enablers	
		Semis Manufacturing	Tubes, Bars, Rods, Foil	May require enablers	• Local supply of copper cathode • Imported copper cathode (trade policy, low-cost gas and reliable local demand are key success factors
		Manufacturing	Electrical Wire Electronics		

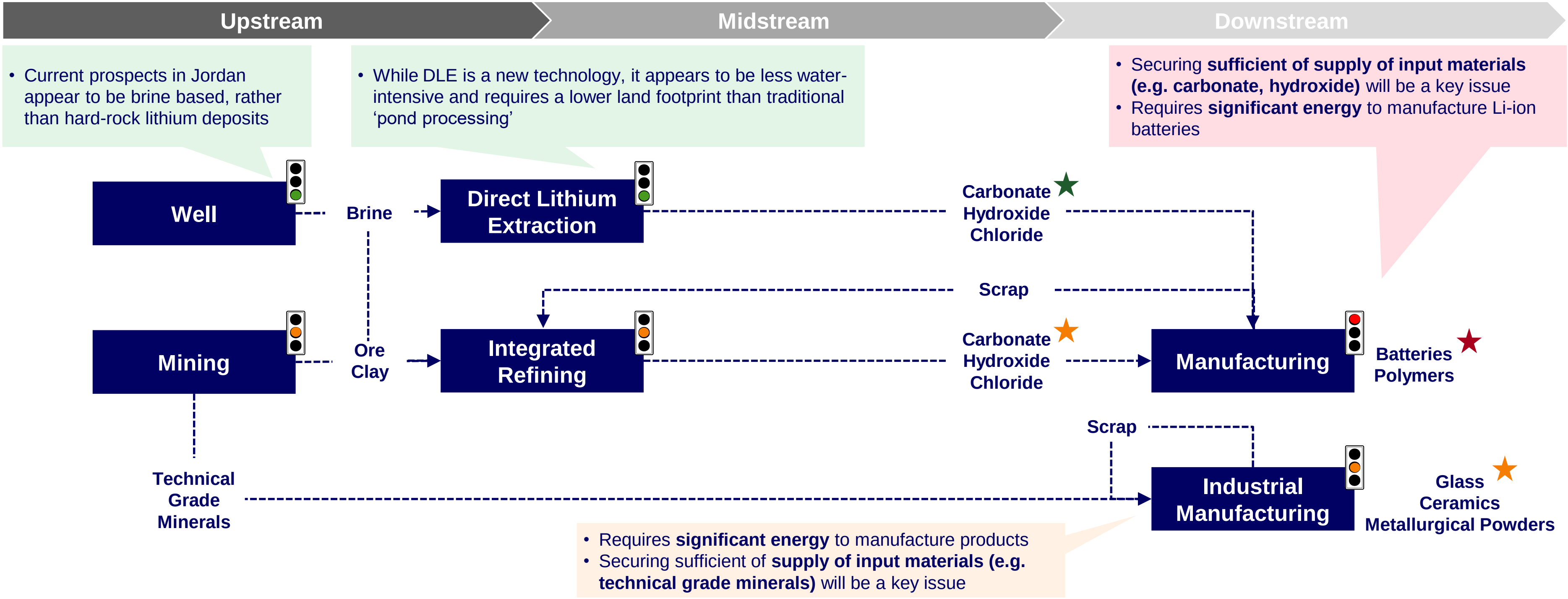
Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

Lithium processing typically follows two broad routes, one to produce battery grade products and another to produce technical grade products

Jordan's lithium prospects appear to be brines, and are therefore amenable to integrated refining

Lithium



Source: Wood Mackenzie, SRK & Mayer Brown analysis ★ Value-added Products

Wood Mackenzie

DLE from brines is likely viable so long as companies have competitive access to utilities and a competitive fiscal regime

Success in downstream lithium value chains are more dependent on enablers

Lithium

Upstream / Midstream / Downstream	Products	Achievability	Investment Enablers
Well → Direct lithium extraction	Carbonate, Hydroxide, Chloride	Likely viable	• Competitive access to utilities • Competitive fiscal regime • Risk reduction
Mine → Integrated Refining	Carbonate, Hydroxide, Chloride	May require enablers	• Power cost, water access
Manufacturing	Batteries, Polymers	Dependent on enablers	• Power costs • Securing sufficient supply of battery grade carbonate and hydroxide is chief concern
Industrial Manufacturing	Glass, Ceramics, Metallurgical powders	May require enablers	• Requires significant energy, address power costs • Security of supply of technical grade minerals

Source: Wood Mackenzie, SRK & Mayer Brown analysis

REE refining is a highly complex process; separating and purifying the elements is extremely challenging, and results in toxic and radioactive waste products

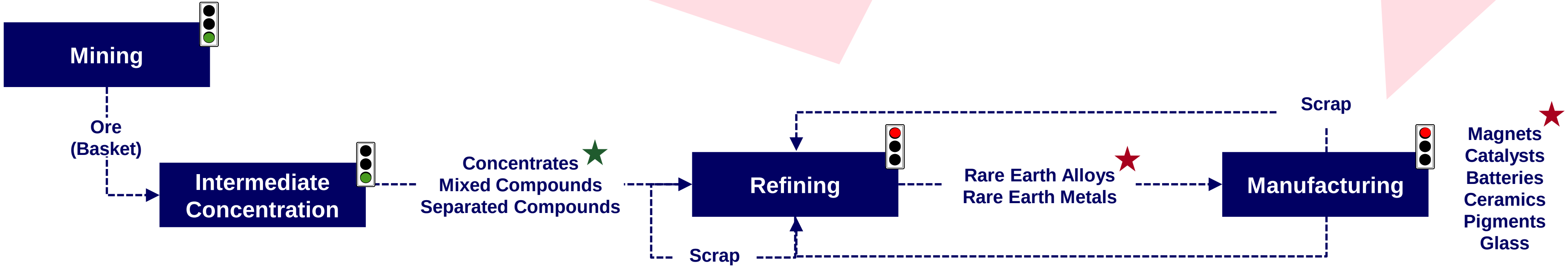
China controls nearly all of the world's REE refining capacity

Rare Earths

Upstream | Midstream | Downstream

- Is **complex and extremely costly**
- **Disposal of toxic and radioactive by-products** will be a concern
- **China controls nearly all of the world's REE refineries**, due to lower labor costs & less stringent environmental regulations

- **Securing supply** is of chief concern for manufacture of REE end-use products
- Manufacturing REEs results in **high-levels of environmental pollution** associated with manufacturing



Source: Wood Mackenzie, SRK & Mayer Brown analysis ★ Value-added Products

Wood Mackenzie

Unlocking the downstream value chains for REEs will be highly dependent on enablers, including security of supply, power costs and management of waste

It is likely that mining and intermediate concentration will be viable

Rare Earths

Upstream	Midstream	Downstream	Products	Achievability	Investment Enablers
Mining; Intermediate Concentration			Concentrates, mixed compounds, separated compounds	Likely viable	• Competitive access to utilities • Competitive fiscal regime • Risk reduction (right to mine, stable, predictable governance, permitting…)
	Refining		Rare earth alloys, Rare earth metals	Dependent on enablers	• Power cost, water access • Appropriate facilities to dispose of toxic and radioactive waste
		Manufacturing	Magnets Catalysts Batteries Ceramics Pigments	Dependent on enablers	• Securing supply is of chief concern for REE manufacturers • Manufacturing REEs results in high levels of pollution

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Quick Win Initiatives

We have ranked the strategic recommendations in terms of 'expected short-term impact' and 'ease of implementation', based on a qualitative assessment

This approach will help pinpoint the potential quick-wins, which will require immediate attention

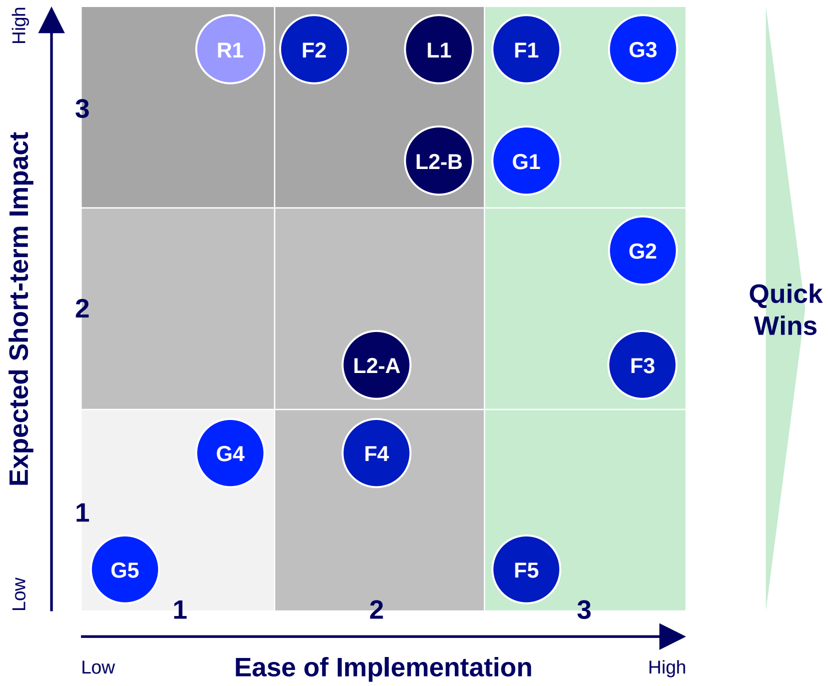
	Proposed Strategic Recommendations	Ease of Implementation	Short-term Impact
F1	Work with the MOI to define mining-specific criteria ensuring the applicability of the investment incentives	3 - High	3 - High
G3	Establish a 'single window' through the Ministry to facilitate collaboration across relevant sector entities	3 - High	3 - High
G1	Dedicate resources to improve the quality of the geoscience database & its accessibility by investors	3 - High	2 - Medium
G2	Scale-up sector promotion efforts to address market mis-perceptions & start building trust with investors	3 - High	2 - Medium
F3	Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework	3 - High	1 - Low
F5	Define new globally competitive mineral royalty rates for lithium and rare earths	3 - High	1 - Low
L1	Pre-define as many exploration & production terms as reasonably possible by policy	2 - Medium	3 - High
L2-B	Ensure successful exploration outcome results in awarding the mining license to the explorer	2 - Medium	3 - High
F2	Work with the MOF to reduce the Rent Fees in line with other competitive jurisdictions	2 - Medium	3 - High
L2-A	Remove copper, gold, lithium & rare-earths from the 'strategic minerals' category	2 - Medium	2 - Medium
F4	Insert a fiscal stabilization clause in the Executive Agreement to secure the incentives application	2 - Medium	1 - Low
R1	Propose regulatory adjustments / additions to bring the regulatory framework in line with best-practices	1 - Low	3 - High
G4	Establish a national geological survey to assume the Database Promotion mandate	1 - Low	1 - Low
G5	Conduct a redesign of the mining institutional governance structure to delineate key functions	1 - Low	1 - Low

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Reform Type: Licensing | Fiscal | Governance | Regulatory

Quick-wins will help put Jordan on the right track and demonstrate the positive momentum of the mining sector transformation

Investors confidence will be buoyed by both outlining the strategic vision as well as prompt execution



G3	Establish a ‘single window’ through the Ministry to facilitate collaboration across relevant sector entities
F1	Work with the MOI to define mining-specific criteria ensuring the applicability of the investment incentives
G1	Dedicate resources to improve the quality of the geoscience database & its accessibility by investors
G2	Scale-up sector promotion efforts to address market mis-perceptions & start building trust with investors
F3	Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework
F5	Define new globally competitive mineral royalty rates for lithium and rare earths

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Initiatives Prioritization: Quick Win | Must Have | Important | Low Priority

Wood Mackenzie

We have ranked the identified 'quick wins' based on a qualitative assessment of human & material resources requirements to drive their implementation

We have also highlighted key principles which will be driving the implementation roadmap

	Ranked 'Quick Wins' Strategic Recommendations	Implementation Principles	Key Resources	
			Human	Material
F1	Work with the MOI to define mining-specific criteria ensuring the applicability of the investment incentives	• Synchronize with the MoI to firm-up the accessibility for exploration & mining to the suite of investment incentives • If need be, obtain government endorsement to clarify the law		-
G3	Establish a 'single window' through the Ministry to facilitate collaboration across relevant sector entities	• Obtain endorsement from all relevant Ministries, and establish a joint task-force to align on the most optimal approval workflow • Deploy the relevant IT infrastructure to power the 'single window'		$
F3	Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework	• Coordinate with a third-party to define relevant clarifications (e.g. quotation period, deductions, invoicing, administration process) • Obtain government endorsement to issue a new regulation		$
F5	Define new competitive mineral royalty rates for lithium and rare earths (and other relevant metallic minerals)	• Coordinate with a third-party to conduct a fiscal modelling analysis and define the rates along with their application terms • Obtain government endorsement to issue a new regulation		$$
G2	Scale-up sector promotion efforts to address market mis-perceptions & start building trust with investors	• Establish a dedicated 'investment promotion' team at MEMR • Obtain government endorsement to unlock additional budget • Enable the team to drive promotional efforts		$$$
G1	Dedicate resources to improve the quality of the geoscience database & its accessibility by investors	• Establish a dedicated 'database promotion' team at MEMR • Enable the team to conduct the work (more resources & time-consuming) **or** outsource it to a third-party (costlier but faster)		$$$

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Human: Low High Material: Low $ High $$$

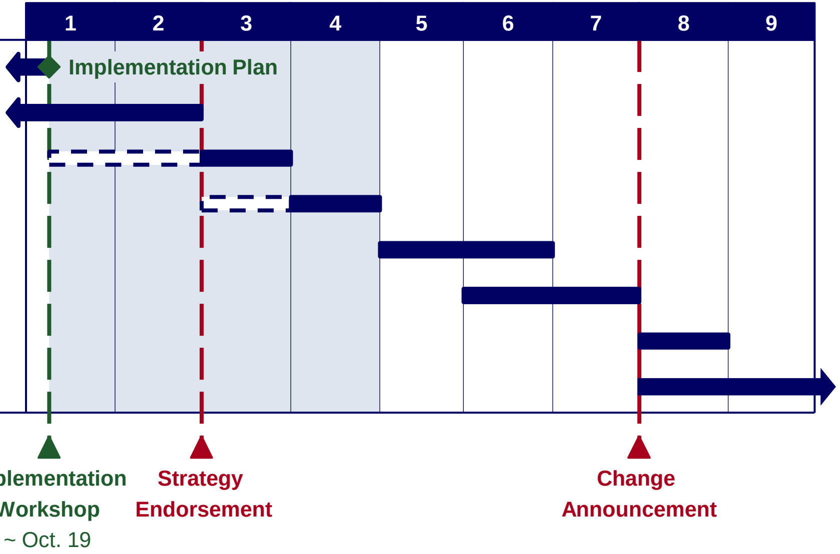
The available investment incentives are crucial to mitigating the fiscal terms and protecting project economics for prospective investors

MEMR will have to obtain the endorsement of the Ministry of Investment as well as the Council of Ministers

F1 **Work with the MOI to define mining-specific criteria ensuring the applicability of the investment incentives**

Short Term Implementation Overview – 9 Months Timeframe

- Converge on the proposed strategic implementation plan in collaboration with MEMR
- Engage in consultations with the relevant stakeholders to socialize aspirations & gather feedback
- Set-up the Strategy Management Office (SMO) within MEMR in order to drive the implementation roadmap
- Establish the SMO working principles and implementation governance with the relevant stakeholders
- Consult with the MOI to clarify the accessibility for exploration & mining to the investment incentives
- If need be, obtain government endorsement to draft relevant legislative amendments for ratification
- Liaise with industry stakeholders to communicate fiscal changes and the benefits for prospective investors
- Capture feedback and monitor the impact of enhancements on the strategic sector growth objectives



Deliverable – Strategy
Milestone – Strategy
Milestone – Implementation
Foundational Activities

The timely realization of these foundational activities is decisive for the execution of the overall roadmap

Source: Wood Mackenzie, SRK & Mayer Brown analysis

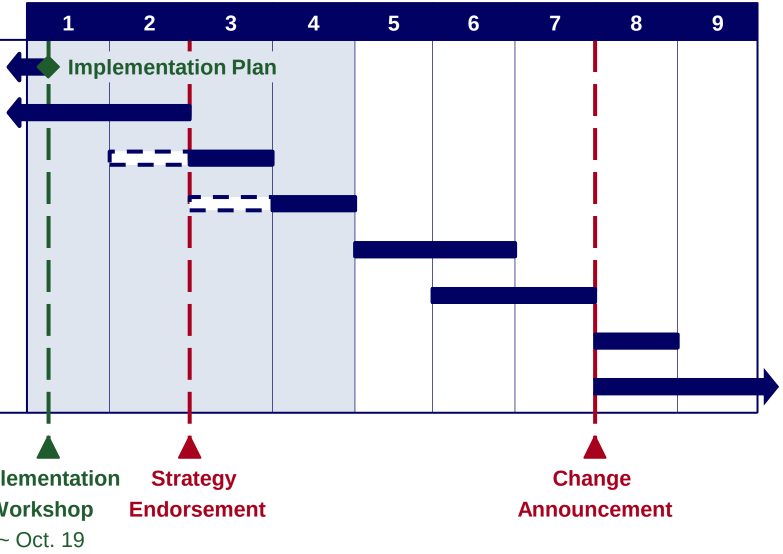
Establishing a 'single window' through the Ministry will help optimize interfaces across the different entities to facilitate the investors' onboarding process

The institutional structure will remain as-is in order not to disrupt existing operations

G3 **Establish a 'single window' through the Ministry to facilitate collaboration across relevant sector entities**

Short Term Implementation Overview – 9 Months Timeframe

- Converge on the proposed strategic implementation plan in collaboration with MEMR
- Engage in consultations with the relevant stakeholders to socialize aspirations & gather feedback
- Set-up the Strategy Management Office (SMO) within MEMR in order to drive the execution roadmap
- Establish the SMO working principles and implementation governance with the different stakeholders
- Coordinate with relevant Ministries / public entities to obtain endorsement and align on guiding principles
- Converge on the most optimal approval workflow and develop the portal with required capabilities
- Liaise with industry stakeholders to communicate governance changes and the benefits for prospective investors
- Capture feedback and monitor the impact of enhancements on the strategic sector growth objectives



The timely realization of these foundational activities is decisive for the execution of the overall roadmap

- **Deliverable – Strategy**
- **Milestone – Strategy**
- **Milestone – Implementation**
- **Foundational Activities**

Source: Wood Mackenzie, SRK & Mayer Brown analysis

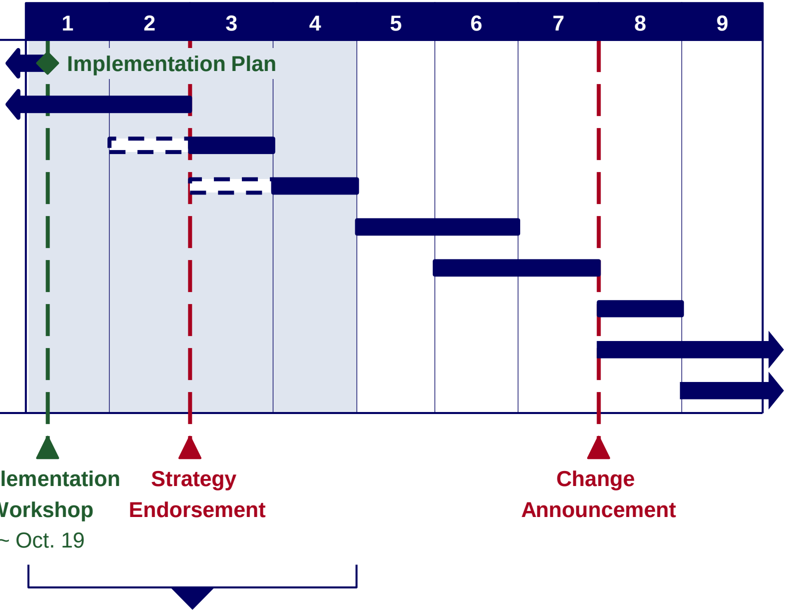
Copper and gold exploration prospects are relatively advanced, and enacting the proposed mineral royalty rates is critical to officialize their application

Mineral royalty rates are used to assess the overall project economics during the exploration stage

F3 **Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework**

Short Term Implementation Overview – 9 Months Timeframe

- Converge on the proposed strategic implementation plan in collaboration with MEMR
- Engage in consultations with the relevant stakeholders to socialize aspirations & gather feedback
- Set-up the Strategy Management Office (SMO) within MEMR in order to drive the execution roadmap
- Establish the SMO working principles and implementation governance with the different stakeholders
- Conduct a detailed impact assessment of the proposed recommendation (e.g. tax receipts, administration costs)
- Converge on a final decision and draft relevant legislative amendments for ratification
- Liaise with industry stakeholders to communicate fiscal changes and the benefits for prospective investors
- Establish a robust monitoring and reporting system to track the collection and utilization of royalty revenues
- Capture feedback and monitor the impact of enhancements on the strategic sector growth objectives



Deliverable – Strategy
Milestone – Strategy
Milestone – Implementation
Foundational Activities

The timely realization of these foundational activities is decisive for the execution of the overall roadmap

Source: Wood Mackenzie, SRK & Mayer Brown analysis

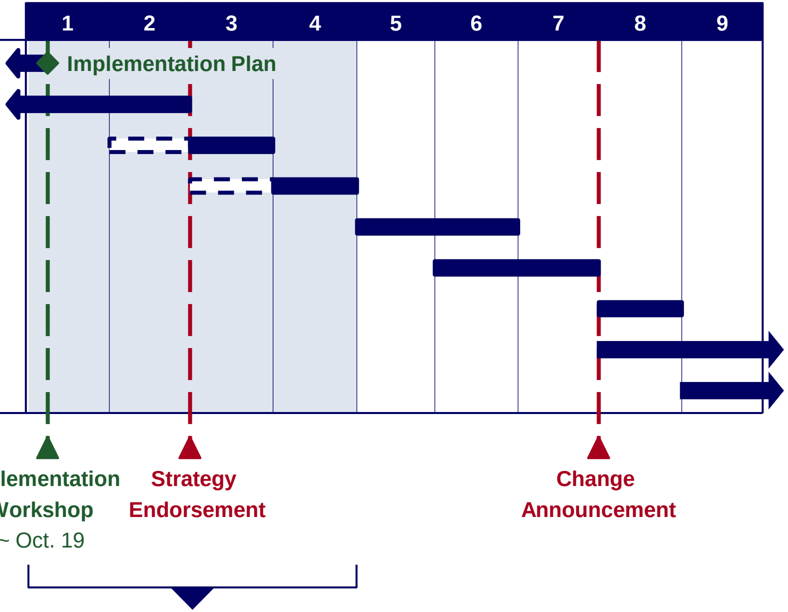
Although lithium & rare earths exploration prospects are early-stage still, setting-up their mineral royalty rates is relatively easy and demonstrates readiness

Having a comprehensive investment framework in place is key to build trust with investors

F5 **Define new competitive mineral royalty rates for lithium and rare earths (and other relevant metallic minerals)**

Short Term Implementation Overview – 9 Months Timeframe

- Converge on the proposed strategic implementation plan in collaboration with MEMR
- Engage in consultations with the relevant stakeholders to socialize aspirations & gather feedback
- Set-up the Strategy Management Office (SMO) within MEMR in order to drive the execution roadmap
- Establish the SMO working principles and implementation governance with the different stakeholders
- Conduct a detailed impact assessment of the proposed recommendation (e.g. tax receipts, administration costs)
- Converge on a final decision and draft relevant legislative amendments for ratification
- Liaise with industry stakeholders to communicate fiscal changes and the benefits for prospective investors
- Establish a robust monitoring and reporting system to track the collection and utilization of royalty revenues
- Capture feedback and monitor the impact of enhancements on the strategic sector growth objectives



Deliverable – Strategy
Milestone – Strategy
Milestone – Implementation
Foundational Activities

The timely realization of these foundational activities is decisive for the execution of the overall roadmap

Source: Wood Mackenzie, SRK & Mayer Brown analysis

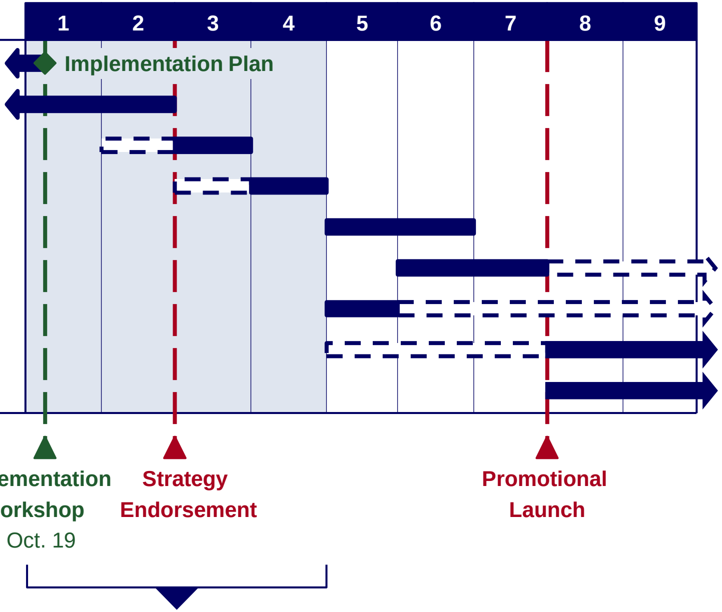
Early promotion efforts are key to setting expectations right, and starting to elevate Jordan's profile globally as a prospective mining investment destination

Jordan will need to cultivate its mutual trust with prospective investors

G2 **Scale-up sector promotion efforts to address market mis-perceptions & start building trust with investors**

Short Term Implementation Overview – 9 Months Timeframe

- Converge on the proposed strategic implementation plan in collaboration with MEMR
- Engage in consultations with the relevant stakeholders to socialize aspirations & gather feedback
- Set-up the Strategy Management Office (SMO) within MEMR in order to drive the execution roadmap
- Establish the SMO working principles and implementation governance with the different stakeholders
- Design targeted marketing campaigns to counter misperceptions and showcase competitive strengths / success stories
- Develop new website to publicize existing & new promotional material (research papers, geoscience database, etc.)
- Shortlist high-priority industry events / conferences to be attended selectively
- Organize roadshows and in-country events to showcase the country's mining potential directly to selected investors
- Capture feedback and monitor the impact of enhancements on the strategic sector growth objectives



Deliverable – Strategy
Milestone – Strategy
Milestone – Implementation
Foundational Activities

The timely realization of these foundational activities is decisive for the execution of the overall roadmap

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

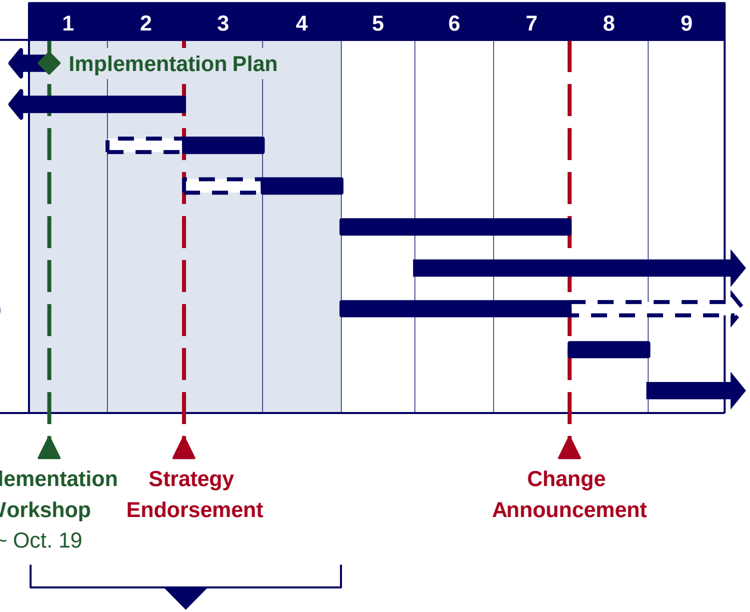
Prospective investors need to access comprehensive geoscience data in the most intuitive way in order to properly assess the mineral potential

MEMR owns the ‘database promotion’ function at the moment, and has the opportunity to accelerate changes

G1 **Dedicate resources to improve the quality of the geoscience database & its accessibility by investors**

Short Term Implementation Overview – 9 Months Timeframe

- Converge on the proposed strategic implementation plan in collaboration with MEMR
- Engage in consultations with the relevant stakeholders to socialize aspirations & gather feedback
- Set-up the Strategy Management Office (SMO) within MEMR in order to drive the execution roadmap
- Establish the SMO working principles and implementation governance with the different stakeholders
- Improve existing geoscience data (digitize historical data, access public information, translate all reports, …)
- Acquire new geoscience data (purchase third-party data, conduct regional surveying exercises, …)
- Optimize the geo-portal’s performance (consolidate all available data, integrate license management capabilities, …)
- Liaise with industry stakeholders to communicate licensing changes and the benefits for prospective investors
- Capture feedback and monitor the impact of enhancements on the strategic sector growth objectives



The timely realization of these foundational activities is decisive for the execution of the overall roadmap

- ◆ **Deliverable – Strategy**
- ▲ **Milestone – Strategy**
- ▲ **Milestone – Implementation**
- **Foundational Activities**

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Communication Plan

There are four key stakeholder groups which should be engaged to convey the transformative vision of the Jordanian mining sector

Each group has different expectations, and should be addressed with a tailored message on specific platforms

Stakeholders	Investment Community		Enabling Institutions	
	1 Current Investors	**2 Prospective Investors**	**3 Public Institutions**	**4 Strategic Influencer**
Description	Investors **familiar with the local investment landscape**, which may have voiced concerns	**Prospective investors**, which are less familiar with the local investment landscape	Government stakeholders which **already take a proactive part in the mining sector**	Other **local, regional, and international parties** of relevance to the strategy
Expectations	• **Acknowledge weaknesses** and outline the strategic plan for mitigating 'true negative' perceptions • Capitalize on strengths to **address 'false negative' perceptions and reinforce positive perceptions**		• Jointly **acknowledge baseline analysis** findings • Converge on **strategic growth objectives** for the sector • Obtain **endorsement of the strategic recommendations** • **Converge on the quick wins** to be initiated promptly • Facilitate coordinated efforts to **execute proposed changes**	• **Engage local communities** in the sector development • Increase the **international credibility of Jordan** • Capture learnings about **best practices & raise standards** • Unlock potential enablers for the **sector development** • Generate a **positive 'word of mouth' momentum**
	• **Address specific concerns** of different investors • Provide a **fair and equal solution** across all investors • Outline a **roadmap for delivering on changes**	• Build a **trusted foundation** for promoting Jordan • Generate a **positive 'word of mouth' momentum** • Proactively showcase **mature investment opportunities**		

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Wood Mackenzie

Investors already active in Jordan's mining sector expect to be informed of any changes that may affect their investments either positively or negatively

Establishing a mutually trusted relationship is key to boosting confidence for additional future investment

1 Current Investors

Active operators and exploration companies in Jordan; e.g.

Jordan Phosphate Mines Company (PLC) · البوتاس العربية Arab Potash · MANASEER GROUP · manajim mining development

Key Messages & Relevant Illustrations

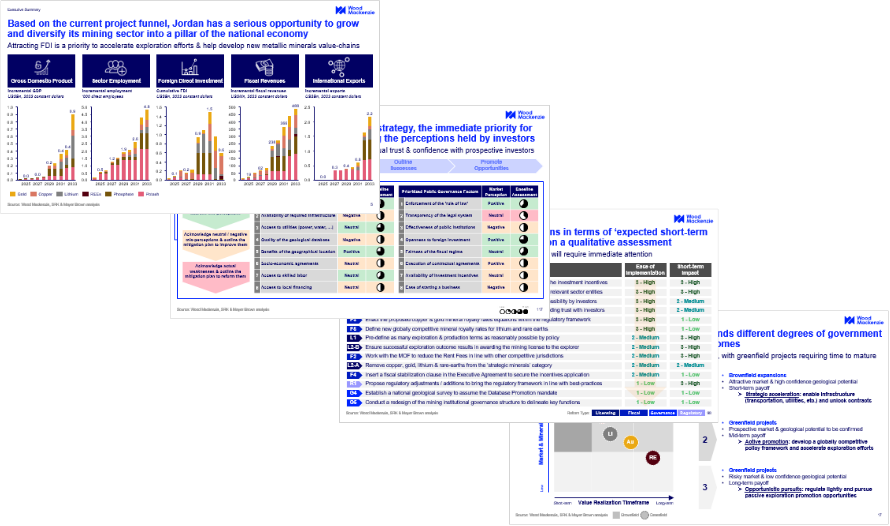
1 Strategic Ambitions
- Outline growth aspirations for the sector, and establish existing competitive strengths to be capitalized on

2 Perceptions Acknowledgment
- Recognize negative perceptions which were highlighted, and acknowledge existing 'investment framework' weaknesses

3 Policymaking Roadmap
- Detail planned policy changes (new or amendments) and their subsequent expected impact on current investors

4 Investment Opportunities
- Present additional investment opportunities, and their relative degree of market attractiveness / development maturity

5 Sustainable Practices
- Emphasize commitment to environmentally and socially responsible mining practices, and outline relevant ongoing initiatives



Wood Mackenzie

Prospective investors require as much information about the jurisdiction in order to inform their decision-making and de-risk the investment process

Demonstrating a successful track record is a testimony of the country’s ability to deliver on its promises

2 Prospective Investors

Prospective operators and exploration companies seeking investment opportunities in Jordan

Key Messages & Relevant Illustrations

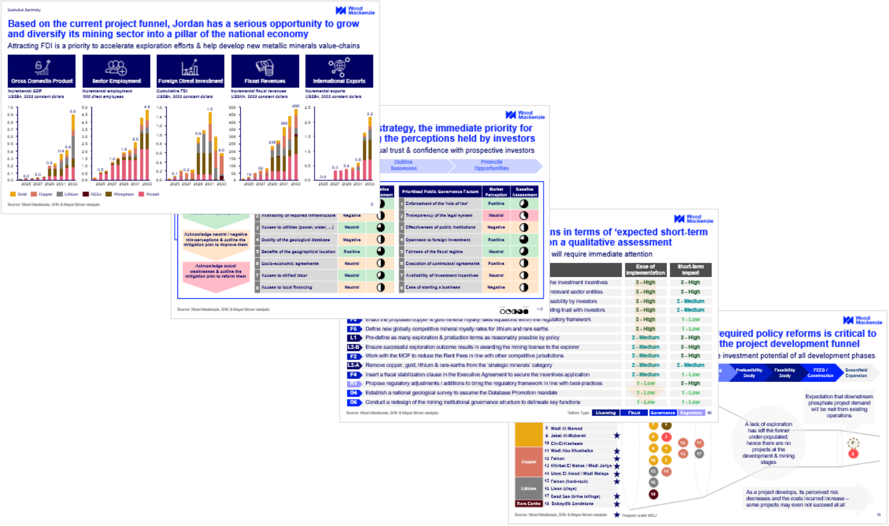
1 Strategic Ambitions
- Outline growth aspirations for the sector, and establish existing competitive strengths to be capitalized on

2 Investment Framework
- Acknowledge weaknesses of the current investment framework, and outline planned policy changes to mitigate those

3 Investment Opportunities
- Present relevant investment opportunities, and their relative degree of market attractiveness / development maturity

4 Success Stories
- Illustrate the successful track record through showcasing positive cases of new entrants into the industry

5 Sustainable Practices
- Emphasize commitment to environmentally and socially responsible mining practices, and outline relevant ongoing initiatives



Fostering a transparent and collaborative partnership with the relevant public institutions is key to maintaining buy-in and executing the proposed changes

Public institutions are particularly interested in the sector growth prospects and potential socioeconomic benefits

3 Public Institutions — **Government stakeholders who play an active role in the sector e.g.**

Key Messages & Relevant Illustrations

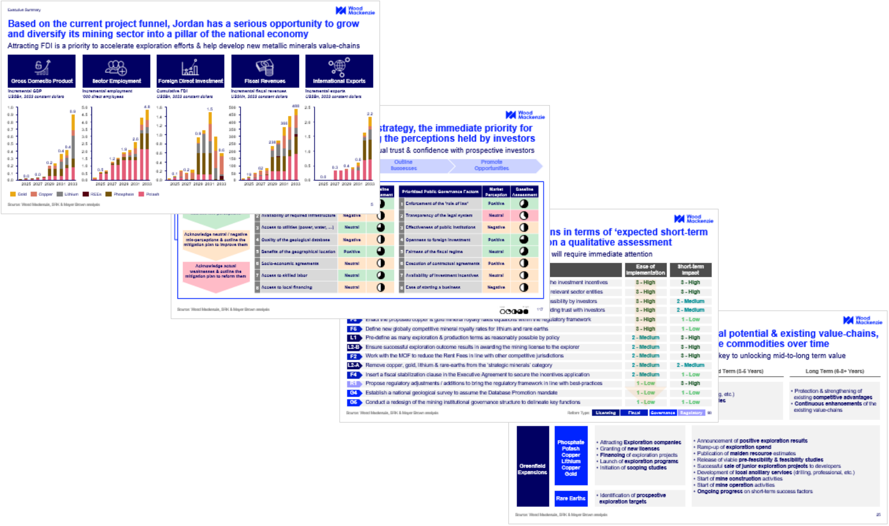
1 Strategic Ambitions
- Outline growth aspirations for the sector, emphasizing the strategic utilization of natural resources for the benefit of the country

2 Socio-economic Development
- Demonstrate how prospective projects will contribute to national development goals (GDP, FDIs, exports, employment, taxes)

3 Sustainable Practices
- Reiterate commitment to adopting best-in-class industry standards for environmentally and socially responsible mining practices

4 Policymaking Roadmap
- Acknowledge strengths & weaknesses of the current investment framework, and detail planned policy changes (new or amendments)

5 Institutional Collaboration
- Establish the importance of different public institutions jointly contributing to the vision, and drive the 'call to action'



Source: Wood Mackenzie, SRK & Mayer Brown analysis

When communicating with strategic influencers, it is essential to demonstrate informed, consistent and realistic strategic aspirations for the mining sector

Messages should showcase how the Jordanian mining sector contributes to national development goals

4 Strategic Influencers — **Local, regional, and international parties who can help promote the strategy e.g.** THE WORLD BANK, IMF, UNDP, GRI, ICMM

Key Messages & Relevant Illustrations

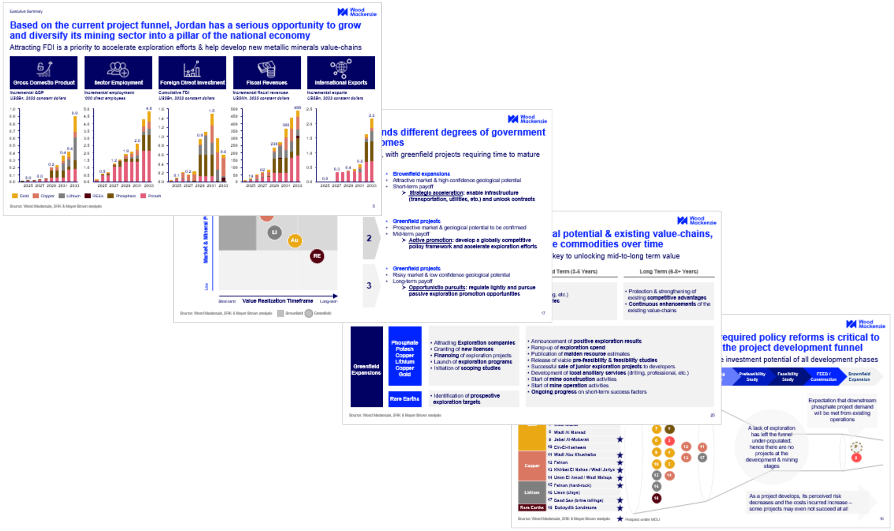
1 Strategic Ambitions
- Outline growth aspirations for the sector, emphasizing the strategic utilization of natural resources for the benefit of the country

2 Socio-economic Development
- Demonstrate how prospective projects will contribute to national development goals (GDP, FDIs, exports, employment, taxes)

3 Sustainable Development Goals
- Showcase how the sector contributes to achieving national commitments (quality employment, economic diversification, etc.)

4 Industry Standards
- Detail adherence to best-in-class industry standards, assuring organizations of commitment to ethical governance practices

5 Success Stories
- Illustrate the successful track record through showcasing positive cases of new entrants into the industry



Source: Wood Mackenzie, SRK & Mayer Brown analysis

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Several engagement platforms can be leveraged to communicate sector aspirations, and are applicable to the relevant stakeholders to different extents

Prospective investors are key to driving exploration, and should be targeted by the different platforms

Engagement Platforms			Current Investors	Prospective Investors	Public Institutions	Strategic Influencers
Attending Mining Events	• Bring together **industry professionals** • Elevate the **country's visibility** • Facilitate **networking** opportunities • Demonstrate **investment potential**	**Relevant examples:** • PDAC, SME, IMARC, Indaba, FMF, LME Week, …				
Hosting Mining Events	• Showcase the **investment destination** • **Shortlist** prospective investors • Connect **local industrial ecosystem** • **Fast-track** investment process	**Relevant examples:** • Investment forms, site visits, executive workshops, …				
Producing Relevant Publications	• Document **investment opportunities** • **Disseminate** relevant information • Showcase **industry expertise** • **Educate** prospective investors	**Relevant examples:** • Sector strategy, mineral potential, success stories, …				
Maintaining an Online Presence	• Establish **global credibility** • Provide 'real time' **updates** • Facilitate the **investor's experience** • Enable **information dissemination**	**Relevant examples:** • Geo-portal, ministry website, social media, …				

Most relevant

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Conclusion

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Based on our analysis, we have prescribed 14 licensing, fiscal, governance & regulatory strategic recommendations, 6 of which were identified as 'quick wins'

We have grouped strategic recommendations by reform type and assessed their short-term impact

	Proposed Strategic Recommendations	Implementation Prioritization	Short-term Impact
F1	Work with the MOI to define mining-specific criteria ensuring the applicability of the investment incentives	Quick Win	High
G3	Establish a 'single window' through the Ministry to facilitate collaboration across relevant sector entities	Quick Win	High
G1	Dedicate resources to improve the quality of the geoscience database & its accessibility by investors	Quick Win	Medium
G2	Scale-up sector promotion efforts to address market mis-perceptions & start building trust with investors	Quick Win	Medium
F3	Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework	Quick Win	Low
F5	Define new globally competitive mineral royalty rates for lithium and rare earths	Quick Win	Low
L1	Pre-define as many exploration & production terms as reasonably possible by policy	Must Have	High
F2	Work with the MOF to reduce the Rent Fees in line with other competitive jurisdictions	Must Have	High
R1	Propose regulatory adjustments / additions to bring the regulatory framework in line with best-practices	Must Have	High
L2-B	Ensure successful exploration outcome results in awarding the mining license to the explorer	Must Have	Medium
L2-A	Remove copper, gold, lithium & rare-earths from the 'strategic minerals' category	Important	Medium
F4	Insert a fiscal stabilization clause in the Executive Agreement to secure the incentives application	Important	Low
G4	Establish a national geological survey to assume the Database Promotion mandate	Low Priority	Low
G5	Conduct a redesign of the mining institutional governance structure to delineate key functions	Low Priority	Low

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Reform Type: Licensing Fiscal Governance Regulatory

Kick-starting the implementation of the 'quick wins' is critical to trigger a positive transformation momentum and convey confidence to prospective investors

Jordan can optimize the allocation of its resources in order to progress on multiple fronts simultaneously

	Ranked 'Quick Wins' Strategic Recommendations	Implementation Principles	Key Resources: Human	Key Resources: Material
F1	**Work with the MOI to define mining-specific criteria ensuring the applicability of the investment incentives**	• Synchronize with the MoI to firm-up the accessibility for exploration & mining to the suite of investment incentives • If need be, obtain government endorsement to clarify the law	1	-
G3	**Establish a 'single window' through the Ministry to facilitate collaboration across relevant sector entities**	• Obtain endorsement from all relevant Ministries, and establish a joint task-force to align on the most optimal approval workflow • Deploy the relevant IT infrastructure to power the 'single window'	1	$
F3	**Enact the proposed copper & gold mineral royalty rates equations within the regulatory framework**	• Coordinate with a third-party to define relevant clarifications (e.g. quotation period, deductions, invoicing, administration process) • Obtain government endorsement to issue a new regulation	1	$
F5	**Define new competitive mineral royalty rates for lithium and rare earths (and other relevant metallic minerals)**	• Coordinate with a third-party to conduct a fiscal modelling analysis and define the rates along with their application terms • Obtain government endorsement to issue a new regulation	1	$$
G2	**Scale-up sector promotion efforts to address market mis-perceptions & start building trust with investors**	• Establish a dedicated 'investment promotion' team at MEMR • Obtain government endorsement to unlock additional budget • Enable the team to drive promotional efforts	2	$$($)
G1	**Dedicate resources to improve the quality of the geoscience database & its accessibility by investors**	• Establish a dedicated 'database promotion' team at MEMR • Enable the team to conduct the work (more resources & time-consuming) **or** outsource it to a third-party (costlier but faster)	2(3)	$$($)

Source: Wood Mackenzie, SRK & Mayer Brown analysis

Human: Low High Material: Low $ High $$$

When outlining the aspirations of its mining strategy, the immediate priority for Jordan lies in acknowledging and addressing the perceptions held by investors

Being open & transparent is key to cultivating a climate of mutual trust & confidence with prospective investors

Address Perceptions → Demonstrate Progress → Outline Successes → Promote Opportunities

Key Objectives
Capitalize on strengths to reinforce positive perceptions & address mis-perceptions
Acknowledge neutral / negative mis-perceptions & outline the mitigation plan to improve them
Acknowledge actual weaknesses & outline the mitigation plan to reform them

	Prioritized Operational Enablers	Market Perception	Baseline Assessment
1	Quality of the mineral potential	Positive	
2	Availability of required infrastructure	Negative	
3	Access to utilities (power, water, …)	Neutral	
4	Quality of the geological database	Negative	
5	Benefits of the geographical location	Positive	
6	Socio-economic agreements	Neutral	
7	Access to skilled labor	Neutral	
8	Access to local financing	Neutral	

	Prioritized Public Governance Factors	Market Perception	Baseline Assessment
1	Enforcement of the 'rule of law'	Positive	
2	Transparency of the legal system	Neutral	
3	Effectiveness of public institutions	Negative	
4	Openness to foreign investment	Positive	
5	Fairness of the fiscal regime	Neutral	
6	Execution of contractual agreements	Positive	
7	Availability of investment incentives	Neutral	
8	Ease of starting a business	Negative	

Low High

Source: Wood Mackenzie, SRK & Mayer Brown analysis

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