



# Directorate of Geology and Mining

## Jordan's Minerals Strategy

Jordan strategy to strengthen the minerals value chain  
and to the energy transition

# Introduction

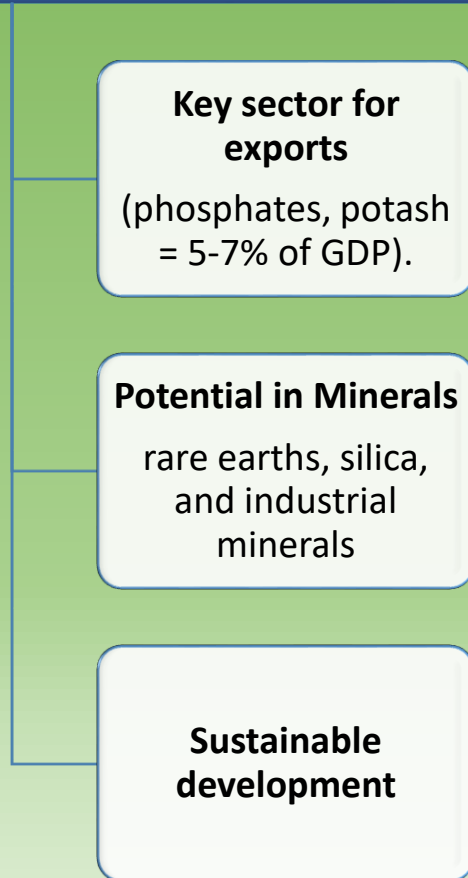
THROUGH THE ROYAL DIRECTIVES IN THE VISION OF ECONOMIC MODERNIZATION and for the sake of the initiative represented in to achieve sustainable energy security and optimal utilization of natural resources in Jordan, and within our mission to prepare and develop appropriate policies and legislation to achieve sustainable energy security and optimal utilization of natural resources in accordance with the best international standard, the Ministry of Energy and Mineral Resources seeks to develop appropriate policies and legislation to achieve sustainable energy security.

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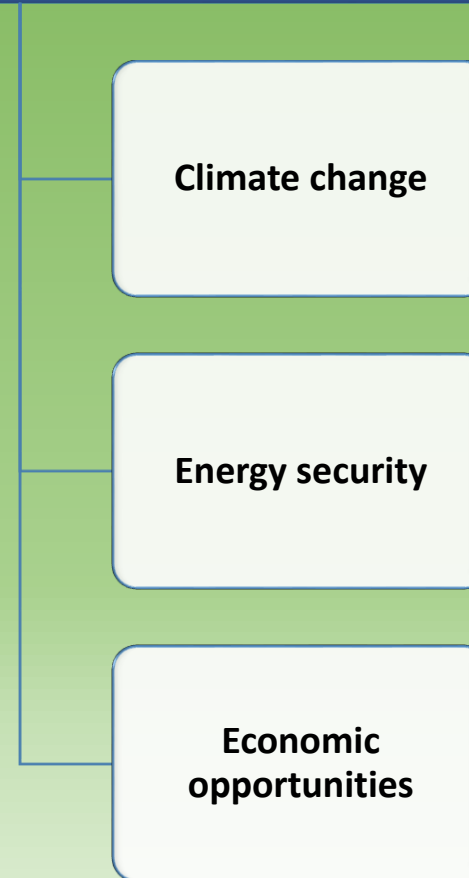


# Introduction

## Why Minerals Matter for Jordan?



## Why Energy Transition Matter for Jordan?



# Jordan's Key Mineral Resources

## Main minerals deposits in Jordan

Phosphates (3rd largest global producer)

Potash (Dead Sea minerals)

Silica Sand

Rare Earth Elements (REEs)

Copper and gold

Lithium

## Use in Clean Energy

Lithium-ion batteries

Energy storage

Glass/Solar panels

Electric vehicles

Solar/Wind Power, Electric vehicles

Lithium batteries

# Current State of the Minerals Sector

## Strengths:

- Established phosphate/potash industries (JPMC, APC).
- Strategic location (Aqaba Port for exports).

## Weaknesses:

- Limited downstream processing (most exported raw).
- Water/energy constraints in mining.

# Jordan's Strategy

## Investment & Partnerships:

- PPP( Public-private partnership)
- FDI (Foreign direct investment) in processing plants

## Downstream Industrialization:

- Fertilizers
- Chemicals
- High-tech minerals

### 4 Key Pillars

Energy Transition for Mining & Minerals in Jordan

Reforms Policies and Legislation

# Investment Opportunities

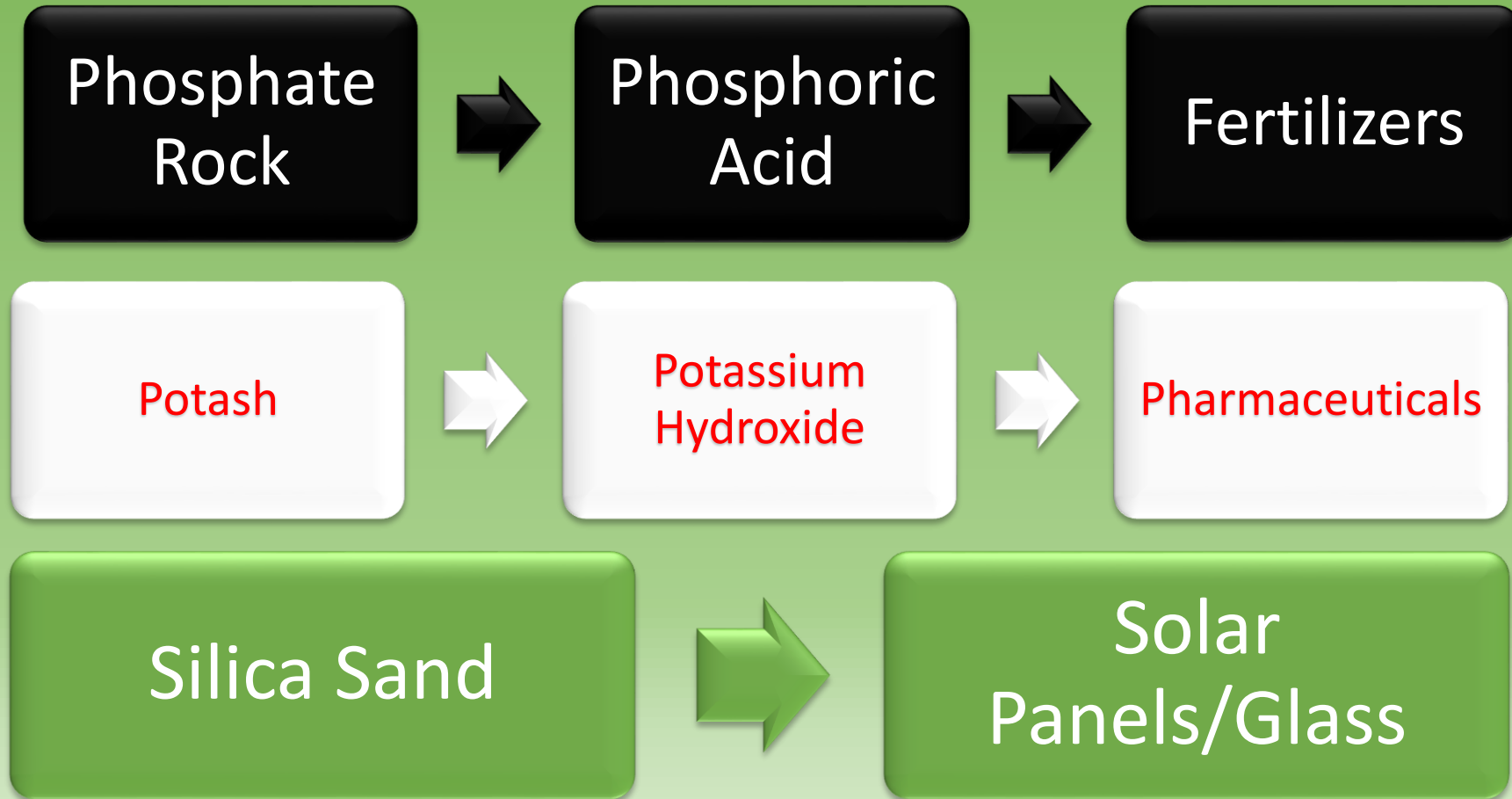
## Priority Sectors:

- Fertilizer & chemical plants.
- Silicon/solar panel manufacturing.
- REE processing.

## Incentives:

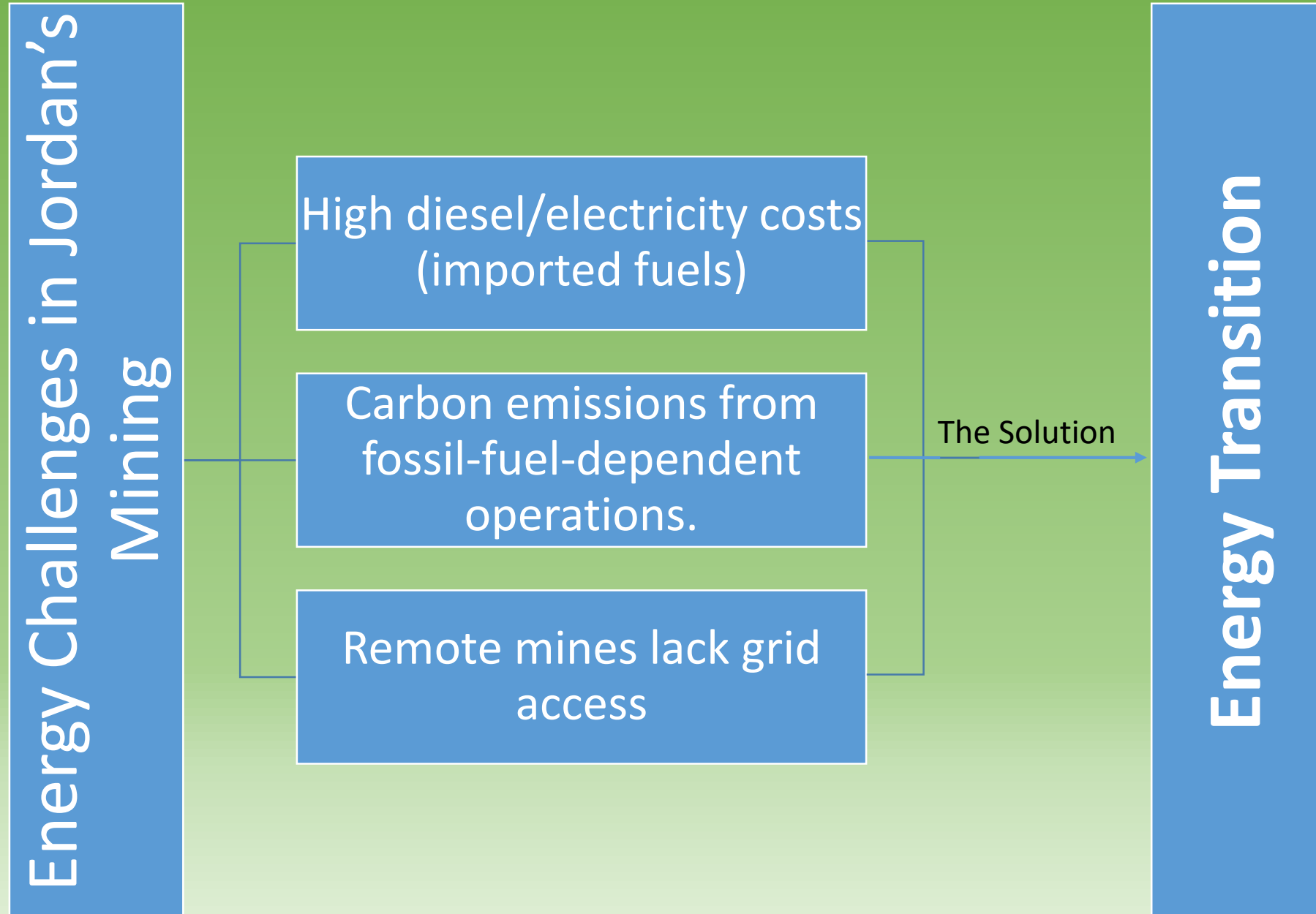
- Tax breaks
- Aqaba SEZ benefits.

# Downstream Value Addition (From Raw to Processed)





# Energy Transition for Mining & Minerals in Jordan



# Energy Transition for Mining & Minerals in Jordan

## Key Challenges

```
graph TD; A[Key Challenges] --> B[Technological]; A --> C[Economic]; A --> D[Environmental]; A --> E[Political]; B --> B1[Intermittency: Solar/wind need storage]; C --> C1[Costs: Renewables are cheaper long-term but need high upfront investment]; D --> D1[Land Use: Renewables need 10x more space than fossil fuels]; E --> E1[Policy Gaps: Inconsistent regulations across countries];
```

### Technological

Intermittency:  
Solar/wind need storage

### Economic

Costs:  
Renewables are cheaper long-term but need high upfront investment

### Environmental

Land Use:  
Renewables need 10× more space than fossil fuels

### Political

Policy Gaps:  
Inconsistent regulations across countries

# Energy Transition for Mining & Minerals in Jordan

## Renewable Energy Opportunities

### Solar Power

Example: APC pilot solar project  
(~10 MW)

### Wind Power

Tafila Wind Farm could supply  
nearby mines

### Hybrid Systems

Solar + batteries + backup  
generators

## Energy Efficiency & Tech Innovations

### Electric vehicles

e.g., battery-powered haul  
trucks

### AI for energy optimization in processing plants

### Waste heat recovery systems

# Vision and Targets

- **Environmental:** Energy Transition
- **Economic:** Increase mining sector GDP.
- **Industrial:** Become a regional hub for processed minerals.
- **Employment:** Create 10,000+ jobs in downstream industries.



Thanks