MINING OVERVIEW 2017

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GENERAL INFORMATION

Surface
710,850 sq Km

Population (2017)
34.9 million
(60% urban and 40% rural)

Main cities
Casablanca, Rabat (Capital city), Marrakech, Fes, Oujda, Agadir, Tangier, Lâayoune, Meknes, El-Jadida, Safi.

Languages
Official: Arabic, Amazigh, French (business), Spanish, English

Weight & Measure units
Metric system

Time
GMT +1

Climate
Continental – Mediterranean

Currency
Moroccan Dirham (MAD)
1 US Dollar = 9.65 MAD
1 Euro = 10.96 MAD Average rate for 2017

Tourism
11.35 million visitors in 2017

INFRASTRUCTURE OF MOROCCO

Traffic 2017

Rail
Passengers: 39.5 million
Freight: 28.2 million tons

Air
Passengers: 20.4 million
Freight: 81,408.03 tons

Sea
Passengers: 5.24 million
Freight: 134.98 million tons
The Kingdom of Morocco is a parliamentary constitutional monarchy. The King is the head of the State. The Chief of government is appointed by the King. Legislative power is vested in a bicameral system with two chambers: The Assembly of Representatives elected for a 5 year term, and the Assembly of Councillors serving a 9 year term with one-third of its seats up for election every 3 years.

**GDP DISTRIBUTION**

- Primary Sector (Agriculture, Forestry, Fishing): 12.38%
- Secondary Sector (Manufacturing, Mining, Building, Public Works): 26.13%
- Tertiary Sector (Trade, Transport, Telecommunications, Other services): 40.73%
- Public Administration: 9.22%
- Taxes on net products subsidies: 11.54%

**GDP-2017**

1.06 Trillion DH
+4.1% / 2016

Source: High Commission for planning - HCP

**FOREIGN TRADE 2017**

Imports CIF: 435 Billion DH
Exports FOB: 245 Billion DH

(Source: Office of Changes)
### MINING PRODUCTION

Mining Production excluding the valorization (X1000 tonnes)

<table>
<thead>
<tr>
<th>Product</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate</td>
<td>26,400</td>
<td>27,390</td>
<td>26,264</td>
<td>26,900</td>
<td>32,800</td>
</tr>
<tr>
<td>Iron</td>
<td>301.1</td>
<td>22,910</td>
<td>17.86</td>
<td>15.3</td>
<td>100.3</td>
</tr>
<tr>
<td>Lead</td>
<td>43.7</td>
<td>39.07</td>
<td>45.65</td>
<td>40.69</td>
<td>53.99</td>
</tr>
<tr>
<td>Zinc</td>
<td>82.1</td>
<td>89.57</td>
<td>106.01</td>
<td>84.85</td>
<td>101.9</td>
</tr>
<tr>
<td>Copper</td>
<td>46.3</td>
<td>66.48</td>
<td>73.17</td>
<td>93.94</td>
<td>126.06</td>
</tr>
<tr>
<td>Fluorine</td>
<td>812.2</td>
<td>79.84</td>
<td>80.89</td>
<td>73.92</td>
<td>75.50</td>
</tr>
<tr>
<td>Baryte</td>
<td>1,094.5</td>
<td>1,006.6</td>
<td>1,212.13</td>
<td>668.5</td>
<td>818.01</td>
</tr>
<tr>
<td>Manganese</td>
<td>111.1</td>
<td>91,271</td>
<td>71.70</td>
<td>68.33</td>
<td>99</td>
</tr>
<tr>
<td>Salt</td>
<td>488.3</td>
<td>439.16</td>
<td>555.76</td>
<td>634.61</td>
<td>659.26</td>
</tr>
<tr>
<td>Cobalt</td>
<td>20.3</td>
<td>21.51</td>
<td>22.46</td>
<td>23.90</td>
<td>34.91</td>
</tr>
<tr>
<td>Clay</td>
<td>59</td>
<td>73.5</td>
<td>84.57</td>
<td>141.76</td>
<td>119.07</td>
</tr>
<tr>
<td>Talc</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ghassoul</td>
<td>2</td>
<td>0.81</td>
<td>1.16</td>
<td>0.91</td>
<td>0.42</td>
</tr>
<tr>
<td>Bentonite</td>
<td>105.2</td>
<td>98,757</td>
<td>92.29</td>
<td>10.323</td>
<td>174,546</td>
</tr>
<tr>
<td>Pyrophylite</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Others</td>
<td>0.22</td>
<td>0.53</td>
<td>0.54</td>
<td>71</td>
<td>153.45</td>
</tr>
<tr>
<td>Total</td>
<td>28,835</td>
<td>29,420</td>
<td>28,628</td>
<td>28,921</td>
<td>35,316</td>
</tr>
</tbody>
</table>

### Processed Mining Products

<table>
<thead>
<tr>
<th>Product</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid (Kt)</td>
<td>4,360</td>
<td>4,400</td>
<td>4,484</td>
<td>4,930</td>
<td>5,709</td>
</tr>
<tr>
<td>Purified acid (Kt)</td>
<td>104</td>
<td>101</td>
<td>117</td>
<td>-</td>
<td>119</td>
</tr>
<tr>
<td>Solid fertilizers (Kt)</td>
<td>4,659</td>
<td>4,800</td>
<td>5,210</td>
<td>6,960</td>
<td>8,619</td>
</tr>
<tr>
<td>Soft lead (Kt)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Silver (t)</td>
<td>194.08</td>
<td>185.77</td>
<td>207.74</td>
<td>851.59</td>
<td>238.53</td>
</tr>
<tr>
<td>Gold (t)</td>
<td>0.32</td>
<td>0.2124</td>
<td>0.2924</td>
<td>0.1738</td>
<td>0.2201</td>
</tr>
<tr>
<td>Copper Mattes (Kt)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cobalt Cathodes (t)</td>
<td>1,378.21</td>
<td>1,361.47</td>
<td>1,721.51</td>
<td>1,568.24</td>
<td>1,924</td>
</tr>
<tr>
<td>Zinc oxide (Kt)</td>
<td>1.941</td>
<td>4.201</td>
<td>4.89</td>
<td>5.18</td>
<td>7.59</td>
</tr>
<tr>
<td>Copper sulfate (t)</td>
<td>112.15</td>
<td>64.99</td>
<td>164.86</td>
<td>86.62</td>
<td>-</td>
</tr>
<tr>
<td>Sodium sulfate (t)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nickel (t)</td>
<td>160.39</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>196</td>
</tr>
<tr>
<td>Arsenic (Kt)</td>
<td>8.96</td>
<td>7,566.50</td>
<td>6,122</td>
<td>6,879</td>
<td></td>
</tr>
</tbody>
</table>

### KEY ENERGY INDICATORS (2017)

**Production**

- **Mining products:**
  - **35.11 million tonnes**
  - **32.8 million tonnes phosphates**

- **Processed products**
  - Phosphate derivatives: **P₂O₅: 5.7 million tonnes**
    - Fertilizers: **8.6 million tonnes**

- **Other processed products:** **13,549 tonnes**

- **Exports:** **48.6 billion DH**

- **Jobs:** **41,000**
LEGAL FRAMEWORK

A new mining law was adopted by the Parliament and published in the Official Bulletin N° 6384 on August 6, 2015. This law n° 33-13 repeals the Mining Regulations dated April 16, 1951. Its 122 articles come to give new impetus to the Moroccan mining industry.

The new provisions of the law are as follows:
• Extension of the scope to all mineral substances for industrial use, excluding construction and civil engineering materials;
• Introduction of the exploration authorization to operate in large areas (100 to 600 km²) granted for a period of two years, renewable only once for a period of one year, with the right to obtain priority research permit within the scope of the authorization;
• Research permit applies to a square perimeter 4 X 4 km (16 km²), granted for a period of 3 years, renewable only once for a period of 4 year;
• Mining license covering an area that cannot exceed the surface area of the research permit from which it derives, and cannot be less than 1 km².

Granted for a period of ten years, renewable for successive ten-year periods until reserves are depleted.
• Introduction of new measures for environmental management;
• Geothermal deposits are considered mines;
• Establishment of the operating license of dumps and tailings, planned for the enrichment and / or recovery of waste and residues of mines products;
• Extended coverage by the mining legislation to offshore areas. The activities related to extraction, collection and marketing of mineral and fossil specimens and meteorites are subject to the mining law;
• Introduction of provisions relating to natural or artificial cavities for underground storage of natural gas, liquid hydrocarbons, liquefied or gaseous, or chemicals for industrial use.

The Law was implemented on 23 May 2016 after the publication of the implementation decree.

INCENTIVES

- Exemption from import duty and the value added tax applicable for imported equipment for investment equal or greater than 200 million MAD.
- Reduced tax rate of 17.5% for:
  - Exporting mining companies;
  - Mining companies which sell their products to companies which export them after valorization.
- A State contribution to infrastructure requirements (including roads, water supply and electricity) within the limit of 5% of the value of the investment (for projects whose investment exceeds 200 million MAD).

DISTRIBUTION OF MINING PERMITS BY OPERATOR 2017

<table>
<thead>
<tr>
<th>OPERATOR</th>
<th>NUMBER OF PERMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONHYM</td>
<td>1,210</td>
</tr>
<tr>
<td>Individuals</td>
<td>1,432</td>
</tr>
<tr>
<td>Companies</td>
<td>4,028</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,670</strong></td>
</tr>
</tbody>
</table>

Mining Companies 60%
ONHYM 18%
Individual Operators 22%
Morocco offers several interesting types of prospects:

**Precious Metals**
- Polymetallic, including base metals
- Iron
- Uranium
- Rare Earth Elements

**Base Metals**
- ONHYM Projects
  - 15- Aouark (REE, U)
  - 16- Ras Kemoumoua (Cu, Fe)
  - 17- Western Anti Atlas (Cu)
  - 18- Ait Tametlit (Cu, Pb, Zn)
  - 19- Menja (Cu)
  - 20- Rhourat Nhas (Cu, U)
  - 21- Tioali West (Pb, Zn)

**Rocks & Industrial Minerals**
- ONHYM Projects
  - 28- Jbel Kharrou (Clays)
  - 29- Toulal (Silica sands)

**Projects in Partnership**
- 30- Tertiary Basins (Bentonite) (ONHYM-TOLSA)
- 31- Nqob (Talc) (ONHYM-MECTP)

**ONHYM Projects**
- 1- Tlayha (U, Au)
- 2- Lahnouda Est (Nb, REE, Fe)
- 3- Chenna (Au)
- 4- Al Warma (Au)
- 5- Tizegzaouane (Au, Ag, Cu)
- 6- Tanait (Au, Ag, Zn, Pb, Cu)
- 7- Tidili (Au, Cu)
- 8- Sagrho South (Ag, Cu, Au)
- 9- Tuirhnetal-Lamtarga (Nb, REE, Fe, U, Au, Mo)
- 10- Lahnouda-Drar (No, Ta, REE, U)

**Projects in Partnership**
- 11- Tichla Auerd (Au, Cu) (ONHYM-Metalex)
- 12- Zgounder (Ag) (ONHYM-Maya Gold & Silver)
- 13- Had Imaou (Au) (ONHYM-Managem)
- 14- Tighmi (Au) (ONHYM-Abologlu)
- 15- Awark (REE, U)
- 16- Ras Kemmouna (Cu, Fe)
- 17- Western Anti Atlas (Cu)
- 18- Ait Tametlit (Cu, Pb, Zn)
- 19- Menja (Cu)
- 20- Rhourat Nhas (Cu, U)
- 21- Tioali West (Pb, Zn)

**NB:** The projects of general research (RG-MP-ZN, RG-MP-ZS, RG-SMB, RG-SRM and RG-Geochemistry), Geothermal, Strategic Campaigns and Integrated Projects concern many regions and are not plotted in the map.

**Map:**
- ONHYM Projects
- Projects in Partnership
- Precious Metals
- Base Metals
- Rocks & Industrial Minerals
- Quaternary
- Cenozoic
- Mesozoic
- Paleozoic
- Proterozoic