STATE INTERVENTION IN THE MINERALS SECTOR

APPENDICES

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### Appendix 1: SIMS Country Studies

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<th>Report</th>
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## 1. FINLAND

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<th>Aspect/Linkage</th>
<th>Developmental Elements</th>
<th>Findings</th>
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| **Asset management** | Geo-survey (geo-mapping)  
Mineral rights concessioning (expl/mining) -  
Mineral rights admin (regs) | GTK (GSD) well-capacitated incl through global minerals slump ('80-'00). Carries out systematic geo-mapping & prep of mineral properties for auction. Budget of ~EUR60mn/an, 80% state. Comes under Ministry of Employment & Economy.  
Until mid-90s (EU accession) almost all exploration carried out by GTK and SOEs. Foreign exploration companies needed special permit. There was also a limit to foreign equity in local mineral companies until the 80s. These were “to safeguard raw material supply for local industry” (FLs)  
Since removal of restrictions numerous exploration licenses issued (>50 companies now in play)  
Based on MCIIMS |
| **Fiscal linkages** | Royalties, CIT, RRT, Skills levy, etc.:  
- capture &  
- deployment (SWF?) | Exploration permit cost = €100k/an  
CIT = 26%, withholding taxes?  
Royalty - <.15% (new Mining Law), Surface fee to landowner = €50/ha  
RRT = 0  
SWF none |
| **Backward linkages (BL)** | Capital goods (tech)  
Services  
Consumables | Strong BLs in capital goods- Toro, Outotec, Metso, Tamrock, Kemira, etc.  
ETLA comment– conversion of some arms industry capacity into resources capital goods.  
Strong minerals consumables a service sector.  
Earlier exchange controls (Finmark) encouraged the development of local techs (forex shortage for imports) and Soviet reparations after WWII (export of cap goods) stimulated development of this sector, acc. to some commentators.  
Strong BL cluster |
| **Forward linkages (FL)** | Beneficiation: mineral feedstocks:  
- Manufacturing (Fe/steel, Cu, polymers)  
- Energy (HCs, coal, U)  
- Infrastructure (Fe/steel, cement, Cu)  
- Agriculture (NPK, conditioners) | SOE Rautaruukki mined Fe ore Otanmäki (from 1949-1985) to supply its Raah steel plant (ore now imported) and Outokumpu’s (SOE) stainless steel plant (Tornio) is based on local chromite ore.  
Base metals: Outokumpu (SOE) has produced Cu, Zn, Pb from several mines, for local industry & exports.  
Power: Fortum (SOE) is the main power company and also owns nuclear plants in Sweden and Russia, but uses imported technology. Helsingin Energi is owned by Helsinki City.  
Neste (SOE) is the major oil refiner and liquid fuels distributor  
Kemira (SOE) started out as the “The State Sulphuric Acid and Superphosphate Plants” and diversified |

**Note for SIMS**

- Previous restriction (till '95) on foreign exploration companies  
- Historic role of SMCs in minerals sector (Outokumpu, Rautaruukki, Kemira)  
- Mining under Min of Employment & Economy (no Min of Mines) – facilitated industry linkages?  
- Use of GTK to prepare properties for auction needs further elaboration  
- Importance of local arms ind tech development capacity for resources cap goods?
| Knowledge linkages | HRD: basic, secondary, tertiary R&D: tech development | Very strong tech HRD. Of 60 000 graduates in 2008, 26.8% were in science, eng, manu & construction (see EU table) In 2008 R&D spend was 3.5% of GDP (WB) compared to 0.9% in SA Very strong HRD & R&D cluster with state VTT (research council) playing an important role. The TEKES technology committee comes under the Prime Minister. Note for SIMS: The strength of the science & eng HRD/R&D cluster historically underpinned the strong mineral linkages |
| Spatial linkages | Infrastructure ● Rail/road ● Ports ● Power & ICT ● Water ● LED | The transport, power, water & ICT infrastructure is excellent and was established by the state over the last 50y, with minerals providing important extensions to the grid. Generally run by SOEs, though there have been some privatizations. Most infrastructure is open access LED & CSR are strong mainly due to the “welfare” state |
| Other | SMC (State Mining Company) | The main SMC was Outokumpu, but it has increasingly moved downstream. Others are Rautaruukki and Kemira, Outokumpu started as a pvt company, but went bankrupt and was bought by the state (1928). In the 50s it developed its flash furnace tech, in part due to national power constraints, and in the 1980s capital constraints led to the worker’s pension holding in the company. The company was listed in 1988 to valorize the pension holding. In 2003 it sold its Cu & Zn operations to Boliden (Sweden) and in 2005 it spun off its tech division Outotec. It is currently 31% state (Solidium Oy) and 8% pension fund. |
### Outokumpu ownership 2011

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* Solidium Oy’s holding of all of Stora Enso Oyj’s shares is 12,3% and of all votes 25,1%.

*Solidium Oy is 100% state*
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Table 5: Tertiary education graduates (ISCED levels 5 to 6), 2008

Finland mining summary: Finland depended on imports of raw materials, especially crude oil, iron ore, nickel matte, petroleum products, and zinc concentrate. Copper refining and metals production constituted a major mineral industry, with most output destined for export. Outokumpu Oyj was the third-largest zinc metal producer in Europe (15% share of the market and 5% share of world zinc production). In 2001, Finland mined chromite, foundry sand, copper, nickel, zinc, feldspar, lime, nitrogen, phosphate rock, pyrite, sodium sulfate, limestone, dolomite, granite, quartz silica sand, soapstone, sulfur, talc, and wollastonite. Mondo Minerals Oy was the largest producer of paper-grade talc in Europe, with an annual capacity of 500,000 tons from its three mines. The Kemi mine, on the Gulf of Bothnia near the Swedish border, was the only chromium mine in Scandinavia and one of the largest in the world, with estimated reserves of 150 million tons and an annual capacity of 1 million tons. Mine output of zinc in 2001 was 36,253 tons, up from 20,000 in 1999; feldspar, 34,298 tons, down from 40,000 in 1999; chromite (gross weight of ore, concentrate, and foundry sand), 575,000 tons, down from 630,000 in 2000; and copper (mine output), 41,146 tons, up from 10,500 in 1999. Exploration activities were focused largely on diamond, gold, and base metals deposits (sulfide zinc, zinc, copper, chalcopyrite, pyrite, sphalerite, and platinum-group metals, or PGM). An updated estimate for the Ahmavaara and Konttijarvi PGM deposits showed that 75,000 kg were proven resources and 728,000 kg was probable, at a cutoff grade of 0.5 grams per ton of platinum, palladium, and gold. A continuing drilling program at the Suurikuusikko gold property, in the Lapland greenstone belt, yielded an estimate of contained indicated and inferred resources of 6 million tons at an average grade of 6 grams per ton of gold. The Pyhäsalmi zinc-copper mine, in central Finland, had proven and probable reserves totaling 17.2 million tons at a grade of 1.2% copper, 2.8% zinc, 0.4 grams per ton of gold, and 39% sulfur; the mine, which was sold by Outokumpu to Inmet Mining Corp. of Canada, could produce until 2015 at its 2001 production rate of 1.2 million tons per year. Finland also had capacities to mine mica, phosphate-apatite, quartz, and quartzite, and to mine and produce 8 million tons per year of apatite.

Mineral reserves were declining, and many were expected to be exhausted soon, as a result of extensive mining over the past 400 years. A decision was to be made in 2001 about closure of the Hitura nickel mine, supplier of nickel concentrates for 30 years. Although Finland had scarce mineral resources, it was influential in the global mining industry as a world leader in mining technology, ore processing, and metallurgy. With the acquisition of the metallurgical businesses of Lurgi Metallurgie AG of Germany, Outokumpu Technology became the world’s leading supplier of copper and zinc plants, a major supplier of aluminum technologies, and the key supplier of innovative technologies for the ferrous metals and ferroalloy industries. Government involvement in the mineral industry was considerably higher in Finland than elsewhere in the EU. State-owned companies such as Finnminers Group, Kemira Oyj, Outokumpu, and Rautaruukki Oy dominated the domestic minerals industry, while institutions such as the State Geological Research Institute and the State Technological Research Center were active in exploration and research.
## 2. SWEDEN

<table>
<thead>
<tr>
<th>Aspect/Linkage</th>
<th>Developmental Elements</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral Asset management</td>
<td>Geo-survey (geo-mapping)</td>
<td>SGU (GSD) formerly strong but downsized in the ’80s due to the global minerals slump. Carries out systematic geo-mapping. Until mid-90s (EU accession) almost all exploration carried out by SGU and SOEs. Foreign exploration companies needed special permit. Statutory State holdings in mining projects abolished in 1992. Several TNCs/JRCs now active across the country (e.g. Dragon mining (Oz) &amp; Northland’s Fe ore project) Mineral rights are administered by Mining Inspectorate (part of SGU). Based on MCIMS. Very long exploration licenses- 10y – 15y (could lead to “squating” by foreign JRCs) Exploration Expenditure: 71 MEUR 2010 (46 MEUR 2009) 72 MEUR 2011 (forecast)</td>
</tr>
<tr>
<td></td>
<td>Mineral rights concessioning (expl/mining) - Mineral rights admin (regs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note for SIMS Historic role of SMCs in minerals sector (LKAB) Swedish law (1934) making it very difficult for foreign-ownership of Swedish mining companies Previous restrictions (till ’91) on foreign exploration/mining companies No mining ministry- comes under Ministry of Enterprise (industry) - could facilitate linkages?</td>
</tr>
<tr>
<td>Fiscal linkages</td>
<td>Royalties, CIT, RRT, Skills levy, etc.: capture &amp; deployment (SWF?)</td>
<td>Very low royalty (&lt;.15%) for land owners/owners (eg Somi herders) Mining CIT = national rate 26.3%. Withholding tax 30%, but generally exempt (non-listed holdings) RRT – none SWF - none</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note for SIMS The new mineral tax regime appears to be overly generous, especially now that mineral rights are open for foreign TNCs &amp; JRCs.</td>
</tr>
<tr>
<td>Backward linkages</td>
<td>Capital goods (tech)</td>
<td>Extensive BLS - developed over last 100y: Atlas Copco: Founded in 1873, 33 000 employees, revenues 2010: 7.3 BEUR. Manufactures products in 20 countries. Sandvik, founded in 1862, 47 000 employees, sales 2010 SEK 83 billion, research and development: SEK 3 billion each year and more than 2,400 employees are active in this area. Trelleborg, Volvo, Stocka, CME, ABB (Asea), etc. Numerous service companies and companies producing mining consumables. Strong BL cluster</td>
</tr>
<tr>
<td></td>
<td>Services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumables</td>
<td></td>
</tr>
<tr>
<td>Forward linkages</td>
<td>Beneficiation: mineral feedstocks: Manufacturing (Fe/steel, Cu, polymers) Energy (HCs, coal, U)</td>
<td>Fe ore mining is 100% state (LKAB) but there are potential new foreign entrants (Northland). Steel used to have strong state participation (NIA- merged into SSAB, privatized 1989), but is now mainly private. Contraction due to demise of shipbuilding in 70s. Copper (Boliden) had state influence and polymers are produced by Borealis (Austrian &amp; Abu Dhabi) and ABB (ASEA). State energy is mainly in hydro (HEP) and Nuclear (Vattenvall AB SOE) Vattenfall owns coal mines in</td>
</tr>
<tr>
<td>Knowledge linkages</td>
<td>Infrastructure (Fe/steel, cement, Cu). Agriculture (NPK, conditioners) Beneficiation: Producer power: (e.g. PGM)</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Note for SIMS</td>
<td>State participation in FL industry was much higher during their “developmental phase” which was followed by numerous privatizations in the 80s &amp; 90s.</td>
<td></td>
</tr>
<tr>
<td>Knowledge linkages</td>
<td>HRD: basic, 2ndary, tertiary R&amp;D: tech development</td>
<td></td>
</tr>
<tr>
<td>Note for SIMS</td>
<td>The strength of the science &amp; eng HRD/R&amp;D cluster historically underpinned the strong mineral linkages</td>
<td></td>
</tr>
<tr>
<td>Spatial linkages</td>
<td>Infrastructure Rail/road Ports Power &amp; ICT Water LED &amp;CSR</td>
<td></td>
</tr>
<tr>
<td>Note for SIMS</td>
<td>The transport, power, water &amp; ICT infrastructure is excellent and was established by the state over the last century. From 1939-1948 most of the private railway companies were Nationalized, today several private operators have access to the national railway. Infra is generally run by SOEs, though there have been some privatizations. LED &amp; CSR are strong mainly due to the “welfare” state.</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>SMC (State Mining Company)</td>
<td></td>
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<tr>
<td>Note for SIMS</td>
<td>The main SMC is LKAB which comes under a SOE “board” under the Min of Enterprise. Although the main mandate is commercial (return to shareholder) many of its investments have a developmental dimension, particularly HRD &amp; R&amp;D. It funds both upstream (mining) and downstream R&amp;D. Due to 100% state ownership, the state receives all the resource rents.</td>
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</table>
## Length of exploration permit: Nordics

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<thead>
<tr>
<th></th>
<th>1. permit</th>
<th>1 ext.</th>
<th>2 ext.</th>
<th>3 ext.</th>
<th>Total</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sweden</strong></td>
<td>3 yrs</td>
<td>3 yrs</td>
<td>4 yrs</td>
<td>5 yrs (extra-</td>
<td>Max 15</td>
<td>The prudent prospector will normally get 10 yrs without any problems. 15 yrs requires extraordinary circumstances</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ordinary circumstances)</td>
<td>yrs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(special circumstances)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Finland</strong></td>
<td>4 yrs</td>
<td>3 yrs</td>
<td>3 yrs</td>
<td>3 yrs ...</td>
<td>Max 15</td>
<td>Applicant must show continuous and thorough exploration</td>
</tr>
<tr>
<td><strong>Norway</strong></td>
<td>7 yrs</td>
<td>3 yrs</td>
<td>3 yrs</td>
<td>3 yrs ...</td>
<td>Max 10</td>
<td>Extensions are very rarely given.</td>
</tr>
<tr>
<td></td>
<td>(extraordinary circumstances)</td>
<td></td>
<td></td>
<td></td>
<td>yrs</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion:** All countries gives reasonable time to explore the licensed areas. Source: Nordisk Minerallogivning

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## Cost/a of exploration permits (€)

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Statutory requirement of a plan</th>
<th>Plan given by</th>
<th>Overturned by</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>612 (calendar year)</td>
<td>6120</td>
<td>6120</td>
<td>6120</td>
<td>18400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>2140</td>
<td>3210</td>
<td>5350</td>
<td>11250</td>
<td></td>
<td>Municipality</td>
<td>Central government</td>
<td>must be negotiated with the municipality</td>
</tr>
<tr>
<td>Finland</td>
<td>100 000</td>
<td>100 000</td>
<td>100 000</td>
<td>100 000</td>
<td>Common for all countries. Municipality plays a vital part in the permitting process of a mine. A negative municipality is a major obstacle. In Norway it is a 'no go' for the project.</td>
<td></td>
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</tr>
</tbody>
</table>

Finland has a reservation right valid for two years (new law) It is cheap and gives the holder first option for a later exploration permit, but without extended access to the land.
## Graduates from tertiary education in 2001

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Graduates</th>
<th>% Women in Total</th>
<th>% of Total Graduates in Science</th>
<th>% Women in Science</th>
<th>Of which in Engineering, Manufacturing and Construction</th>
<th>% Women in Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU25*</td>
<td>1,263,845</td>
<td>55.0</td>
<td>11.1</td>
<td>41.0</td>
<td>14.8</td>
<td>20.9</td>
</tr>
<tr>
<td>Belgium</td>
<td>70,212</td>
<td>55.1</td>
<td>8.1</td>
<td>31.4</td>
<td>10.7</td>
<td>19.2</td>
</tr>
<tr>
<td>Denmark**</td>
<td>39,017</td>
<td>56.3</td>
<td>8.1</td>
<td>32.8</td>
<td>13.8</td>
<td>26.2</td>
</tr>
<tr>
<td>Germany</td>
<td>236,640</td>
<td>51.6</td>
<td>8.9</td>
<td>32.9</td>
<td>17.0</td>
<td>16.7</td>
</tr>
<tr>
<td>Greece</td>
<td>277,853</td>
<td>57.2</td>
<td>10.5</td>
<td>40.8</td>
<td>16.3</td>
<td>25.1</td>
</tr>
<tr>
<td>Spain**</td>
<td>508,189</td>
<td>55.8</td>
<td>15.4</td>
<td>42.6</td>
<td>15.1</td>
<td>18.7</td>
</tr>
<tr>
<td>France**</td>
<td>45,818</td>
<td>58.0</td>
<td>19.8</td>
<td>47.6</td>
<td>12.1</td>
<td>18.0</td>
</tr>
<tr>
<td>Ireland</td>
<td>202,202</td>
<td>56.8</td>
<td>7.7</td>
<td>34.4</td>
<td>15.4</td>
<td>27.6</td>
</tr>
<tr>
<td>Italy**</td>
<td>81,603</td>
<td>54.7</td>
<td>5.2</td>
<td>27.4</td>
<td>10.3</td>
<td>12.3</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>27,099</td>
<td>51.5</td>
<td>6.8</td>
<td>39.0</td>
<td>20.7</td>
<td>15.1</td>
</tr>
<tr>
<td>Netherlands</td>
<td>51,136</td>
<td>57.1</td>
<td>5.1</td>
<td>38.2</td>
<td>11.7</td>
<td>35.3</td>
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<tr>
<td>Austria</td>
<td>36,141</td>
<td>51.7</td>
<td>7.5</td>
<td>46.4</td>
<td>20.4</td>
<td>20.3</td>
</tr>
<tr>
<td>Finland**</td>
<td>42,741</td>
<td>58.8</td>
<td>10.1</td>
<td>46.5</td>
<td>21.9</td>
<td>27.5</td>
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<tr>
<td>Sweden</td>
<td>273,907</td>
<td>56.6</td>
<td>13.0</td>
<td>37.2</td>
<td>9.9</td>
<td>19.0</td>
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<tr>
<td>United Kingdom</td>
<td>93,073</td>
<td>63.7</td>
<td>4.2</td>
<td>48.1</td>
<td>8.8</td>
<td>25.6</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>43,629</td>
<td>55.3</td>
<td>11.0</td>
<td>25.1</td>
<td>12.1</td>
<td>28.9</td>
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<tr>
<td>Estonia</td>
<td>7,600</td>
<td>65.3</td>
<td>6.0</td>
<td>45.4</td>
<td>12.1</td>
<td>27.4</td>
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<tr>
<td>Cyprus**</td>
<td>2,613</td>
<td>65.2</td>
<td>5.5</td>
<td>42.9</td>
<td>6.4</td>
<td>20.6</td>
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<tr>
<td>Latvia</td>
<td>20,308</td>
<td>55.4</td>
<td>5.1</td>
<td>56.9</td>
<td>7.1</td>
<td>29.9</td>
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<tr>
<td>Lithuania</td>
<td>27,471</td>
<td>53.5</td>
<td>4.9</td>
<td>52.1</td>
<td>20.7</td>
<td>31.7</td>
</tr>
<tr>
<td>Hungary**</td>
<td>97,682</td>
<td>51.4</td>
<td>2.4</td>
<td>31.0</td>
<td>10.1</td>
<td>20.5</td>
</tr>
<tr>
<td>Malta</td>
<td>2,003</td>
<td>52.0</td>
<td>4.1</td>
<td>30.1</td>
<td>5.1</td>
<td>23.3</td>
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<tr>
<td>Poland</td>
<td>431,104</td>
<td>59.9</td>
<td>4.8</td>
<td>58.5</td>
<td>9.5</td>
<td>24.0</td>
</tr>
<tr>
<td>Slovenia</td>
<td>11,991</td>
<td>55.4</td>
<td>3.6</td>
<td>35.7</td>
<td>16.6</td>
<td>21.7</td>
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<tr>
<td>Slovakia</td>
<td>26,272</td>
<td>53.2</td>
<td>8.7</td>
<td>34.0</td>
<td>16.9</td>
<td>31.6</td>
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<tr>
<td>Bulgaria</td>
<td>47,504</td>
<td>52.5</td>
<td>4.2</td>
<td>58.6</td>
<td>15.0</td>
<td>38.5</td>
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<tr>
<td>Romania</td>
<td>76,230</td>
<td>54.6</td>
<td>5.8</td>
<td>64.6</td>
<td>18.9</td>
<td>26.7</td>
</tr>
<tr>
<td>Turkey</td>
<td>241,464</td>
<td>42.8</td>
<td>9.5</td>
<td>44.2</td>
<td>20.0</td>
<td>34.8</td>
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<tr>
<td>Iceland</td>
<td>2,066</td>
<td>62.1</td>
<td>3.5</td>
<td>41.4</td>
<td>5.5</td>
<td>21.2</td>
</tr>
<tr>
<td>Norway</td>
<td>32,092</td>
<td>58.8</td>
<td>8.7</td>
<td>39.7</td>
<td>8.1</td>
<td>20.6</td>
</tr>
<tr>
<td>Japan</td>
<td>1,067,878</td>
<td>55.2</td>
<td>12.2</td>
<td>45.7</td>
<td>16.9</td>
<td>12.3</td>
</tr>
<tr>
<td>United States**</td>
<td>2,150,854</td>
<td>57.0</td>
<td>8.9</td>
<td>44.2</td>
<td>8.4</td>
<td>18.7</td>
</tr>
</tbody>
</table>

* EU25 and ACO are estimated
** 2000 data
### 3. BRAZIL

<table>
<thead>
<tr>
<th>Aspect/Linkage</th>
<th>Developmental Elements</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset management</td>
<td>Geo-survey (geo-mapping) &lt;br&gt; Mineral rights concessioning (expl/mining) &lt;br&gt; Mineral rights admin (regs)</td>
<td>CPRM (Companhia de Pesquisa de Recursos Minerais: Geological Survey of Brazil) well-capacitated with a staff of 1,180 professionals, of whom some 500 are geologists, and engineers. Undertakes systematic geo-mapping (geology, geophysics, geochem), hydrogeology and manages the national mineral database (MCIMS). It also does metallogenetic research in prospective regions to stimulate private sector interest and work on agricultural minerals. It does not tender known deposits (disposed of under a FIFA system). Budget of ~US$140mn in 2009, Comes under Ministry of Mines &amp; Energy. Mineral rights are the jurisdiction of the Federal Union. A FIFA system with exploration license and mining license is used (*67 Code). A relinquished exploration license is put up for auction against the best exploration plan and after 6m without a bid the land becomes open. Exploration restricted to locally incorporated companies. A new mining code and New National Minerals Agency is about to be adopted that will reduce speculation and force companies to develop projects faster. It is expected to reduce the exploration license period. It will also regulate U mining (currently only SOEs) and is expected to offer tax incentives for value addition (FL) rather than export of ores for processing abroad.</td>
</tr>
</tbody>
</table>

**Note for SIMS** CPRM has a specific mandate to go beyond geo-mapping for developing strategic minerals such as agricultural minerals (fertilizer minerals). New Minerals Agency.<br> All relinquished exploration rights are auctioned. New draft mining code reportedly contains provisions to inhibit exploration right “squatters” & speculators by increasing the annual requirements and decreasing the tenure. Also contains incentives for local beneficiation. |

| Fiscal linkages | Royalties, CIT, RRT, Skills levy, etc.: <br> • capture & deployment <br> • SWF? | Exploration license fee = US$1.03/Ha for 3y and US$1.55/Ha for 2nd 3y term (∑6y) <br> CIT = varies from state to state but typically ~30%. Withholding taxes 15% or 25% except dividends on profits earned after 1996 (0%). Royalty - 1% to 3% Gross Overriding Royalty (GOR) depending on the mineral and state. The tax law also discriminates against companies domiciled in “tax havens” (privileged tax regimes) RRT = none, SWF none |

**Note for SIMS** Brazil has a Tax on Financial Operations, at 6%, to curtail hot money into the stock market and concomitant currency appreciation. Also, tax law discriminates against companies located in tax havens. |

| Backward linkages (BL) | • Capital goods (tech) <br> • Services <br> • Consumables | Most BLs in capital goods are subsidiaries of international companies. Product/tech development undertaken offshore. Some local capacity in project engineering (EPCMs). State mineral R&D (Cetem) weak, with little cap goods development. Most minerals consumables locally produced but by foreign companies (tech development offshore). Likewise most services are locally available. The national mineral strategy emphasizes value addition but contains little on backward linkages |

**Note for SIMS** Like, SA, Brazil appears to have concentrated on forward linkages at the expense of higher impact
<table>
<thead>
<tr>
<th>Backward linkages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forward linkages (FL)</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
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<tr>
<td>Note for SIMS</td>
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<tr>
<td>Knowledge linkages</td>
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<tr>
<td>Note for SIMS</td>
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<tr>
<td>Spatial linkages</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Other</td>
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</table>
but the state retained control through special class preferred shares (Golden Shares) and by using a combination of pyramids and ordinary (voting) & preference shares. State pension funds have a majority interest in Valepar which holds a majority of the voting shares in Vale. This control has been used to get Vale to use its producer power to encourage customers to locate value addition plants (FL) in Brazil and was reportedly used to exit the last CEO for not pushing value addition more aggressively.

Note for SIMS
Similar ownership structures could be used for regaining influence over SA’s critical feedstock producers (steel, polymers, fertilizers, etc.), via state ownership of the mineral resources. Also, to maximize VA (FL) through producer power (e.g. PGMs)

Vale controlling shareholding:  “Major shareholders: Valepar is Vale’s controlling shareholder. Valepar is a special-purpose company organized under the laws of Brazil that was incorporated for the sole purpose of holding an interest in Vale. Valepar does not have any other business activity. Valepar acquired its controlling stake in Vale from the Brazilian government in 1997 as part of the first stage of Vale’s privatization. The following table sets forth information regarding ownership of Vale shares as of March 31, 2011 by the shareholders we know beneficially own more than 5% of any class of our outstanding capital stock, and by our directors and executive officers as a group.”


<table>
<thead>
<tr>
<th>VALE SA</th>
<th>Common shares owned</th>
<th>% of class</th>
<th>Preferred shares owned</th>
<th>% of class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valepar(1)</td>
<td>1,716,435,045</td>
<td>52.7%</td>
<td>20,340,000</td>
<td>1.0%</td>
</tr>
<tr>
<td>BNDESPAR(2)</td>
<td>218,386,481</td>
<td>6.7%</td>
<td>69,432,770</td>
<td>3.3%</td>
</tr>
<tr>
<td>Directors and executive officers</td>
<td>257,294</td>
<td>&lt;1.0%</td>
<td>1,145,338</td>
<td>&lt;1.0%</td>
</tr>
</tbody>
</table>

(1) See the following tables for information about Valepar’s shareholders. (2) BNDESPAR is a wholly owned subsidiary of BNDES. The figures do not include common shares beneficially (as opposed to directly) owned by BNDESPAR.

<table>
<thead>
<tr>
<th>Litel Participações S.A. shareholders(1)</th>
<th>Common shares owned</th>
<th>% of class</th>
</tr>
</thead>
<tbody>
<tr>
<td>BB Carteira Ativa</td>
<td>193,740,121</td>
<td>78.40%</td>
</tr>
<tr>
<td>Carteira Ativa II</td>
<td>53,387,982</td>
<td>21.60%</td>
</tr>
<tr>
<td>Caixa de Previdência dos Funcionários do Banco do Brasil</td>
<td>19</td>
<td>-</td>
</tr>
<tr>
<td>Others</td>
<td>219</td>
<td>-</td>
</tr>
<tr>
<td>Directors and executive officers as a group</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>247,128,345</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

(1) Each of BB Carteira Ativa and Carteira Ativa II is a Brazilian investment fund. BB Carteira Ativa is 100.00% owned by Caixa de Previdência dos Funcionários do Banco do Brasil (“Previ”). Carteira Ativa II is 59.36% owned by Funcef, 35.81% owned by Petros and 4.84% owned by Fundação Cesp. Each of Previ, Petros, Funcef and Fundação Cesp is a Brazilian pension fund.

The special class preferred shares, *Golden Shares*, must be the property of the country. The holder of the special class preferred shares has the same rights (including with respect to voting and dividend preference) as holders of preferred class A shares. In addition, the holder of the golden shares is entitled to veto any proposed action relative to the following matters:

1. A change in our name;
2. A change in the location of our head office;
3. A change in our corporate purpose as regards the mining activities;
4. Any liquidation of our company;
5. Any disposal or winding up of activities of any one or more of the following stages of our iron ore mining integrated systems:
   - Mineral deposits, ore deposits, mines;
   - Railways;
   - Ports and maritime terminals;
6. Any change in the rights assigned to the species and classes of the shares issued by us;
7. Any change in the rights assigned by our Bylaws to the special class preferred shares.

## 4. CHILE

<table>
<thead>
<tr>
<th>Aspect/Linkage</th>
<th>Developmental Elements</th>
<th>Findings</th>
</tr>
</thead>
</table>
| **Asset management** | Geo-survey (geo-mapping)  
Mineral rights concessioning (expl/mining)  
Mineral rights admin (regulations) | Servicio National de Geología y Minería de Chile. M$ 21,172,039 (~USD40mn) ~USD2.3/cap. Government is the major player in terms of geo-surveys and mineral rights concessioning – provided for periods of ten years each. Up to the mid/late 1960s, transnational corporations, mainly US, dominated. In 1971/72 – nationalization. Now 1/3 state, and 2/3 private. Copper dominates – 45% of exports; 20% of GDP; 20% of tax receipts |
| **Fiscal linkages** | Royalties, CIT, RRT, Skills levy, etc.: capture & deployment | a) Foreign Investment Agreement allows foreign investors to choose between 2 tax regimes: Invariable 42% Total Effective Tax Rate. Income Tax: General Corporate tax rate: 17%. 35% profit remittance tax, to which the 17% Corporate tax rate is credited. Specific Mining Tax (Royalty) Law 20.026: Calculated on Operational Margins - Mining companies with sales below 12,000 MT are exempt from paying; Mining companies with sales between 12,000 & 50,000 MT pay a progressive tax ranging from 0,5% to 5%; Mining companies with sales above 50,000 MT pay between 5% fixed tax rate; b) Royalties based on “operating surplus” – 4-10%; c) Small concession tax New mining tax regime (2012) from 5% to 14%. Tax rates to be applied within 12 tranches depending on operational margin levels. |
| **SWF** | 2006: Pension Reserve Fund (PRF) - established to finance part of future pension payments, derived from the State guarantee to satisfy basic pensions. Managed by the Chilean Central Bank (2010 US$ 3.7 bn). 2007: Economic and Social Stabilization Fund (ESSF)- to finance fiscal deficits and treasury debt (fiscal stabilization). Managed by Central Bank (2010 US$ 11 bn). 2007: Reduction of Structural Surplus rule to 0.5% of GDP. 2010: Reduction of Structural Surplus rule to 0% of GDP |
| **Backward linkages** | Capital goods (tech); Services; Consumables | Very few BLs – poorly developed. |
| **Forward linkages** | Beneficiation: mineral feedstocks:  
Manufacturing (Fe/steel, Cu, polymers) | Very little beneficiation of copper – some undertaken by ENAMI. |
<p>| Energy (HCs, coal, U) | Infrastructure (Fe/steel, cement, Cu) |</p>
<table>
<thead>
<tr>
<th>Agriculture (NPK, conditioners)</th>
<th>Beneficiation: Producer power: PGM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge linkages</strong></td>
<td><strong>Spatial linkages</strong></td>
</tr>
<tr>
<td>HRD: basic, 2ndary, tertiary</td>
<td>Infrastructure: Rail/road; Ports; Power &amp; ICT; Water; LED</td>
</tr>
<tr>
<td>R&amp;D: tech development</td>
<td>Poor infrastructure development in some mining areas because of desert and low population but in other areas significant development in terms of housing, ports, and electricity. Severe electricity constraint- rising tariffs impacting on mining</td>
</tr>
<tr>
<td>Codelco has helped to develop a specialized machinery cluster.</td>
<td>Engineering graduate output appears to be good – 600 annually at UC, 4000 nationally. State and mining companies support universities. 60-70% of R&amp;D undertaken by govt., mainly through Codelco but investment still low at 0.4% of GDP.</td>
</tr>
</tbody>
</table>
### Selected Products (Tonnes)

<table>
<thead>
<tr>
<th>Metal Mining</th>
<th>2009 Production</th>
<th>World Ranking</th>
<th>Share Global Production</th>
<th>% Global Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>5,349,099</td>
<td>1°</td>
<td>34%</td>
<td>30%</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>37,186</td>
<td>3°</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>Rhenium</td>
<td>25,0</td>
<td>1°</td>
<td>52%</td>
<td>52%</td>
</tr>
<tr>
<td>Silver</td>
<td>1,276</td>
<td>7°</td>
<td>6%</td>
<td>s/i.</td>
</tr>
<tr>
<td>Gold</td>
<td>38,4</td>
<td>18°</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>Industrial Minerals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Nitrates*</td>
<td>1,048,706</td>
<td>1°</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Lithium Carbonate</td>
<td>8,800</td>
<td>1°</td>
<td>35%</td>
<td>58%</td>
</tr>
<tr>
<td>Iodine</td>
<td>18,000</td>
<td>1°</td>
<td>62%</td>
<td>60%</td>
</tr>
</tbody>
</table>

### Chile: Mineral taxes paid

Source: Codelco 2011 (Enrique Silva, Chief Economist, Presentacion Sudafrica)

(1) Large-Scale Copper Mining corresponds to Total Payment of Income Tax of the 10 biggest private copper mining companies. Source: Budget Department.
Codelco Board

<table>
<thead>
<tr>
<th>Structure</th>
<th>Decree Law 1350</th>
<th>New Corporate Governance Law</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 Directors</td>
<td>• Mining Minister (Chairman)</td>
<td>9 Directors</td>
</tr>
<tr>
<td></td>
<td>• Finance Minister.</td>
<td>• 4 directors selected by the Council of Senior Public Management.</td>
</tr>
<tr>
<td></td>
<td>• 2 Representatives of the President of the Republic.</td>
<td>• 3 Representatives of the President of the Republic.</td>
</tr>
<tr>
<td></td>
<td>• 1 Representative of the President of the Republic member of the Armed Forces</td>
<td>• 2 Workers’ Representatives.</td>
</tr>
<tr>
<td></td>
<td>• 2 Union Representatives.</td>
<td></td>
</tr>
<tr>
<td>Term</td>
<td>• Presidential Period.</td>
<td>• 4 years, with partial renewal of its members.</td>
</tr>
<tr>
<td>Roles and</td>
<td>• Set general policies.</td>
<td>• Appoints and dismisses the CEO.</td>
</tr>
<tr>
<td>Responsibilities</td>
<td>• Approval of Investments.</td>
<td>• Approval of the Three Year Business Plan and of Investments.</td>
</tr>
<tr>
<td></td>
<td>• No civil nor criminal responsibilities for their actions.</td>
<td>• Civil and criminal responsibilities for their actions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Faculties established in Corporations Law.</td>
</tr>
</tbody>
</table>
SWFs

Copper Compensation Fund (CCF):

- When the quarterly average of copper price had a difference up to 4 c/lb with the projected annual average (set together with the World Bank) the Fund did not operate.
- If the average copper price of the quarter had a difference between 4 and 10 c/lb with the projected annual average, 50% of the difference (discounting the 4 c/lb) was saved or spent, depending if it was higher or lower than the annual average.
- If the average copper price of the quarter had a difference greater than 10 c/lb with the annual average, 50% of the difference between 4 and 10 c/lb and a 100% of the difference greater than 10 c/lb was saved or spent, depending on if it was higher or lower than the annual average.

Structural Balance Policy:

- As of 2001, Chilean fiscal policy had been based on the notion that a structural surplus in the balance of the Central Government was required. This structural surplus, which reflects the medium term position of the Treasury, was the targeted policy despite of the actual short term result in Government accounts.
- The structural balance reflects the financial result that the Central Government would have had in any given year, if GDP had its trend level and at the same time copper and molybdenum prices were at forecasted medium term levels.
- Since 2002, a Panel of Experts estimates annually a Trend GDP Growth Profile for the Chilean economy (2010 estimate: 4.8% for 2011 and 5% for 2012-2015). At the same time, an Advisory Committee determines a Reference Copper Price (2010 estimate: 259 c/lb for the period 2011-2020 (2011 currency)). From these estimations, a Structural Balance for the Public Sector is set.

Pension Reserve Fund (PRF): The PRF increases every year in a range between 0.2% and 0.5% of previous year GDP. This accumulation rule assures fresh resources for the Fund, independent of the current fiscal position.

Economic and Social Stabilization Fund (ESSF): Every year, the ESSF receives the effective fiscal surplus after the contribution to the Pension Reserve Fund.
## 5. VENEZUELA

<table>
<thead>
<tr>
<th>Aspect/Linkage</th>
<th>Developmental Elements</th>
<th>Findings</th>
</tr>
</thead>
</table>
| **Asset management** | Geo-survey (geo-mapping)  
Mineral rights concessioning (expl/mining) -  
Mineral rights admin (regulations) | Government is the major (in fact the only) player in terms of geo-surveying, concessioning and administering mineral rights. The Mining Act sets out the details in this regard. V is decentralized with 23 provincial governments which own the rights to non-metallic minerals and the national government the rest.  
1970s – 1990 – iron ore was nationalized. Majority national ownership of all other mines.  
1990/91: Majority government ownership removed. Foreign companies can own 51%. CIT reduced from 60% to 30%. |
| **Fiscal linkages** | Royalties, CIT, RRT, Skills levy, etc.:  
- capture & deployment | a) CIT now 34%  
b) Royalties 3% of revenue  
c) Taxes on turn-over: Anti-drugs ¾-1% of GR; Science and Technology: 0.5% of GR  
d) Profits can be repatriated in theory but difficult in practice because of exchange control |
| **Backward linkages** |  
- Capital goods (tech)  
- Services  
- Consumables | Produces some locally but most imported. |
| **Forward linkages** | Beneficiation: mineral feedstocks:  
- Manufacturing (Fe/steel, Cu, polymers)  
- Energy (HCs, coal, U)  
- Infrastructure (Fe/steel, cement, Cu)  
- Agriculture (NPK, conditioners)  
Beneficiation: Producer power : PGM | Some nickel and iron ore but in general very little B. |
| **Knowledge linkages** | HRD: basic, 2ndary, tertiary  
R&D: tech development | Quality of education in general appears to be in serious decline. |
| **Spatial linkages** | Infrastructure  
- Rail/road  
- Ports  
- Power & ICT  
- Water  
- LED | Education, health, infrastructure, small business development – required in Mining Title |
“Venezuela was the world's largest producer of direct-reduced iron, and ranked in the top ten in the production of bauxite, alumina, and primary aluminium. In Latin America, Venezuela ranked second in iron ore and aluminium, behind Brazil, third in bauxite, alumina, and phosphate rock, and fourth in cement and steel. Other principal commodities were diamonds, ferroalloys, and gold. The top three industries in 2002 were petroleum, which contributed 27.5% of GDP, iron ore mining, and construction materials, followed by steel and aluminum manufacturing. The top export commodities were petroleum (which accounted for 72.5% of exports), bauxite, alumina, steel, and chemicals. Mining output increased by 8.3% in 2000, and contributed less than 1% of GDP. Output of iron ore and concentrate, from the Cerro San Isidro (Los Barrancos) and Las Pailas (Bolivar) deposits, was 17.35 million tons in 2000, down from 18.5 million tons in 1997; annual capacity was 25 million tons. Direct-reduced iron output was 6.4 million tons. Iron ore production peaked in 1974, at 26.4 million tons, and bottomed out in 1983, at 9.4 million tons. In 1987–91, production averaged 19.34 million tons per year, ranking Venezuela tenth in the world. The steel sector continued to be effected by a decline in the Venezuelan construction industry, low international prices because of excess supply, and the worldwide recession. Iron mining was developed mainly by the Orinoco Mining Co., a subsidiary of US Steel, and by Iron Mines of Venezuela, a subsidiary of Bethlehem Steel. The industry was nationalized in 1975, and was controlled by the state enterprise C.V.G. Ferrominera Orinoco C.A. Bauxite production, from Los Pijiguajos mine (Bolivar), was 4.36 million tons in 2000, and was used entirely in the domestic production of alumina; the mine's capacity was 6 million tons per year, and deposits of high-grade bauxite totaled 300 million tons. Alumina output was 1.76 million tons.

Gold mine output (metal content) in 2000 was 7,332 kg, down from 22,322 in 1997; capacity was 9,000 kg per year. Gold Reserve Inc. made a proposal to the government to combine projects, to create the second-largest gold mine in Latin America and the world's sixth largest, with an envisioned capacity of 40 tons per year of gold and 57,730 tons per year of copper. Crystallex International Corporation made a pair of acquisitions (including a mine, a mill, and a property), and planned to restart operations in 2001 of an underground mine it operated from 1994 to 1998. Crystallex's legal battle over rights to the Las Cristinas 4 and 6 concessions, the most anticipated project in Venezuela in the last decade, resulted in a write-off of the investment, as the project was deemed not viable. Gold, the first metal found in Venezuela, reached its production peak in 1890, and was exported until 1950.

Gem diamond output was 65,000 carats, down from 199,564 in 1997, and industrial diamond output was 44,600 carats, down from 84,644 in 1997. Diamonds have been mined since about 1930, in the Gran Sabana region (Bolivar). Diamond production increased by 468,200 carats in 1974, to reach 1,249,000. Production of hydraulic cement was 8.6 million tons in 2000, up from 7.56 million tons in 1996; Venezuela was a net exporter of cement, and had an annual capacity of more than 10 million tons. Other minerals extracted were nickel, clays (including kaolin), feldspar, gypsum, lime, nitrogen, phosphate rock, salt (a government monopoly), sand and gravel, silica sand, stone (dolomite, granite, and limestone), and sulfur. Construction of the Minera Loma de Niquel, C.A., open-pit mine and ferronickel plant (on the boundary of Aragua and Miranda) was completed in 2000; it produced 2,472 tons of contained nickel the rest of the year, and was expected to produce 17,500 tons per year of contained nickel in ferronickel for 30 years, from reserves of 42.4 million tons (1.48% nickel). No amphibolite was produced in 1998–2000. Minerals known to exist but not exploited were...
manganese (with deposits of several million tons), mercury, magnesite, cobalt, mica, cyanite, and radioactive materials. The mining law of 1999, replacing that of 1945, established the rules for all mines and minerals (except hydrocarbons and some industrial minerals not found in government lands). The country’s mineral resources belonged to the nation, and mining was permitted only through direct participation of government, concessions, and production authorization to the small mining sector, mining cooperatives, and artisanal miners. The private sector participated in the production of nonfuel minerals; however, government companies controlled a great portion of the production of bauxite, alumina, aluminum, diamond, gold, and iron ore.” (http://www.nationsencyclopedia.com)
<table>
<thead>
<tr>
<th>Aspect/Linkage</th>
<th>Developmental Elements</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset management</td>
<td>Geo-survey (geo-mapping) Min. rights concessioning (expl/mining) - Mineral rights admin (regulations)</td>
<td>The GSD appears to be competent but could be expanded, given the size of Namibia. All mineral rights are vested in the state, through the Ministry of Mines and Energy (MME) which is the sole regulatory agency for exploration and mining in the country. This is done through the Minerals (Prospecting and Mining) Act of 1992. MME has all data on Geo-Surveys which is provided to the private companies. The government is involved in diamond mining through Namdeb, a 50:50 joint venture created in 1994 between the government of Namibia and De Beers. The same is now true with De beers Marine. Namibia Diamond Trading Company (NDTC) is government owned and sells the diamonds from Namdeb. Besides diamond mining, the Namibian government is also involved in the mining of uranium. This is through its 3% shareholding in Rössing Uranium which produces uranium oxide. In 2009 EPANGELO, State owned company, was formed and the current discussions are that they should hold all licences and use these as negotiating instruments with new private mines. They will hold new and expired or dormant licences but will not interfere with existing licences. It is going to be financed by the finance departments in the short run and by part of royalties till it can sustain itself. Its profits will mainly go into the finance department. In oil, also have Namcor which was importing 50% on the oil but had had to spot temporarily due to logistics.</td>
</tr>
<tr>
<td>Fiscal linkages</td>
<td>Royalties, CIT, RRT, Skills levy, etc.: capture &amp; deployment</td>
<td>a) Most mining companies pay between 25% and 40% CIT, BUT diamond mines are taxed at 55%. b) A royalty of between 2% and 5% on non-diamond mining and 10% on diamonds. c) No variable profit taxes (RRT). d) Withholding taxes exist but not fully defined. e) No export duties. f) Namibia mining sector contributes on average 16% to GDP and about 505 to foreign currency earnings.</td>
</tr>
<tr>
<td>Backward linkages</td>
<td>Capital goods (tech) Services Consumables</td>
<td>The manufacturing industry is not developed.</td>
</tr>
<tr>
<td>Forward linkages</td>
<td>Beneficiation: mineral feedstocks: Manufacturing (Fe/steel, Cu,</td>
<td>Very little beneficiation but (NDTC) sells a fraction of the diamonds locally for local beneficiation.</td>
</tr>
</tbody>
</table>

1 see Table 2 Below
<table>
<thead>
<tr>
<th>Industry sector is essentially non-existent in Namibia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymers)</td>
</tr>
<tr>
<td>- Energy (HCs, coal, U)</td>
</tr>
<tr>
<td>- Infrastructure (Fe/steel, cement, Cu)</td>
</tr>
<tr>
<td>- Agriculture (NPK, conditioners)</td>
</tr>
<tr>
<td>Beneficiation: Producer power : PGM</td>
</tr>
</tbody>
</table>

### Knowledge linkages

| HRD: basic, 2ndary, tertiary |
| R&D: tech development |
| Training by private companies is ad hoc as there is no legislation. |
| Currently most training is done by Namdeb |
| A private company best known for training is Rössing |
| There are discussions for instituting a skills levy in the near future |
| There are serious skills shortages in the mining sector currently |

### Spatial linkages

| Infrastructure |
| Rail/road |
| Ports |
| Power & ICT |
| Water |
| LED |
| Infrastructure support comes essentially from the government |

### Other

| SMC |
| 1. Chamber thinks mines taxes are too high, especially for diamonds |
| 2. Government thinks there is an element of cost inflating so as to pay less taxes as well as some transfer pricing |
| 3. Government thinks the mining sector is not doing enough for the economy and it is time it became more active |
| 4. Poor state capacity to regulate private producers especially when it comes to accounting, including within Namdeb where government, although an equal partner, is not involved in the day to day running of the company and simply receives reports and dividends. |

### Other points

Namibia gained independence in 1990. Namibia is among the ten largest exporters of diamonds and is the world’s fourth largest producer of uranium. Main minerals are diamonds, gold, uranium, zinc, copper and lead. In Namibia the Swapo Party Youth League secretary for economic affairs, Veikko Nekundi has warned mining companies that they risk paying more taxes if they don’t add value to minerals before exporting them. Nekundi said this at a stakeholder workshop organised by the Chamber of Mines.
of Namibia to discuss benefits of the mining industry to the country. He said: "It should be noted that no mineral is consumed as a final product without value addition, therefore, Namibian mining companies dealing with uranium, copper, manganese and gold can still add value on their mined commodities. Either that or pay more taxes." STATE-OWNED Epangelo Mining Company has clinched a ten per cent stake in a uranium venture after signing its first partnership agreement with a foreign investor. Namibia Rare Earths (NRE), listed on the Toronto Stock Exchange, and Epangelo signed a memorandum of understanding (MoU) to explore for and mine uranium at NRE's Lofdal project in the Kunene Region. The Labour Investment Holdings (LIH), the business arm of the National Union of Namibian Workers (NUNW), has paid N$7.2 million for a 2.5 per cent stake in Ongopolo Mining, a subsidiary of Weatherly International. "This move is part of our long-term strategy promoting Namibian ownership in the mining industry," LIH chief executive officer, Jacqueline Prince, said in a statement.

Visit discussion notes
Namibia Diamond Trading Company: New company established in 2005 now 50/50 with the government, DEBEERS company does day to day running. The government does not play an active role in the day to day running, acts as a shareholder. NAMDEP: is licence holder together with government 50/50. NAMDEP Diamonds Corporation pays 55% company tax and 10% royalty. Capital is solely provided by DEBEERS Skills shortage is a major problem. Ministry of mines: The Mineral rights are vested in the state and the industry is mainly regulated by the Minerals (Prospecting and Mining) Act of 1992. There are two state owned mines, Namcor related to Sasol whom in the past was responsible for acquiring 50% of all petroleum and the private companies acquired the remaining 50%. The other state owned mine (in hard minerals) is a newly formed company called EPANGELO.

Namcor: Is mandated by the government to advise ministry on explorations and production of oil and acts essentially as a parastatal. Used to import oil from international but ran into problems so temporarily has stopped and 100% now being imported by the private sector. Namcor stores data that are used by government as well as private companies. The private companies negotiate for a licence, Namcor may have shares in order for the indigenous people to benefit, however, 3 years ago this was changed and is now the EPANGELO establishment. Government still has to make this into law, however law can’t apply retrospectively, it will be about the expiring of licences and acquiring of future licences. Government has recently decided that some minerals are strategic, e.g. diamond, uranium, copper, hence they should be in the hands of the government. Private sector has resisted this move, but government is determined as they want to gain access into the mining sector. Problem at the moment is most licences in good areas are issued without government or indigenous people’s involvement. Hence the reason why the legislation is in the process of changing. 50/50 of NAMDEP is a possible model but ministry think it’s only 50/50 on paper, in reality DEBEERS gets a lot more than 50%. Government cannot just continue to be a rent seeker, it has to be a partner in the mining sector. Government has supplied data on geophysical and has provided infrastructure to the private sectors, they should thus allow for government to acquire shares cheaper than private companies.

3 allAfrica.com. The Namibian "Namibia: Epangelo in First Venture, Claims 10 Per Cent Stake" 27/09-2011
4 allAfrica.com. The Namibian “Namibia: Union Buys Stake in Ongopolo Mining” 30/09-2011
Tax: Many private companies do not pay taxes and ask to be exempt due to lack of profits. Diamond is 55%, all others average of 37.5%, then royalties on top charged as: diamond 10%; marble and granite 5%; Uranium 6%, precious metals cooper 3%; other, semi precious, salt limestone etc 2%

Table 2: Summary of fiscal regime in Namibia

<table>
<thead>
<tr>
<th>Tax payable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral Royalty Rates</td>
</tr>
<tr>
<td>Diamond mining 10%; Rossing Uranium 6%</td>
</tr>
<tr>
<td>Dimension Stone 5% on all unprocessed stone blocks</td>
</tr>
<tr>
<td>Precious stones, base and rare' nuclear fuel minerals 3%</td>
</tr>
<tr>
<td>Semi precious stones, industrial and non nuclear fuel minerals 2%</td>
</tr>
<tr>
<td>Corporate Income Tax</td>
</tr>
<tr>
<td>Diamond Mining 55%; Other Minerals 37.5%; Non mining activities 40%</td>
</tr>
<tr>
<td>Dividend Withholding Tax</td>
</tr>
<tr>
<td>Dividends 10% paid to non residents and certain foreign residents</td>
</tr>
<tr>
<td>Royalties: 10.5% on distribution to non residents</td>
</tr>
<tr>
<td>Import duty</td>
</tr>
<tr>
<td>Uplift 10%, subject to SACU standards</td>
</tr>
<tr>
<td>Value Added Tax</td>
</tr>
<tr>
<td>15%</td>
</tr>
</tbody>
</table>


In terms of beneficiation NAMDEP sells to local companies for beneficiation. In the past all diamonds went to London for beneficiation. This is done via NDTC. The aim is for government to do the same in the other state owned enterprises. One main problem is that there is no developed local processing industries and government wants to see this being rectified.

Chamber of mines:
There has been fairly good cooperation between the chamber of mines and the government. But, from time to time the government acts without consulting the chamber of mines. e.g. on decision about royalties, this was simply announced and there was no prior warning. The Chamber of mines is not opposed to royalties, but needs to be included in debate. The chamber of mines has the same aim as government, namely, to grow the sector. So there should be some form of trust and partnership. The average tax rate of 37.5% including royalties, make Namibia among the highest in the world. The chamber of mines has brought more business than the government so it deserves to be taken seriously. Another unfortunate incident was the announcement, 4 months ago by the youth league that Namibia was going to nationalize. Again government had made pronouncements that had not been checked or discussed with The Chamber of mines. Then there was announcement of EPANGELO and this did not go down well with the chamber of mines either. There was a direct reduction on investment after this, esp. in Uranium. Thus lack of government consultation and untruthfulness is a problem. Government later assured the chamber of mines that government will buy but at the same time there is a review of the law which may lead government to be sole owner of all minerals.

Currently, since opening in 2009 EPANGELO are a free carry, the private sector needs to go to them to negotiate. The chamber of mines have instituted their own study to see how this would affect the economy and so far it looks like it will reduce investment. They understand the company will not be prospecting at all and this will discourage
private sector. Investment climate has been very good since independence and to try and change this would not benefit the nation. The chamber of mines gives 5% of its profits to health, education environment. This is saved in a trust that then gets distributed. An additional 500 thousand is also put into this trust whether profits are made or not, as support. They are also involved in the training of engineers. The chamber of mines recommends that government might want to consider going into very successful mining companies as partners and not try to be miners themselves. However, government has to be willing to also invest in the mines. Government can then set a block of some of these shares for BEE benefit.

**EPANGELO:** (Meaning of the word EPANGELO is GVT.): Before independence black government always wanted to have a mining company. In 2007 with economic downturn lots of mining house were struggling and needed government help. Since independence only 2 mines have been opened for copper and uranium hence government decision to open a mining company. It will be a competitor as well as have some privileges. EPANGELO claim they have money to put into mining, the plan is that in next 3 years they will grow the company and as the company grows they will have money to put in, but in meantime they will rely on the government for funding. Funding will come from fiscus, pension fund investments, some from royalties on mining. Dormant licences will also go to EPANGELO together with all exploration licences. Existing licences will not be affected, only new and expired ones. There is a huge competition for skills. Private sector has not trained much in terms of mining engineers. Currently EPANGELO has a two pronged approach, in the very short run to buy shares and then in the medium to longer term build capacity to do exploration. In terms of beneficiation, this is EPANGELO’s third phase, in the long run to encourage beneficiation as well as form companies to do this on behalf of the government. The profits will go to the fiscus and maybe a portion will be retained for re-investment. This company will be set up as a private company and so should work towards making profits. So far there are no business ventures as yet, it’s still in negotiation with the private sector. They are working on a four quadrant approach in terms of penetrating the mining sector as well as dealing with existing and future private companies.

### Namibia Programme

<table>
<thead>
<tr>
<th>Date</th>
<th>Person</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, 18 July 2011</td>
<td>Namibia Diamond Trading Company</td>
<td>Paulus Shituna, Managing Director</td>
</tr>
<tr>
<td></td>
<td>DE BEERS Marine Namibia</td>
<td>Mr Richard Gray, Mineral Resources Manager</td>
</tr>
<tr>
<td></td>
<td>Namdeb Diamond Corporation</td>
<td>Ms Libetha Kapere, Company Secretary</td>
</tr>
<tr>
<td></td>
<td>Ministry of Mines and Energy</td>
<td>Mr Erasmus I Shivolo, Mining Commissioner, director</td>
</tr>
<tr>
<td></td>
<td>The Chamber of Mines of Namibia</td>
<td>Mr Mark Dawe, Mr Veston Malango Dr R Gerstenberg, Managing Director, General Manager, Director, Okorusu Fluorspar</td>
</tr>
<tr>
<td>Tuesday, 19 July 2011</td>
<td>Epangelo Mining Company</td>
<td>Mr Eliphas Hawala, Managing Director</td>
</tr>
<tr>
<td></td>
<td>Ministry of Finance</td>
<td>Ms Ericah Shafudah, Mr Festus Nghifenwa, Permanent Secretary, Director</td>
</tr>
<tr>
<td>Aspect/Linkage</td>
<td>Developmental Elements</td>
<td>Findings</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Asset management</td>
<td>Geo-survey (geo-mapping)</td>
<td>Ministry of Mines responsibility – recently spent $2m</td>
</tr>
<tr>
<td></td>
<td>Mineral rights concessioning (expl/mining) -</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mineral rights admin (regulations)</td>
<td>ZCCM moved from being mining company to an ‘investment vehicle’ – 80% state-owned. Owns shares in a number of mines. Governed by Mining Act – private mining dominates now</td>
</tr>
<tr>
<td>Fiscal linkages</td>
<td>Royalties, CIT, RRT, Skills levy, etc.:</td>
<td>a) Capital gains tax on undeveloped mines</td>
</tr>
<tr>
<td></td>
<td>● capture &amp; deployment</td>
<td>b) Royalties 3-5% of revenue</td>
</tr>
<tr>
<td></td>
<td>SWF?</td>
<td>c) CIT 30% (general CIT 35%) – mining contributes 50% of total CIT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Variable profit tax based on gross sales</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e) No withholding tax</td>
</tr>
<tr>
<td></td>
<td></td>
<td>f) No export duties</td>
</tr>
<tr>
<td>Backward linkages</td>
<td>● Capital goods (tech)</td>
<td>Very few, if any, capital goods locally manufactured.</td>
</tr>
<tr>
<td></td>
<td>● Services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Consumables</td>
<td></td>
</tr>
<tr>
<td>Forward linkages</td>
<td>Beneficiation: mineral feedstocks:</td>
<td>Very little beneficiation – 5% copper at most.</td>
</tr>
<tr>
<td></td>
<td>● Manufacturing (Fe/steel, Cu, polymers)</td>
<td>Multi-facility export zones are being developed – three in Lusaka; one in Copperbelt.</td>
</tr>
<tr>
<td></td>
<td>● Energy (HCs, coal, U)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Infrastructure (Fe/steel, cement, Cu)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Agriculture (NPK, conditioners)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beneficiation: Producer power: PGM</td>
<td></td>
</tr>
<tr>
<td>Knowledge linkages</td>
<td>HRD: basic, 2ndary, tertiary R&amp;D: tech development</td>
<td>Lack of training and HRD under nationalization. Exodus of miners. UZ, School of Mining making some progress.</td>
</tr>
<tr>
<td>Other</td>
<td>SMC</td>
<td>Residual state holding by ZCCM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. State control and decline – lack of HRs; lack of recapitalization and FDI; slump in copper price</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Employment in mining fallen from 40 000 in 2007 to 32 000 in 2009 – significant proportion is sub-contracted labour</td>
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<td></td>
<td></td>
<td>3. General view is that mines are under-taxed.</td>
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<td></td>
<td></td>
<td>4. Poor state capacity to regulate private producers</td>
</tr>
</tbody>
</table>
### 7. Norway

<table>
<thead>
<tr>
<th>Aspect/Linkage</th>
<th>Developmental Elements</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset management</td>
<td>Geo-survey (geo-mapping) Mineral rights concessioning (expl/mining) - Mineral rights admin (regs)</td>
<td>Norway has a good geological potential, good mining legislation with good access to the land, Excellent geological survey with older geological reports and cores, excellent workforce, long coastline and may very well be a safe provider of minerals to European markets. NGU is a government agency under the Ministry of Trade and Industry (NHD). In 2008, NGU had a turnover of NOK 208 million, of which NOK 140 million was awarded through the state budget via NHD. The remainder was financed externally through co-financing projects and fully financed projects. Geological mapping of Norway’s onshore and offshore areas. NGU has 225 employees, of which approximately 65% are scientific personnel. Exploration Expenditure: 20.0 MEUR 2010, 6.53 MEUR 2009, 25 MEUR 2011 (forecast). Norway was earlier regarded (by outside world view) as a relatively difficult country to start new mines in with regard to state owned minerals. (base metals) -Especially in Sami (indigenous people) areas. In Norway today there is a far more balanced and positive view of mining. In reality the main obstacles are the Planning and Building Act and the Pollution Control Act. There were restrictions for exploration companies outside EEA (European Economic Area) until mid 90’s. Today several foreign exploration companies are active: Northern Iron, Severstal, Blackstone Ventures, Drake Resources, Boliden, Sotkamo Silver, Arctic Gold. Acquisition: Exploration license gives the holder the right to explore – and the sole right to apply for an exploitation (mining) license. The exploration license also gives the holder access to the land, regardless of ownership (with the exception of farmed land, infrastructure and buildings amongst other). The holder of the exploration license may undertake works (without landowners consent) as long as this doesn’t damage the land severely. A mining (exploitation) license grants the holder exclusive right to mine the deposit, if the land use decisions are obtained. Mining concession: The holder of the exploitation license must submit documentation on his/hers ability to mine the deposit, ability to run the operation and ability to finance the operation. If the holder is not granted a concession to mine, he may still sell it or join in partnership with a third party with greater capacity to mine the deposit.</td>
</tr>
<tr>
<td>Fiscal linkages</td>
<td>Royalties, CIT, RRT, Skills levy, etc.: • capture &amp; deployment (SWF?)</td>
<td>Exploration permit cost = 1 000 NOK/ site. Extraction permits: 10 000 NOK/ site. Operating license: 10 000 NOK/ site. Test extraction: 5000 NOK/ site. To keep exploration permits a fee for each commenced 10 000 m2 must be paid: 10 NOK 2nd, 3rd year. 30 NOK 4th, 5th. 50 NOK 6th, 7th. (The Minerals Act 2009) Surface fee to landowner: A party that is extracting a deposit of minerals owned by the State shall pay the landowner an annual fee of 0.5 % of the sales value of that which is extracted. (The Minerals Act 2009)</td>
</tr>
</tbody>
</table>

Note for SIMS

*Historic role of SMCs in minerals sector (Norsk Jernverk, Norsk Hydro, Store Norske Spitsbergen Kulkompani)*

*Mining under Ministry of Trade and Industry*
2009 Section 57. Annual landowner fee
Royalty – none,
RRT (50%) for hydrocarbons, but not for minerals
SWF: For hydrocarbons- The world’s largest (Future Fund- State Pension Fund-Global, see end)
Norway: CIT =Statutory tax rate 28.0%. Total tax rate (% profit) 24.4%

<table>
<thead>
<tr>
<th>Backward linkages (BL)</th>
<th>Capital goods (tech)</th>
<th>Services</th>
<th>Consumables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strong oil &amp; gas inputs cluster developed since 70s in Stavanger out of existing shipbuilding and energy expertise, with various state interventions. Mining inputs cluster not as strong.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Note for SIMS | Hydrocarbon inputs strategy 1970s & 80s, and tech strategy OG21 |

<table>
<thead>
<tr>
<th>Forward linkages (FL)</th>
<th>Beneficiation: mineral feedstocks:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Manufacturing (Fe/steel, Cu, polymers)</td>
</tr>
<tr>
<td></td>
<td>Energy (HCs, coal, U)</td>
</tr>
<tr>
<td></td>
<td>Infrastructure (Fe/steel, cement, Cu)</td>
</tr>
<tr>
<td></td>
<td>Agriculture (NPK, conditioners)</td>
</tr>
<tr>
<td></td>
<td>Beneficiation: Producer power:</td>
</tr>
</tbody>
</table>

Norsk Jernverk AS was established 1946 to secure self-sufficiency in steel-making. In early 1960’s Rana Gruber Iron Ore Mines was integrated in Norsk Jernverk. Between 1988-1992 Norsk Jernverk AS was phased out and the business was privatized. Mo Industripark AS was formed to coordinate and develop the infrastructure in Mo Industrial Park. Largest owners today are: Fesil AS, Celsa Armeringsstål AS and ROI Invest AS.

Statoil ASA, (formerly known as Statoil-Hydro is 67% state owned), formed by the 2007 merger of Statoil with the oil and gas division of Norsk Hydro. Comes under Norwegian Ministry of Petroleum and Energy. Statoil producers liquid fuels and petrochems, including polymer feedstocks. Norway is 7th largest oil exporter and 14th largest oil producer in the world.

Power: Statkraft (100% state-owned) is biggest supplier of renewable energy in Europe, mainly hydro power.

Cement: Norcem is the only Norwegian cement producer and was established in 1968 as a merger between three cement factories. In 1999 Heidelberg Cement became the owner of Norcem.

Norsk Hydro (44% State) stated as a fertilizer company in 1907, based on cheap hydro-power. In the 60s it internationalized and in 2004 set up Yarra to handle fertilizer & gas business. Although not an OPEC member, Norway benefits from their supply regulation and has attended OPEC meetings as an observer. Norway has no minerals constituting a majority of global resources or production.

<table>
<thead>
<tr>
<th>Note for SIMS</th>
<th>Used energy comparative advantage (HEP) to build downstream light metals cluster (Al &amp; Mg) and fertilizers (nitrogen)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Used state ownership of oil rights to build upstream oil &amp; gas sector.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge linkages</th>
<th>HRD: basic, 2ndary, tertiary R&amp;D: tech development</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRD of 35 000 graduates in 2008, 15.2% were in science, math and technology (see EU table) which is at the lower end of Nordic states (Sweden 23.7%, Finland 26.8%, Denmark 19.5%)</td>
<td></td>
</tr>
<tr>
<td>In 2008 R&amp;D spend was 1.62% of GDP (1.64% 2007), less than EU avg of 1.75%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spatial linkages</th>
<th>Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail/road</td>
<td>The state Norwegian National Rail Administration (Norwegian: Jernbaneverket) responsible the Norwegian railway network. Several private operators have agreements to access the national railway.</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ports</td>
<td>The transport, power, water &amp; ICT infrastructure is excellent and was established by the state over the last 50y. Generally run by SOEs, though there have been some privatizations. State energy - HEP LED &amp; CSR are strong mainly due to the “welfare” state.</td>
</tr>
<tr>
<td>Power &amp; ICT</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
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<tr>
<td>LED</td>
<td></td>
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</tbody>
</table>

**Other**

| SMC (State Mining Company) | 20 years ago the state owned a great share in ore-mining specifically in iron ore/steel with ownership in Norsk Jernverk/ Rana Gruber and AS Sydvaranger. Norsk Jernverk was privatized in 1988 and AS Sydvaranger 2006, today the state holds no ownership in mineral extraction on the mainland-Norway. Norsk Hydro, today 43.8% state-owned is the world’s fourth largest aluminium producer, and has interests in two bauxite mines in Brazil. In 2010 Norsk Hydro acquired VALE’s aluminium assets to a value of $4.9 billion and VALE received a 22% stake in Norsk Hydro. Norsk Jernverk AS owned the Rana Iron Ore Mines until 1989. Store Norske Spitsbergen Kulkompani A/S (100% state-owned) owns coal mines on Svalbard. |

**State support to mineral linkages**

In the 70s & 80s the Min of Petroleum was vital in building the hydrocarbon linkages, but these levers were removed in the 90s when Norway was considering joining the EU. ‘Innovation Norway’ promotes nationwide industrial development profitable to both business and to Norway’s economy.

- Ministry of Petroleum and Energy’s involvement in petroleum research. PETROMAKS since 2003, about NOK 2 billion spent. DEMO 2000, since 1999 NOK 2.7 billion spent.

**Note for SIMS- SWF (Future Fund)**

The Government Pension Fund - Global (Norwegian: Statens pensjonsfond - Utland, SPU) is a fund into which the surplus wealth produced by Norwegian petroleum income is deposited. As of the valuation in June 2011, it was the largest pension fund in the world. As of 31 December 2010 its total value is NOK 3,077 billion ($525 bn), holding 1 per cent of global equity markets. With 1.78 per cent of European stocks, it is said to be the largest stock owner in Europe.
### 8. China

<table>
<thead>
<tr>
<th>Aspect/Linkage</th>
<th>Developmental Elements</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset management</td>
<td>Geo-survey (geo-mapping)</td>
<td>Under the PRC Constitution mineral resources are vested in the State. All mining enterprises that undertake the exploration and exploitation of mineral resources should, in accordance with mining laws and the relevant regulations, make applications to acquire exploration permits or mining licenses, and pursuant to the relevant regulations, pay royalty to the Chinese Government. According to China’s mining law mineral exploration and exploitation is carried out by State enterprises or Chinese - foreign joint ventures. Changes in the principal mining laws and related laws and regulations, have seen the government trying to encourage foreign exploration within China and exploitation of mineral projects. Relative to the 80s there has also been an increase in the number of non-state owned enterprises. The fundamental economic paradigm in the early stages of the New China were characterized by the adoption of Soviet style central planning which meant that there was no private ownership of resources. State owned mining enterprises were the principal organizations involved in mining mineral resources. Provincial, autonomous regions and municipal governments, in conjunction with the local departments of the Ministry of Land and Resources, were responsible for supervising and administering exploration and mining. By the late 90s, however, collective-owned, private-owned and other ownership enterprises (via Hong Kong, Macao and Taiwan or foreign investment) entered the Chinese mining industry.</td>
</tr>
</tbody>
</table>
| Fiscal linkages      | Royalties, CIT, RRT, Skills levy, etc.: capture & deployment | The Chinese government believes that mining taxation is one of the most important tools for the government of a country to manage and monitor mining activities and to promote the achievement of its objectives in mineral development and economic growth.  
 a) **Enterprise income tax** generally 25%  
 b) **VAT**: Metallic and non metallic mining products 17%; Pretroleum, gas and charcoal for households 13%  
 c) **Export tax** 0%  
 d) **Resource tax** varies for different products, formula is Tax payable = Assessable volume x Unit tax amount (preferential policies on crude oil used for heating or repairing wells in the course of exploiting oil; companies sustaining losses due to accidents, resource tax rate of iron ore in metallurgy mines are adjusted to 60%  
 e) **Mineral Resource Indemnification Fee** is like a property tax paid because the state owns the minerals (this is shared by the central and local governments) Rate is 0.5 to 4% with average of 1.18% The fee is paid by the mineral exploitation rights holder. The fee on gold is different and is between 65% and 78%. There are certain exceptions  
 f) **Prospecting and Exploration Rights Royalties** are paid by mineral prospecting rights holder |
<table>
<thead>
<tr>
<th>Backward linkages</th>
<th>Capital goods (tech)</th>
<th>Services</th>
<th>Consumables</th>
<th>According to a relevant formula - paid square kilometer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Most capital and other equipment for the minerals sector is produced in China. Building materials and nonmetallic minerals is a key backward linkage sector, ranking 3rd and 5th in the unweighted Relative Backward Linkage (RBL) and weighted RBL5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward linkages</td>
<td>Beneficiation: mineral feedstocks: Manufacturing (Fe/steel, Cu, polymers)</td>
<td>Energy (HCs, coal, U)</td>
<td>Infrastructure (Fe/steel, cement, Cu)</td>
<td>Agriculture (NPK, conditioners)</td>
</tr>
<tr>
<td></td>
<td>China hardly exports its minerals, but rather beneficiates them in Chinese manufacturing industry (esp. steel industry). In addition, China imports massive amounts of raw minerals for beneficiation within the country. Mining and quarrying is one of the most important forward linkage sectors. The sector is ranked 1st on the Relative Forward Linkage (RFL) classification and 2nd on the weighted RFL classification5, (among Chinese sectors)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge linkages</td>
<td>HRD: basic, 2ndary, tertiary</td>
<td>R&amp;D: tech development</td>
<td>China has spent and continues to spend enough in HDR and other training that helps in the minerals sector. Education is largely run by the state under the ministry of Education. China increased the number of undergraduates and people with doctoral degrees by fivefold in a period of 10 years from 1985. They do however also train a huge number of geologists every year at university.</td>
<td></td>
</tr>
<tr>
<td>Spatial linkages</td>
<td>Infrastructure Rail/road</td>
<td>Ports</td>
<td>Power &amp; ICT</td>
<td>Water</td>
</tr>
<tr>
<td></td>
<td>Infrastructure support comes essentially from the government although there are some PPP models. Rich mineral resources are believed to contribute to the significant inter-provincial forward linkages and intra-provincial backward linkages of raw material sectors observed in some central and western provinces like Shanxi, Henan and Sichuan7</td>
<td></td>
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</tr>
<tr>
<td>Other</td>
<td>SMC</td>
<td>Almost all mining in PRC is state controlled.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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5 Zhang and Felmingham (2002)
6 Zhang and Felmingham (2002)
7 Zhang and Shi (Undated)
Appendices

Notes

Table 2: Top 6 Rankings of PRC industries: Strength of Backward and Forward Linkages

<table>
<thead>
<tr>
<th>Relative Backward</th>
<th>Relative Forward</th>
<th>Both²: RBL and RFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
</tr>
<tr>
<td>CONST</td>
<td>CONST</td>
<td>MNQR</td>
</tr>
<tr>
<td>CGPR</td>
<td>CGPR</td>
<td>CGPR</td>
</tr>
<tr>
<td>BMNM</td>
<td>AGRi</td>
<td>PSHW</td>
</tr>
<tr>
<td>OTSV</td>
<td>COMCT</td>
<td>CHEM</td>
</tr>
<tr>
<td>PSHW</td>
<td>BMNM</td>
<td>METAL</td>
</tr>
<tr>
<td>METAL</td>
<td>PSHW</td>
<td>TRANTEL</td>
</tr>
</tbody>
</table>

Mining & Quarrying (MNQR); Agriculture, forestry and fishing (AGRI); Food and beverage processing and manufacturing (FOOD); Textile, sewing, leather & fur products (TEXTL); Paper making, educational appliance, repairing (OTMF); Production of power, steam and hot water (PSHW); Coking, gas and petroleum refining (CGPR); Chemical raw material and products, medicine, chemical fibre, rubber and plastic (CHEM); Building materials and non-metallic minerals (BMNM); Metal products (METAL); Machine and equipment (MACH); Building and construction (CONS); transportation, post and telecommunication (TRANTEL); Commerce and catering trade (COMCT); Public utilities and resident services (PURS); Banking and insurance (BANKI); other services: educational, research, scientific, cultural and media (OTSV). ² Both indicates those industries ranked in the top 6 Chinese industries in relation to the unweighted model 1 and weighted model 2. Source: Zhang and Felmingham (2002).

RMG commissioned report gives more details in terms of Chinese ownership and control in the minerals sector. This note serves to give a summary of this.

State control

The mining sector has been the focus of increased government attention in recent years and although the day-to-day issues are handled within the companies, government approval is still needed for major, strategic, long-term decisions. There are no indications that this situation will change in the near future, mainly because the metal supply issues are considered too important by the government in relation to the overall development of the economy and the country. The commercial objectives and profit goals of the companies will not always be in line with the government’s political agenda and these differences will probably deepen with time.
The Chinese mining sector is still largely under state control whether by central government or by regional or local authorities. The rapid growth of mineral production in China can probably be explained by the unique combination of a culture of central planning with the dynamic forces created by the market economic approach of each enterprise. The industry structure is fragmented with, by international standards very small operations, and the cost of production is relatively high.

In the early 2000s Chinese economic growth advanced so fast and the economy reached such a size that domestic mineral supplies were not sufficient to support the current and projected growth in demand. It became necessary to look for new resources abroad and to make the exploitation of domestic resources more effective and less wasteful. A new “two pronged” mineral supply policy was adopted: (i) intensify and improve the use of domestic resources and (ii) acquire control over foreign resources. The first goal is to be reached through a host of measures ranging from increased exploration expenditures to improving the utilization of existing resources in all steps of the process chain from mining to recycling. The second leg implies a change from imports of ores and metals to direct investments in and ownership of overseas mines.

Partial privatization of existing Chinese mining companies forms part of this policy and supports its long term success. Partial privatization was chosen because full privatization was perceived as a potential threat to national security. The partial privatization model has several important advantages such as: immediate cash injections; restructuring and rationalization of the company structure and organization before the company could be offered to new investors; incentives to motivate and reward management in new ways; and in case foreign investors were brought in, the company could gain technological and managerial experiences, in particular in regard to operating abroad. The lack of foreign experience was perhaps the most important hindrance for a smooth and quick expansion of Chinese foreign mining activities.

The structure of the Chinese mining industry has started to change and with it the influence of the state on the mining companies. The number of privately, so far mostly small, held mining companies is increasing, partly because of privatizations, but most importantly, because of the ever growing demand for mineral resources by the manufacturing industry.

The number of jobs provided by these companies exceeded the jobs created in the large scale capital intensive mining industry and they were often offered in areas where little other choices were available. At the same time government is supporting a trend toward larger companies both among state-owned enterprises and in the private sector. This will gradually make central control easier.

*RMG further makes the following points concerning Chinese shares of global metal mine production:*
• Chinese mining accounts for the bulk of the increase in state control. For a group of minerals\(^8\) analyzed Chinese state ownership is increasing.
• Total state control of metal refining has increased for all minerals and Chinese refining accounts for the bulk of this growth. For all the minerals analyzed Chinese state ownership is increasing.
• While the state controls gold the least at 17.6 percent in 2009, state control increased from 2006 to 2009.
• For both nickel and lead the state control is constant or increasing for both MEC states and for China.

**Table 1. State shares of global metal mine production value (% of total value)**

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<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bauxite</td>
<td>1.2</td>
<td>1.2</td>
<td>1.4</td>
<td>1.3</td>
<td>0.8</td>
<td>0.6</td>
<td>0.5</td>
<td>0.3</td>
<td>0.5</td>
<td>0.2</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Copper</td>
<td>8.6</td>
<td>8.3</td>
<td>10.6</td>
<td>9.9</td>
<td>5.5</td>
<td>4.6</td>
<td>5.7</td>
<td>4.7</td>
<td>4.8</td>
<td>3.6</td>
<td>4.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Gold</td>
<td>3.1</td>
<td>3.1</td>
<td>6.1</td>
<td>4.9</td>
<td>3.3</td>
<td>1.7</td>
<td>2.5</td>
<td>1.0</td>
<td>4.0</td>
<td>1.0</td>
<td>3.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Iron ore</td>
<td>19.1</td>
<td>17.1</td>
<td>13.5</td>
<td>11.8</td>
<td>7.9</td>
<td>5.7</td>
<td>8.1</td>
<td>4.0</td>
<td>7.7</td>
<td>3.6</td>
<td>12.6</td>
<td>5.1</td>
</tr>
<tr>
<td>Lead</td>
<td>1.0</td>
<td>0.9</td>
<td>1.0</td>
<td>0.7</td>
<td>0.3</td>
<td>0.1</td>
<td>1.0</td>
<td>0.0</td>
<td>0.7</td>
<td>0.1</td>
<td>0.6</td>
<td>0.0</td>
</tr>
<tr>
<td>Manganese</td>
<td>0.9</td>
<td>0.9</td>
<td>0.7</td>
<td>0.5</td>
<td>0.2</td>
<td>0.1</td>
<td>0.7</td>
<td>0.2</td>
<td>0.6</td>
<td>0.1</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Nickel</td>
<td>1.3</td>
<td>1.3</td>
<td>2.2</td>
<td>2.0</td>
<td>1.5</td>
<td>1.2</td>
<td>1.2</td>
<td>0.9</td>
<td>0.9</td>
<td>0.6</td>
<td>1.1</td>
<td>0.8</td>
</tr>
<tr>
<td>Tin</td>
<td>1.2</td>
<td>0.9</td>
<td>0.6</td>
<td>0.4</td>
<td>0.7</td>
<td>0.2</td>
<td>0.5</td>
<td>0.2</td>
<td>0.7</td>
<td>0.2</td>
<td>0.7</td>
<td>0.2</td>
</tr>
<tr>
<td>Zinc</td>
<td>2.6</td>
<td>2.4</td>
<td>3.1</td>
<td>2.4</td>
<td>2.0</td>
<td>0.7</td>
<td>1.3</td>
<td>0.2</td>
<td>1.2</td>
<td>0.1</td>
<td>1.1</td>
<td>0.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>39.2</td>
<td>36.1</td>
<td>39.1</td>
<td>33.8</td>
<td>22.3</td>
<td>14.9</td>
<td>21.4</td>
<td>11.5</td>
<td>21.0</td>
<td>9.6</td>
<td>23.9</td>
<td>10.4</td>
</tr>
</tbody>
</table>


\(^8\) See main SIMs document for more details.
However, Chinese companies cannot, as might have been possible 30 years ago, continue loss making operations relying on capital from government.

Further, the government has gradually handed over decision making power to the companies for all day-to-day decisions and also most strategic issues. However the government continues to appoint the directors on the board and the senior executives of most major companies in the mining and metal sectors including the steel industry. Directors are mostly high ranking government officials. The functions of these boards are not well defined and their powers are not well known and documented but they are an important link in the way the Chinese government control the companies.

There have been several partial privatizations and IPOs (Initial Public Offering) successfully carried out in the mining sector, in recent years. Some of the major Chinese mining companies such as Zijin Mining (copper, gold), China Molybdenum Co (molybdenum), Jiangxi Copper (copper), Chinalco (aluminum), Shougang Iron & Steel Group (iron ore), China Minmetals (iron ore, rare earths, and others) are listed on stock exchanges in Hong Kong and abroad. In most cases only a minority share of the companies have been offered to the public and the government retains the majority. This has meant that government control has been partly reduced but the central, regional, and local governments undoubtedly maintain the ultimate control over these companies, even if the provision of capital is shared with other investors. There might also be differences in views between the various government levels and what makes
sense from the central government’s perspective might not always be carried through at regional levels. It must be kept in mind that China is a big country and absolute central control is simply not possible not even over a specific industry branch.

**Chinese foreign investments**

The second leg of the Chinese mineral supply policy calls for a change from import of ores and metals to direct investment in overseas mines using ownership as the preferred method to secure a stable — both in terms of volumes and prices — supply of resources. Outbound investments in mining have grown rapidly from just US$440 million in 2005, US$1.8 billion in 2006, to more than $16 billion in the first five months of 2008.9 Overseas investment by Chinese mining companies continues to increase, but are still small compared to other countries. Australia remains the focus for much of Chinese activity in 2009 (42 percent of total) but there is also an increasing interest in other countries.10

There were certain minerals that were classified as “Special Industry” such as gold and silver and under the 1983 rules. Foreign interests were not allowed to recover minerals in these industries. Under these rules the Bank of China controlled the purchase and distribution of gold and silver in China, and all such precious metals had to be sold to the Bank and could not be exported.11 As the reforms which were introduced in the 1980s have gained momentum, only a third of the economy is directly state-controlled. The government is now encouraging mergers and acquisitions as a means of ensuring optimal use of mineral resources, and barriers to foreign investment are gradually being done away with. For example, Aluminium Corporation of China (Chinalco)’s US$19.5bn bid to increase its existing stake in global giant Rio Tinto in February 2009. In its 11th Five-Year Plan (2006-2010), the Chinese government emphasized securing the economy’s future mineral resource needs. The focus was placed on further geological exploration of mineral reserves and increasing the supply of mineral products to fuel China’s rapid economic expansion.12

Changes in the principal mining laws and related laws and regulations, have seen the government trying to encourage foreign exploration and exploitation of mineral projects in China. Relative to the 80s there has also been an increase in the number of non-state owned enterprises. The Amendments were adopted to meet the State’s objective of domestic economic expansion and, thereby achieve its national economic and social objectives13.

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10 Mining Journal Online, China’s outgoing funds change focus, 11 June 2010.
11 Joscelyn and MacBride (1996)
12 Business Monitor International Ltd (2009)
13 MacBride and Bei (2001)
The following are some of the policy lessons that can be drawn from China’s mining experience.

i) There is a need to have a flexible mining policy system that factors in the ever changing needs of a country, especially, one that is undergoing rapid industrialization.
ii) There seem to be limits in the extent to which the state can effectively lead the exploration and development of the mining sector. This holds true bearing in mind that in China some of the amendments to the mineral policy came about after the realization that some state-owned enterprises where could be less efficient than the non-state owned enterprises.

iii) The China experience also highlights the fact that success in the mineral industry comes about by having comprehensive exploration which should precede actual mining activities.

iv) In order to attract foreign capital the mineral policy needs to be simplified and should include provisions that not only protect the interests of the state but the interests of non-state owned enterprises.

To summarise, the following points are worth repeating

1. China is expanding its exploration efforts at a very high and increasing speed. It is probably the case that China is now the most important exploration spender globally. The total exploration for all metals is exceeding 2 billion USD by Chinese companies (private and state in China alone). Exploration was at a very low level in the early 2000s but has increased continuously through the decade also during the financial crisis of 2008/09 when spending decreased in the rest of the world. The size of Chinese exploration expenditure is largely unknown and is for example not included in the often used MEG statistics from Canada.

2. Exploration in done both by state and private companies. The exploration done by foreign JV or foreign companies directly is decreasing since a few years when the Chinese have put limits to this and the interest of foreign companies to go into China has gone down from a top a few year ago.

3. Chinese exploration is going into all metals and in particular iron ore and coal is attracting more funding than in the rest of the world. This fits well into their strategy to secure their supplies in two ways: increasing domestic production and secondly taking control over imported ores. However in our view they are battling uphill and will not be able to decrease the import dependence more than marginally and will definitely not reach their goal of taking control over 50% of the sources of imported iron ore by 2015 (for example). They might reach 20 or 25%.

4. The domestic exploration efforts are not very successful (so far at least). MOLAR claims success when they have found iron ore deposits at 500 m depth with a grade of over 30%. In general it seems as if the Chinese geology (or it might also be due to earlier mining activities and depletion) mostly consist of deep, low grade deposits at least from iron ore. Exploration focus is being shifted west wards and into Tibet which might be very promising but also much high cost both in the exploration phase and later in production.
5. Chinese exploration efforts abroad are minimal and have not yet led to any important new deposits being found. We do not expect any change to this pattern in the near future as the problems they are encountering are huge. In addition to the usual lack of cultural understanding many industrialised countries are forcing the Chinese away from the best deposits and into more difficult areas both as far as sovereign risk is concerned and as far as general climatic and transport aspects. Finally there is no or little Chinese experiences from successful large scale grass root exploration to be used as a model for the foreign work. The story in the “west” about the Chinese scramble for resources in Africa and other regions is largely unfounded. The value Chinese controlled metal production in countries outside China is less than 1 % of the total value of all metals produced in the world. By the same measure, other countries such as Australia have more than China.

6. These attitudes towards China are dangerous in that there is no doubt that China will dominate also the global mining scene in a couple of decades but they do not yet master the mining world. There is still time to act and try to manoeuvre to create linkages and agreements to support China and for such countries to benefit from a cooperation with them. It is not too late to act in this window of opportunity when China is desperately looking for partners. This is something which also some companies such as Rio Tinto have and they are actively building partnership with the Chinese.
### 9. Botswana

<table>
<thead>
<tr>
<th>Asset management</th>
<th>Developmental Elements</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geo-survey (geo-mapping)</td>
<td>Mineral Policy Objectives: “1) Maximise the economic benefits for the nation while enabling private sector to earn competitive returns, 2) Create a competitive environment (efficient admin), 3) Encourage linkages with the rest of the economy to expand value addition activities, 4) Generate employment and training for nationals, 5) Safeguard the environment. GSD relatively well-capacitated. Exploration rights are granted under a FIFA system, with a virtually automatic mining right if a viable deposit is delineated, except for diamonds which are classified as “strategic” and the mining right will be through negotiation. Prospecting licence (3y) &lt;1,000 km². After Prospecting can apply for a) Retention licence (3 yrs exclusive rights and 3 yrs renewal for Non exclusive rights), b) Mining licence (25yrs and unlimited renewals of 25yrs Max), c)Minerals permit (5yrs and unlimited renewals of 5yrs, for Small scale mining). The inter-ministerial Mineral Policy Committee, provides the necessary policy guidance and took the lead in contract negotiations. It played a pivotal role (the negotiation function) in promoting mineral development in Botswana by negotiating special agreements with multinational mining corporations (Criscuolo, A 2007, WB Briefing Note) Based on MCIMS</td>
<td></td>
</tr>
</tbody>
</table>

**Note for SIMS**

Category of “strategic” mineral for mining license negotiation (not automatic) Current reassessment of Energy Policy could have major implications for coal governance Inter-ministerial Mineral Policy Committee for negotiating mineral contracts (concessions)

| Fiscal linkages | Royalties, CIT, RRT, Skills levy, etc.: | Exploration (prospecting) permit cost = ~USD150 (Pula1k) CIT/RRT = The higher of the standard company rate (25%) or the tax rate derived from the formula 70-1500/x, where x (%) = taxable income/gross income (similar to SA gold formula tax) Royalty - 10% precious stones, 5% nuclear minerals, precious metals, semi-precious stones and coal, 3% all other minerals Immediate write-off of 100% capex & unlimited carry forward of Tax losses Dividends tax: 15% on distribution to residents and non-resident shareholders SWF- Pula Fund (~USD7bn) est. 1994 to preserve part of the income from diamonds for future generations. Exclusively invested in foreign currency denominated assets. |

**Note for SIMS**

Progressive (formula) tax; Pula Fund for future generations;

<table>
<thead>
<tr>
<th>Backward linkages (BL)</th>
<th>Very weak backward linkages, partly due to close proximity to SA suppliers, but mainly due to a lack of BL strategy (mining license local content conditions?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital goods (tech)</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
</tr>
<tr>
<td>Consumables</td>
<td></td>
</tr>
</tbody>
</table>
### Forward linkages (FL)

**Beneficiation: mineral feedstocks:**
- Manufacturing (Fe/steel, Cu, polymers)
- Energy (HCs, coal, U)
- Infrastructure (Fe/steel, cement, Cu)
- Agriculture (NPK)

**Beneficiation: Producer power:**

Very weak, despite attempts to stimulate diamond jewellery industry. Some success in attracting sorting and polishing through use of producer power (in Debswana)

- No Fe ore mines = no steel; possible future coal-based polymers
- Power: Morupule coal mine (Debswana: 50% State) supplies the BPC (SOE) Morupule Power Station (~1GW, plan to inc. by 600MW), but most electricity is still imported from SA (SAPP). CIC (Canada) plans for new mega coal power station.
- No steel or cement production. No fabrication of Cu cable
- No production of N (poss future coal/gas based) or Phosphates. Possible K production from Sua Pan brines
- Limited success in use of gem diamond producer power (in Debswana) to locate beneficiation (sorting and polishing)
- Smelters, refineries, and other downstream processes classified as Manufacturing attracting low and negotiated tax rates

### Knowledge linkages

**HRD:** basic, 2ndary, tertiary

**R&D:** tech development

HRD: moderate success despite strong investment- Scores above average in SACMEQ maths & reading rankings

- Almost no R&D- Debswana contributes to De Beers technology development fund, but the R&D is located elsewhere

R&D spend about 0.5% of GDP in 2005

### Spatial linkages

**Infrastructure:**
- Rail/road
- Ports
- Power & ICT
- Water
- LED

The transport, power, water & ICT infrastructure is good (population concentrated along eastern border of Kalahari desert). Rail established by minerals (Zim- BSAC). Transport (road & rail) & Energy state (SOEs)

- Landlocked- no ports. Access via SA & Namibia

Energy shortages due to SA power crisis

Desert- major water constraint for mining

LED & CSR are moderate

### Other

**SMC (State Mining Company)**

Debswana (diamonds) 50% state (GRB also hold 15% of De Beers), BCL (end of life- toll smelting) 94% State (originally 15%), Botswana Ash 50% state. There is no SMC as such- rather state equity in private companies. Used to have a 15% free-carry right- changed to 15% state purchase right.

**State support to mineral linkages**

Not significant
<table>
<thead>
<tr>
<th>Tax Payable</th>
<th>Botswana</th>
<th>Namibia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mineral Royalty Rates</strong></td>
<td>- Diamond mining: 10%</td>
<td>- Precious stones: 10%</td>
</tr>
<tr>
<td></td>
<td>- Rossing Uranium: 6%</td>
<td>- Precious metals: 3%</td>
</tr>
<tr>
<td></td>
<td>- Dimension Stone: 5% on all unprocessed stone blocks</td>
<td>- Other Metals: 3% - calculated from the gross market value of minerals sales at the “mine gate”.</td>
</tr>
<tr>
<td></td>
<td>- Precious stones, base &amp; rare, nuclear fuel minerals: 3%</td>
<td></td>
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<tr>
<td></td>
<td>- Semi-precious stones, industrial &amp; Non-nuclear fuel minerals: 2%</td>
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<td></td>
</tr>
<tr>
<td><strong>Corporate Income Tax</strong></td>
<td>- Diamond Mining: 55%</td>
<td>- 25% or Tax derived from formula 70- 1500/x, where x (%) = taxable Income/gross income.</td>
</tr>
<tr>
<td></td>
<td>- Other Minerals: 37.5%</td>
<td>- Variable Income Tax Rate</td>
</tr>
<tr>
<td></td>
<td>- Non mining activities:40%</td>
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</tr>
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<td></td>
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</tr>
<tr>
<td><strong>Dividend Withholding Tax</strong></td>
<td>- Dividends: 10% paid to non-residents and certain foreign residents</td>
<td>Dividends: 15% on distribution to residents and to non-resident shareholders</td>
</tr>
<tr>
<td></td>
<td>- Royalties: 10.5% on distribution to non-residents</td>
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</tr>
<tr>
<td><strong>Import Duty</strong></td>
<td>Uplift – 10% - Subject to SACU standards</td>
<td>Mining equipment and Zero-rated, otherwise duties are payable</td>
</tr>
<tr>
<td><strong>Value Added Tax</strong></td>
<td>15%</td>
<td>10% - applies to all but zero-rated items, which includes exports of minerals.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VAT refunds available upon re-export of items within 6 months of being brought into country</td>
</tr>
<tr>
<td><strong>Taxation for Downstream</strong></td>
<td></td>
<td>15% Tax Rate (5% basic rate and additional company tax rate)</td>
</tr>
<tr>
<td><strong>Processing</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Ndapwilapo Selma Shimutwikeni: What Is A Competitive Fiscal Regime For Foreign Investment? With Special Reference To Namibia And Botswana, University of Dundee, CEPMLP, 2010
## 10. Australia

<table>
<thead>
<tr>
<th>Aspect/Linkage</th>
<th>Developmental Elements</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asset</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>management</td>
<td>Geo-survey (geo-mapping)</td>
<td>Geoscience Australia – responsible for national off shore titles; mapping; data development and management; national offshore regulation.</td>
</tr>
<tr>
<td></td>
<td>Mineral rights concessioning (expl/mining) - Mineral rights admin (regs)</td>
<td>States (provinces) responsible for mineral leasing up to three miles offshore. Oil and natural gas fall under the purview of the national government. Min regime State specific (WA, Qld, NSW, etc), but all are FIFA type regimes. In Victoria licences are tendered out on the basis of who has the best development plans. Exploration done on a first-come first-served basis. Exploration licence has a five year life – required to demonstrate expenditure. Environmental issues – national competence on policy but states responsible for implementation.</td>
</tr>
<tr>
<td><strong>Fiscal linkages</strong></td>
<td>Royalties, CIT, RRT, Skills levy, etc.: capture &amp; deployment</td>
<td>Victoria license tender system</td>
</tr>
<tr>
<td></td>
<td>CIT – national tax -30%.GST/VAT – national.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Resource rent tax (RRT) currently being implemented in the oil and natural gas sector. RRT to be introduced on coal and iron ore in July 2012. Anomaly in the system – not applied to gold. (there was a variation of the RRT in the North Sea, UK; Timor Leste; China). Royalty – Federal none, but state royalties: States will get rebate when MRRT is imposed: WA: Bulk material (subject to limited treatment) - 7.5%, Concentrate material – 5%, Metal - 2.5% Queensland: Coal - 7% of value up to A$100/t, and 10% of the value thereafter. Bauxite - the higher of 10% of the value or A$2/t. Base metals - 2.5% to 5% (varying in 0.02% increments), depending on average metal prices. HMS – 5%. Iron ore - &lt;A$100/t = A$1.25/t; &gt;A$100/t = A$1.25/t plus 2.5% of value &gt;A$100/t. Other metals – 2.7% South Oz: Refined mineral products 3.5%; 5.0% other mineral products (ores concentrates or minimally processed products) Victoria: no royalty on gold; Coal 8% of value; others 2.75%of value</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In some states, royalties constitute up to one-third of ‘own-source’ revenues. States argue that royalties ensure stability and predictability. RRT - MRRT is proposed at 30%, threshold of long term government bond rate plus 7%, but projects are entitled to an “extraction allowance” of 25%, therefore an effective MRRT rate of 22.5%. RRT is seen as both more fair and efficient – it is scaleable by profits rather than by production.CIT may be reduced by 1% when RRT is implemented. According to the Treasury royalties are “inefficient” when mining is deep and volumes low. Other: 100% tax deductibility for exploration costs and generally interest costs; life of asset tax</td>
<td></td>
</tr>
<tr>
<td><strong>Backward linkages (BL)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td><strong>Note for SIMS</strong></td>
<td>SWF- Future Fund (AFF) ~USD74bn - to assist the future cost of public sector superannuation liabilities. The fund invests in an international portfolio, but it also invests (~23%) in the Building Australia Fund, the Education Investment Fund and the Health and Hospitals Fund (established by the Nation-building Funds Act 2008).</td>
<td>SWF</td>
</tr>
<tr>
<td><strong>Capital goods (tech)</strong></td>
<td><strong>Consumables</strong></td>
<td><strong>In Victoria – mostly imported equipment. Services such as accounting, and surveying provided from city centres. Nationally – 89% of goods and services procured locally worth about A$85 billion.</strong></td>
</tr>
<tr>
<td><strong>Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Consumables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Knowledge linkages</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Infrastructure:</strong> Rail/road Ports Power &amp; ICT Water LED</td>
<td><strong>Skills is recognised as the ‘number one’ challenge. Struggling to keep up with demand for engineers and geologist. Short term solution is importing from South Africa and elsewhere. Geoscience Australia undertook a review of skills for the mining sector in 2010 – revealed potential skills shortages. Country is making significant investments in universities in both under- and post-graduate training linked to the big mining companies – BHP Billiton, Rio Tinto, Exstrata. Addressing skills shortages also through ‘fly-in-fly-out’ model of workers located in the major cities.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Spatial linkages</strong></td>
<td></td>
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</tr>
</tbody>
</table>

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Appendices
60% of mines are co-located with indigenous communities. Substantial involvement by private companies in terms of employment, training, and community development – companies often take responsible for producing ‘public goods’ such as education.

<table>
<thead>
<tr>
<th>Other</th>
<th>SMC (State Mining Company)</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining – economic contribution</td>
<td>Victoria – employment less than 10 000 in population of 5 million. 2% of GDP but A$6 billion of value-added activity. Western Australia – 90 000 in employment expected to increase to 120 000 by 2015. Nationally – mining’s contribution is about 8% of GDP. 95% of FDI.</td>
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</tr>
<tr>
<td>Example of community-owned and managed mine in Papua New Guinea</td>
<td>This example was cited in a visit to Prof. Ross Garnaut, University of Melbourne. In PNG, BHP Billiton donated its shares in a mine to a community trust, The majority of the profits are to be used for sustainable development of the community after the mine closes. The trust owns 64% of the shares and the government the remainder; of the latter half is owned by the local and provincial government. The trust has an independent board chaired by Garnaut and has a Treasury official as a member. Two thirds of dividends are invested for future development of the community. Currently this funds stands at 1 billion US$ and is off-shore.</td>
<td></td>
</tr>
</tbody>
</table>

Meetings

Prof. Ross Garnaut, University of Melbourne; Department of Primary Industries, Earth resources, Melbourne, Victoria; Department of Mineral Resources, Energy and Tourism, Canberra; Minerals Council of Australia, Canberra; Treasury, Canberra; Advisers to the Treasury and Ministry of Mineral Resources; Department of State Development, Resources and Industry, Perth, Western Australia; Chamber of Minerals and Energy, Perth; Department of Mines and Petroleum, Perth.

Some further notes on the Resource Rent Tax:

1. Advantages – efficient, taxes profits not production; represents an effective way to share resources while at the same time leaving room for private sector investment.
2. Challenge is to determine what the effective rate of return is – in Australia it has been estimated at 12.5 – 13% which would be acceptable for the big companies such as BHP, Rio Tinto and Exxstrata, but not for new companies. Using the bond rate as a benchmark can be helpful.
3. Country implementing an RRT needs good accounting and transfer pricing detection systems.
4. Policy design must be simple but essential to get it right.
5. Crucial to focus on long term, rather than short-term gains and to “take industry with you”.
6. Tax must be clearly understood by all role-players in the sector. Need process of intensive consultation with private sector to avoid the latter using its considerable resources to ensure dropping of the tax (e.g. Papua New Guinea) or dilution of it (Australia).
Chart 6.1: Existing taxes are inefficient and unresponsive\(^{(a)}\)

Source: Australia’s Future Tax System: Report to the Treasurer p. 47 (Henry Tax Review)

\(^{(a)}\) Resource profits before tax and royalties are measured using income less an allowance for corporate capital. Source: Treasury estimates.
### 11. Malaysia

<table>
<thead>
<tr>
<th>Aspect/Linkage</th>
<th>Developmental Elements</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset management</td>
<td>Geo-survey (geo-mapping) Mineral rights concessioning (expl/mining) - Mineral rights admin (regs)</td>
<td>The objectives of the National Mineral Policy 2 are: i) to ensure sustainable development and optimum utilization of mineral resources; ii) to promote environmental stewardship that will ensure the nation’s mineral resources are developed in an environmentally sound, responsible and sustainable manner; iii) to enhance the nation’s mineral sector competitiveness and advancement in the global arena; iv) to encourage the recovery, recycling and reuse of metals and minerals. The policy also states that “to enhance the mineral sector’s contribution to the economy, the mineral sector needs to be expanded through: i) recognising the importance of mining as first-land use; ii) encouraging state governments to avail more land for exploration and mining development; iii) encouraging state governments to undertake integrated land use planning to avoid mineral sterilisation; iv) intensifying resource investigation and mapping including offshore resources; v) encouraging the issuance of proprietary licences on alienated land; vi) promoting mineral-based manufacturing activities particularly the production of high quality and competitive products; and vii) encouraging reverse investments in the minerals sector.”</td>
</tr>
<tr>
<td>Fiscal linkages</td>
<td>Royalties, CIT, RRT, Skills levy, etc.: • capture &amp; deployment</td>
<td>Royalties: 5% ad valorem. CIT: 25%. In the petroleum sector, there are indirect taxes for upstream activities – GST and import duties on equipment. New incentive in the petroleum and mining sector: CIT reduced from 38% to 25%. Also further tax incentives provided for exploiting marginal fields. 60-100% of capital expenditure can be recovered for such activities as enhanced recovery, deep-water exploitation, assessed on a case-by-case basis. Also accelerated capital allowance for a five year period. Also manufacturing tax incentives for high value-adding activities, depending on factors such as technology transfer.</td>
</tr>
<tr>
<td></td>
<td>SWF</td>
<td>SWF established in 1988, called the National Trust Fund. Managed by the Central Bank with the Chair from Petronas, Deputy Chair from the Ministry of Finance; Prime Minister’s Unit also represented. 100 million ringits per year contributed by Petronas. Value at the moment around 5 billion Mr.</td>
</tr>
<tr>
<td>Backward linkages (BL)</td>
<td>• Capital goods (tech) • Services • Consumables</td>
<td>Fairly strong backward linkages, partly encouraged through the imposition of duties on the importation of capital equipment.</td>
</tr>
<tr>
<td>Forward linkages (FL)</td>
<td>Beneficiation: mineral feedstocks: • Manufacturing (Fe/steel, Cu, polymers) • Energy (HCs, coal, U)</td>
<td>Strong, particularly in steel production, tin processing, and limestone. MIDA is the state agency responsible for coordinating the development of appropriate strategies relating to beneficiation and broader manufacturing activities. As stated earlier, the new Minerals Policy specifically states as part of its objectives, the need to “enhance the nation’s mineral sector competitiveness and advancement in the global arena; (and) to ensure that the use of local minerals and promote the further development of</td>
</tr>
<tr>
<td>Infrastructure</td>
<td><strong>Infrastructure</strong> (Fe/steel, cement, Cu) <strong>Agriculture</strong> (NPK) Beneficiation: Producer power: Other:</td>
<td>mineral-based products.&quot;</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------</td>
</tr>
<tr>
<td>Knowledge linkages</td>
<td>HRD: basic, secondary, tertiary R&amp;D: tech development</td>
<td>Strong investments in HRD and R&amp;D. Through the National University of Science and Technology, the country appears to have an adequate stock of engineers. The new Minerals Policy stresses the importance of HRD: &quot;A qualified, competent and productive work force is pertinent for the advancement of the mineral industry. This can be achieved through: i) the design, formulation and promotion of relevant training and educational programmes; ii) the provision of adequate scholarships, grants, bursaries, loans, and other incentives; iii) the implementation of re-training and skills upgrading programmes and refresher courses; iv) fostering collaboration amongst local and international public and private sector organizations; and v) the establishment of the mineral industry training fund.&quot; With respect to R&amp;D enhancement, the policy states the following: R&amp;D is important to produce new technologies, innovations, techniques and applications that will reduce production cost, value-add mineral materials, discover new uses, mitigate adverse environmental impact, address, health and safety aspects and improve the competitiveness of the mineral industry. R&amp;D can be enhanced through: i) the provision of adequate financial resources and incentives; ii) the promotion of regional and international collaboration; iii) the protection of intellectual property rights and commercialisation of R&amp;D findings; iv) strengthening partnerships and fostering cooperation amongst government, industry and institutions of higher learning; and v) the establishment of an effective coordinating body such as the Malaysian Mineral Development Board&quot;.</td>
</tr>
</tbody>
</table>
| Spatial linkages | Infrastructure:  
- Rail/road  
- Ports  
- Power & ICT  
- Water  
- LED | Malaysia has excellent infrastructure across the entire country. Has five major development corridors traversing the country. |
<p>| Other | Importance of mining | As a generator of revenue, mining has significantly diminished in importance during the past two decades. Currently contributes 6.5% of GDP but this includes oil and gas. Until the late 70s the country was the leading producer of tin. Although endowed with over 33 different mineral types, Malaysia is today an importer of many minerals including tin. |
| Ownership | States (provinces) own mining companies but often outsource mining to private companies. There are also local and foreign private companies. |</p>
<table>
<thead>
<tr>
<th>Petronas</th>
<th>State-owned petroleum company since oil was discovered in 1973. Major source of tax revenues – export taxes, royalties, CIT. Provides 44% of government revenue.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meetings</td>
<td>1) Ministry of Natural Resources and Environment including the Department of Minerals and Geoscience; and the Chamber of Mines; 2) Ministry of Finance – macroeconomics and taxation divisions; 3) Malaysia Institute of Economic Research.</td>
</tr>
</tbody>
</table>
Appendix 2. RMG: Definition of state control

In the analysis of state control, two concepts are of basic importance, ownership and control. Ownership refers to holding of shares in a company and is easy to define and measure; in principle that information is to be found in the share register of a company. The concept of control is more difficult to define and even more difficult to measure accurately. State control is even less clearly defined in the literature than the overall concept of corporate control. In this study the following definition has been used.

To be in control is to have possibility to act decisively on strategically important issues. Such issues include the broad policies of a company, decisions on large investments, buying or selling of subsidiaries and power to appoint or dismiss management. To be in control of a company does not necessarily include having day-to-day influence over all its decisions.

Traditionally direct control through ownership has been the most important means of control over a mining company and often it is presumed that ownership and control are closely correlated. Control can, however, be exercised by many means, of which ownership is the most common and the most important. Other direct means of exercising control are, for example, through administrative and technical management, vertical integration, and interlocking directorates. Indirect control can be exercised through long-term contracts, market knowledge, proprietary technology, and financing arrangements. The importance of these different ways of exercising control varies considerably. An interlocking directorate is clearly not crucial but the pattern of financing and access to know-how about a particular market is vital to control over a company.

It can be argued that the powers of the state to create and implement general economic policies, mineral laws, and mining taxation regulations together with a minority equity stake in a mining company are enough for control should the need arise. However, this would be to simplify too much and almost all mineral companies in most developing countries would be considered state controlled by this definition, which they clearly are not. There are several examples to show that it may not be enough to have even a majority of the equity in a company to be in full control.

Applying the definition of control given above, state mining enterprises in the mining and smelting industry form a heterogeneous group of companies, which nevertheless can be divided into two broad country categories:

- State-owned companies in market economies countries; and

• State-owned companies in centrally planned economies.

For the years 1975-1989, countries included in the CPE (centrally planned economies) are: Albania, Bulgaria, Cambodia, China, Soviet Union, Cuba, Czechoslovakia, Germany, Hungary, Mongolia, Democratic People’s Republic of Korea, Poland, Romania, and Vietnam.

For the years 2000-2006, countries included in the CPE are: China, Cuba, Democratic People’s Republic of Korea, Laos, Mongolia, and Vietnam. For the years 2007-2009, countries included in CPE are: China, Cuba, Democratic People’s Republic of Korea, Laos, and Vietnam.

Please be aware that refined lead production is not included as secondary lead production accounts for over 50 percent of total refined production and this production is not properly reported.

The method of calculating control based on ownership figures is described in *Who owns Who in Mining 1999* page 531.\(^\text{15}\)

Note: What is an SOE?

Box I.7. What is a State-owned enterprise: the case of France

In France there is no specific law defining “State-owned” or “State-controlled” enterprises. The economic definition, as given by the French National Institute of Statistics and Economic Studies (INSEE), is as follows: “[a] State-owned enterprise is a company in which the State holds, directly or indirectly, a dominant influence, due to the owning of the property or of a financial participation, by owning either the majority of the capital or the majority of votes attached to the emitted shares.” This very broad definition encompasses a large variety of situations and types of company, and should be analysed in terms of “control” rather than mere “ownership”. Basically, it is possible to identify four main categories of “State-owned” enterprises falling under the INSEE definition:

1. Non-listed companies totally owned by the State, the so-called public establishments (Etablissements publics). These firms fill a specific function and may not diversify. Examples include RATP, SNCF, Réseau Ferré de France, Banque de France, etc.

2. Listed companies totally owned by the State. These firms, falling within the legal framework of the “free market”, may diversify their activities. The French State’s stake may be reduced or eliminated at any time, unless this is prohibited by law in a particular case. Examples include La Poste.

3. Listed companies in which the French State has a stake of more than 50 per cent, allowing it full control of the company’s management. Examples include EDF (a former “public establishment”), Aéroport de Paris, and various other large airports and ports in the country.

4. Listed companies in which the French State has a direct or indirect stake of less than 50 per cent. Examples include France Telecom (a former “public establishment”, 26 per cent stake) and GDF-Suez (formed through the merger of GDF, a former “public establishment”, and Suez, a private firm).

Source: UNCTAD.

* This situation is possible when the SOE has to be privatized or become publicly-owned. The State owns 100 per cent of shares before they are sold publicly.

Source: UCTAD, WIP 2011
## Appendix 3: RMG Tables

### Table 1. State/private control of mining of selected minerals

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Entity</th>
<th>Controlled share of world production %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bauxite</td>
<td>MEC states</td>
<td>17.4</td>
</tr>
<tr>
<td></td>
<td>CPEs</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>Of which China</td>
<td>1.04</td>
</tr>
<tr>
<td></td>
<td>State total</td>
<td>31.7</td>
</tr>
<tr>
<td></td>
<td>MEC private</td>
<td>68.3</td>
</tr>
<tr>
<td></td>
<td>State total + MEC private</td>
<td>100</td>
</tr>
<tr>
<td>Coal</td>
<td>MEC states</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>CPEs</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>Of which China</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>State total</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>MEC private</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>State total + MEC private</td>
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</tr>
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<td>Copper</td>
<td>MEC states</td>
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</tr>
<tr>
<td></td>
<td>CPEs</td>
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<td></td>
<td>Of which China</td>
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</tr>
<tr>
<td></td>
<td>State total</td>
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<tr>
<td></td>
<td>MEC private</td>
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<td></td>
<td>State total + MEC private</td>
<td>100</td>
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<td>Gold</td>
<td>MEC states</td>
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<td>CPEs</td>
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<td></td>
<td>State total</td>
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<tr>
<td>Mineral</td>
<td>Entity</td>
<td>Controlled share of world production %</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Nickel</td>
<td>MEC states</td>
<td>2.8 14.2 12.2 9.6 8.9 9.2 10.9 11.7 10.7 14.7</td>
</tr>
<tr>
<td></td>
<td>CPEs</td>
<td>23.4 31.1 32.8 10.1 9.9 10.0 9.1 9.0 10.7 9.5</td>
</tr>
<tr>
<td></td>
<td>Of which China</td>
<td>na 2.4 3.8 4.3 4.3 4.7 4.2 4.4 5.9 5.2</td>
</tr>
<tr>
<td></td>
<td>Tin</td>
<td>Zinc</td>
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<td></td>
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<td>MEC private</td>
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<tr>
<td>State total</td>
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<td></td>
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</tr>
<tr>
<td>State total + MEC private</td>
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<td></td>
</tr>
<tr>
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<td>17.4</td>
<td>9.5</td>
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<td>9.2</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: na: not available
MEC states: Market Economy Countries, state owned companies.
MEC private: Market Economy Countries, private owned companies.
CPE: Central Planned Economies, state owned companies.
### Table 2. State/private control of refining of selected minerals

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Entity</th>
<th>Controlled share of world production %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alumina</td>
<td>MEC states</td>
<td>9.6</td>
</tr>
<tr>
<td></td>
<td>CPEs</td>
<td>16.6</td>
</tr>
<tr>
<td></td>
<td>Of which China</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>State total</td>
<td>26.2</td>
</tr>
<tr>
<td></td>
<td>MEC private</td>
<td>73.8</td>
</tr>
<tr>
<td></td>
<td>State total + MEC private</td>
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</tr>
<tr>
<td>Aluminum</td>
<td>MEC states</td>
<td>11.9</td>
</tr>
<tr>
<td></td>
<td>CPEs</td>
<td>20.7</td>
</tr>
<tr>
<td></td>
<td>Of which China</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>State total</td>
<td>32.6</td>
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<td></td>
<td>MEC private</td>
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<td></td>
<td>State total + MEC private</td>
<td>100</td>
</tr>
<tr>
<td>Copper</td>
<td>MEC states</td>
<td>16.2</td>
</tr>
<tr>
<td></td>
<td>CPEs</td>
<td>24.9</td>
</tr>
<tr>
<td></td>
<td>Of which China</td>
<td>2.9</td>
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<tr>
<td></td>
<td>State total</td>
<td>41.1</td>
</tr>
<tr>
<td></td>
<td>MEC private</td>
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<tr>
<td></td>
<td>Of which China</td>
<td>9.7</td>
</tr>
<tr>
<td></td>
<td>State total</td>
<td>28.8</td>
</tr>
<tr>
<td></td>
<td>MEC private</td>
<td>71.2</td>
</tr>
<tr>
<td></td>
<td>State total + MEC private</td>
<td>100</td>
</tr>
</tbody>
</table>

|     | MEC states | 9.7 | 13.8 | 10.4 | 9.1 | 4.6 | 4.7 | 4.0 | 4.3 | 4.2 | 2.2 |
| Zinc| CPEs       | 31.3 | 26.5 | 27.9 | 21.8 | 27.4 | 30.0 | 33.4 | 34.1 | 39.1 | 41.0 |
|     | Of which China | 2.6 | 3.6 | 6.7 | 21.4 | 26.8 | 29.4 | 33.0 | 33.6 | 38.6 | 40.5 |
|     | State total | 41.0 | 40.3 | 38.3 | 30.9 | 32.0 | 34.7 | 37.4 | 38.4 | 43.3 | 43.2 |
|     | MEC private | 59.0 | 59.7 | 61.7 | 69.1 | 68.0 | 65.3 | 62.6 | 61.6 | 56.7 | 56.8 |
|     | State total + MEC private | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Note: na: not available
MEC states: Market Economy Countries, state owned companies.
MEC private: Market Economy Countries, private owned companies.
CPE: Central Planned Economies, state owned companies.
Appendix 4: RDP section on Mining and Minerals (4.5.1)

1. South Africa is one of the world’s richest countries in terms of minerals. Up to now, however, this enormous wealth has only been used for the benefit of the tiny white minority.
2. The minerals in the ground belong to all South Africans, including future generations. Moreover, the current system of mineral rights prevents the optimal development of mining and the appropriate use of urban land. We must seek the return of private mineral rights to the democratic government, in line with the rest of the world.”
3. Our principal objective is to transform mining and mineral-processing industries to serve all of our people. We can achieve this goal through a variety of government interventions, incentives and disincentives. Estimates suggest that the establishment of a government mineral marketing auditors' office and the national marketing of certain minerals would enable South Africa to realise greater foreign-exchange earnings. The management and marketing of our mineral exports must be examined together with employers, unions and the government to ensure maximum benefits for our country.
4. Minerals and mineral products are our most important source of foreign exchange and the success of our RDP will in part depend on the ability of this sector to expand exports to avoid balance of payments constraints in the short to medium term.
5. Minerals are a vital input for numerous mineral-based industries. These industries, however, have difficulty in becoming internationally competitive due to the fact that the refining companies usually set higher prices for the domestic market than their export prices, a practice known as import parity pricing. A democratic government must consider mechanisms to encourage companies to sell to local industries at prices that will enhance their international competitiveness.
6. Existing tripartite structures such as the Mining Summit must be strengthened in order to facilitate national development strategies for the mining and mineral-processing industry.
7. Democratisation of the mining sector must involve new laws to build workplace democracy for miners by requiring employers to negotiate the organisation of work with their employees and their unions. Programmes must be established to allow financial participation by workers in mining companies in a meaningful way (including measures to influence the policies of financial institutions, especially insurance companies and pension funds, which hold significant stakes in the mining sector and in which our people have substantial investments). And anti-trust legislation and other measures must be implemented to permit the monitoring and appropriate control of mining, mineral processing and marketing.
8. International demand and supply patterns for metals and minerals have undergone fundamental changes in recent years that necessitate the restructuring of this major industry. In the medium term, this probably means a continued decline in the number of people employed in the mines. Up to now, the heaviest burdens associated with down-scaling have been borne by miners, one third of whom have been retrenched. The RDP must put into place mechanisms to ensure orderly down-scaling of our mines so as to minimise the suffering of workers and their families. Measures should include the reskilling and training of workers for other forms of employment.
9. Mining is a hard and dangerous job, and mineworkers labour under stressful conditions, often deep under the earth. The RDP envisages a new set of minimum standards for the mining industry that ensure fair wages and employment conditions for all workers and a health and safety system that recognises the special hazards related to mining.
10. Most mineworkers are forced to live in single-sex hostels and remit part of their salaries. In future all workers must have the right to live at or near their place of work in decent accommodation and shall have full control over their after-tax salaries. In addition, the mining companies must take some responsibility for the education, training and social needs of miners and their families as an integral part of labour policy on the mines.

11. Mining can be extremely destructive of our natural environment. Our policy is to make the companies that reap the profits from mining responsible for all environmental damage. Existing legislation must be strengthened to ensure that our environment is protected. Before a new mine can be established there must be a comprehensive environmental impact study.

12. The Southern African region also has enormous mineral resources that have not been mined, due in part to the destabilisation policies pursued by the apartheid state in the last twenty years. In the spirit of mutual cooperation, the RDP should extend across our borders by using our considerable expertise in mineral exploration and exploitation to rehabilitate and develop the mineral potential of our neighbours. In this regard a special facility should be created to promote investment in the sub-continent.

13. The government must consider ways and means to encourage small-scale mining and enhance opportunities for participation by our people through support, including financial and technical aid and access to mineral rights. However, standards in respect of the environment, health and safety and other working conditions must be maintained. (RDP 1994, #4.5.1).


Ready To Govern section on “MINING AND ENERGY POLICY” (#9)

The mineral wealth beneath the soil is the national heritage of all South Africans, including future generations. As a diminishing resource it should be used with due regard to socio-economic needs and environmental conservation. The ANC will, in consultation with unions and employers, introduce a mining strategy which will involve the introduction of a new system of taxation, financing, mineral rights and leasing. The strategy will require the normalisation of miners’ living and working conditions, with full trade union rights and an end to private security forces on the mines. In addition, the strategy will, where appropriate, involve public ownership and joint ventures.

Policies will be developed to integrate the mining industry with other sectors of the economy by encouraging mineral beneficiation and the creation of a world class mining and mineral processing capital goods industry.

To improve the quality of life of our people, stimulate the economy and reduce pollution levels, the ANC will launch a national electrification programme. We will investigate the appropriate regulatory framework, structure and operation of major energy parastatals such as Eskom, the Atomic Energy Corporation, Sasol and Mossgas, with a view to re-orientating them towards national economic and development goals that are protective of the environment.

Appendix 5: ANC 52nd National Conference (Polokwane 2007): ECONOMIC TRANSFORMATION RESOLUTION

BELIEVING THAT:

Our vision of the economic transformation takes as its starting point the Freedom Charter’s clarion call that the People Shall Share in the Country’s Wealth! Since 1994 we have made substantial progress in transforming the economy to benefit the majority, but serious challenges of unemployment, poverty and inequality remain.

Therefore, we are still at the beginning of the historic transformation of the economy called for in the Charter. It is a process of economic transformation which aims to realise:

A thriving and integrated economy, which draws on the creativity and skills that our whole population can offer, building on South Africa’s economic endowments to create decent work for all and eliminate poverty.

Increasing social equality and a growing economy, which reinforce each other and constitute a positive cycle of development that improves the quality of life of all our people.

National prosperity through rising productivity, brought about by innovation and cutting edge technology, labour-absorbing industrial growth, competitive markets and a thriving small business and cooperative sector and the utilisation of information and communication technologies with efficient forms of production and management

The progressive realisation of socio-economic rights, through fair labour practices, social security for the poor, universal access to basic services and ongoing programmes to defeat poverty.

A mixed economy, where the state, private capital, cooperative and other forms of social ownership complement each other in an integrated way to eliminate poverty and foster shared economic growth.

An economy that is connected to the world, and which benefits from vibrant and balanced trade with the rest of the world. In particular, an economy that is increasingly integrated into the Southern African region and our continent as a whole, in furtherance of the goals of development and regeneration of Africa.

A sustainable economy, where all South Africans, present and future, realise their right to an environment that is not harmful to their health or well-being.
The changes we seek will not emerge spontaneously from the ‘invisible hand’ of the market. People acting collectively in the spirit of human solidarity must shape the patterns of economic development. In this process the state must play a central and strategic role, by directly investing in underdeveloped areas and directing private sector investment.

**AND FURTHER BELIEVING THAT:**

The central and most pressing challenges we face are unemployment, poverty and inequality. In this regard, we reiterate our determination to halve unemployment and poverty from their 2004 levels, and substantially reduce social and economic inequality.

Answering the challenges of unemployment, poverty and inequality means that we must simultaneously accelerate economic growth and transform the quality of that growth. Our most effective weapon in the campaign against poverty is the creation of decent work, and creating work requires faster economic growth. Moreover, the challenges of poverty and inequality require that accelerated growth take place in the context of an effective strategy of redistribution that builds a new and more equitable growth path.

The skewed patterns of ownership and production, the spatial legacies of our apartheid past and the tendencies of the economy towards inequality, dualism and marginalisation will not recede automatically as economic growth accelerates. Therefore, decisive action is required to thoroughly and urgently transform the economic patterns of the present in order to realise our vision for the future. This includes addressing the monopoly domination of our economy, which remains an obstacle to the goals of economic transformation, growth and development.

Accelerating growth and transforming the economy both require an effective, democratic and developmental state that is able lead in the definition of a common national agenda, mobilise society to take part in the implementation of that agenda and direct resources towards realising these objectives.

Our understanding of a developmental state is that it is located at the centre of a mixed economy. It is a state which leads and guides that economy and which intervenes in the interest of the people as a whole.

A South African developmental state, whilst learning from the experiences of others, must be built on the solid foundation of South African realities. Whilst engaging private capital strategically, our government must be rooted amongst the people and buttressed by a mass-based democratic liberation movement. Whilst determining a clear and consistent path forward, it must also seek to build consensus on a democratic basis that builds national unity. Whilst acting effectively to promote growth, efficiency and productivity, it must be equally effective in addressing the social conditions of the masses of our people and realising economic progress for the poor.

**THEREFORE RESOLVES:**

To build the strategic, organisational and technical capacities of government with a view to a democratic developmental state, through:
A strengthened role for the central organs of state, including through the creation of an institutional centre for government-wide economic planning with the necessary resources and authority to prepare and implement long and medium term economic and development planning.

The integration, harmonisation and alignment of planning and implementation across all three spheres of government, and with the development finance institutions and state-owned enterprises, including through the development of coherent inter-sectoral plans at national level and the alignment of local implementation in terms of the IDPs of metro, district and local municipalities.

Building the human capacity of the state by establishing uniform and high entrance requirements and standards of employment in the public service, emphasising professionalism, discipline and a commitment to serve and ensuring adequate numbers of personnel to ensure delivery, particularly in the case of front line staff in areas such as education, health and policing.

Building the technical capacity of the state to engage with, understand and lead the development of dynamic and globally integrated economic sectors.

The developmental state should maintain its strategic role in shaping the key sectors of the economy, including the mineral and energy complex and the national transport and logistics system. Whilst the forms of state interventions would differ, the over-riding objective would be to intervene strategically in these sectors to drive the growth, development and transformation of the structure of our economy.

A developmental state must ensure that our national resource endowments, including land, water, minerals and marine resources are exploited to effectively maximise the growth, development and employment potential embedded in such national assets, and not purely for profit maximisation.

Strengthening the role of state-owned enterprises and ensuring that, whilst remaining financially viable, SOEs, agencies and utilities - as well as companies in which the state has significant shareholding - respond to a clearly defined public mandate and act in terms of our overarching industrial policy and economic transformation objectives.

Building and strengthening development finance institutions, as well as non-financial institutions, which are accessible to the people, and which are able to effectively channel financial and institutional resources towards a variety of economic transformation objectives, including industrial diversification and development, small businesses and cooperatives, small-scale agriculture, micro-enterprises and local and regional economic development, and the empowerment of youth and women.

The building of small and micro enterprises is also a critical developmental challenge, which requires the state to deploy resources to build capacity and institutions. The mobilisation of small businesses into cooperative organisations is a critical part of the solutions to this challenge. So is the education of our people in entrepreneurial skills, the provision of financial support and training to small businesses. At the same time we should ensure that fundamental worker rights are protected in small enterprise.
Building the capacity of the state to mobilise the people as a whole, especially the poor, to act as their own liberators through participatory and representative democracy.

To pursue a programme of economic transformation based on the following pillars:

2.1 Making the creation of decent work opportunities the primary focus of economic policies. This central objective should be reflected in the terms of reference of development finance institutions, bodies such as the Competition Commission, the terms of public procurement and public incentives, the sequencing of industrial and trade policy reforms and our sustainable macro-economic policy stance.

2.2 Accelerating shared economic growth by:

- Acting decisively to address the most significant obstacles that limit the pace of economic growth and intervening in favour of a more equitable growth path.
- Continuing to roll out a state-led infrastructure investment programme, and promoting strategic investments in productive activities with the aim of diversifying the economy and building towards an overall investment to GDP ratio of 25%.

2.3 Transforming the structures of production and ownership, including through:

- Active and well-resourced industrial and trade policy aimed at creating decent work through expansion of labour absorbing sectors, diversifying our industrial and services base, pursuing an active beneficiation strategy, building sustainable export industries, and expanding production for domestic and regional consumption. In general, industrial policy should lead our overall approach to sector development, whilst trade policy should play a supporting role and be sensitive to employment outcomes.

- Broad-based BEE aimed at broadening and deracialising the ownership and control of productive assets by black people, women and youth, promoting new black enterprises which are engaged in the production of goods and services, building the skills required by the economy and advancing employment equity in every area of work and economic endeavour.

- Anti-monopoly and anti-concentration policy aimed at creating competitive markets, broadening ownership and participation by our people, addressing monopoly pricing and other forms of rent-seeking and anti-competitive behaviour and overcoming barriers to entry that inhibit the growth of small enterprises, including strategies to increase competition by promoting the emergence of new players in both South Africa and the SADC region.

- Many of our monopolies are based on the nation’s natural resources and we must find ways and means to intervene, including through state custody of these resources on behalf of the people and regulation to ensure competitive pricing of inputs for our downstream manufacturing sector. Furthermore, the
small size and relative isolation of our economy leads to monopolies in certain sectors which could be overcome by increasing regional economic integration with Southern Africa and the continent as a whole.

Policies that promote and sustain small business, micro-enterprises, small scale agriculture and cooperative forms of ownership by providing financial and non-financial resources and building institutions that can effectively access and develop these sectors.

2.4 A comprehensive and clear rural development strategy, which builds the potential for rural sustainable livelihoods, particularly for African women, as part of an overarching vision of rural development. Strong interventions in the private land market combined with better use of state land for social and economic objectives, must transform the patterns of land ownership and agrarian production, with a view to restructuring and deracialising the agricultural sector.

2.5 Overcoming spatial patterns of economic marginalisation and fragmentation and reversing the geography of apartheid in both urban and rural areas.

2.6 Expanding the opportunities for sustainable livelihoods and supporting the growth of second economy activities in urban centres through better access to the centres of economic growth and through financial and institutional support for cooperatives and micro-enterprise.

2.7 Directly absorbing the unemployed through:

Labour intensive production methods and procurement policies.

A significant expansion of the public works programmes linked to the expansion of economic infrastructure and meeting social needs with home-based care and early childhood development on a massive scale.

A much larger national youth service and ensuring the linkage of industrial strategy with key youth development programmes in the form of an integrated Youth Development Strategy.

Programmes that target the employment of women.

2.8 Expanding the social wage by:

Ensuring universal and subsidised access to basic services, health care, affordable transport and access to government information.

Free and compulsory education and ongoing campaigns for adult literacy.

Maintaining and where appropriate expanding the provision of social grants and finding ways and means of alleviating the burden of low income earners.

2.9 Investing in priority skills and education, including through:
Improving our performance in maths, science and technology.

Significantly expanding the resources devoted to our capacity as a people for knowledge production and expanding the resources devoted to innovation and research, including through an innovation management framework which includes the promotion and development of indigenous knowledge.

Improving our entrepreneurial, business and financial skills, and building our public and project management capacities.

Reviving the role state-owned enterprises in skills development and training, and building partnerships between the state, parastatals, the union movement and the private sector in the quest to improve skills.

Placing Further Education and Training colleges at the centre of a popular drive to transfer skills to our people including by providing these institutions with more resources, and scaling-up dedicated bursary schemes to popularise and subsidise attendance at FET institutions.

2.10 The use of natural resources of which the state is the custodian on behalf of the people, including our minerals, water, marine resources in a manner that promotes the sustainability and development of local communities and also realises the economic and social needs of the whole nation. In this regard, we must continue to strengthen the implementation of the Mineral and Petroleum Resources Development Act (MPRDA), which seeks to realise some of these goals. Our programme must also deepen the linkages of the mineral sector to the national economy through beneficiation of these resources and creating supplier and service industries around the minerals sector.

2.11 Ensuring a security of supply of energy resources, and pursing an energy mix that includes clean and renewable sources to meet the demands of our fast growing economy without compromising our commitment to sustainable development.

2.12 Integration of the South African economy on a fair and equitable basis with the economies in the Southern African region and building stronger economic linkages across the continent of Africa as a whole as a basis for increasing our market size through deepened economic integration.

2.13 Participating in world trade, pursuing strategic partnerships with countries of the south and agitating for a fairer world trade system. In particular, this means ensuring policy space to find new opportunities for employment should not be compromised. The position adopted by South Africa in global trade reform talks must continue to emphasise the need to retain policy space on tariffs and industry protection for developing countries and avoid obligations to significantly liberalise our manufacturing or services sector.

2.14 Macro-economic policies that support and sustain growth, job creation and poverty eradication on a sustainable basis.

To enhance the capacity of the African National Congress to monitor and evaluate the implementation of economic policy, including through:
Establishing dedicated capacity, with the requisite resources, to monitor policy implementation and conduct ongoing assessment and engagement around economic policy issues, at national, provincial and regional level.

A national programme of economic literacy for ANC members.

To take the lead in mobilising and uniting all South Africans around our common vision of economic transformation.

Appendix 6: African Mining Vision

Africa Mining Vision:

“Transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development”

This shared vision will comprise:

A knowledge-driven African mining sector that catalyses & contributes to the broad-based growth & development of, and is fully integrated into, a single African market through:

- Down-stream linkages into mineral beneficiation and manufacturing;
- Up-stream linkages into mining capital goods, consumables & services industries;
- Side-stream linkages into infrastructure (power, logistics; communications, water) and skills & technology development (HRD and R&D);
- Mutually beneficial partnerships between the state, the private sector, civil society, local communities and other stakeholders; and
- A comprehensive knowledge of its mineral endowment.

A sustainable and well-governed mining sector that effectively garners and deploys resource rents and that is safe, healthy, gender & ethnically inclusive, environmentally friendly, socially responsible and appreciated by surrounding communities;

A mining sector that has become a key component of a diversified, vibrant and globally competitive industrialising African economy;

A mining sector that has helped establish a competitive African infrastructure platform, through the maximisation of its propulsive local & regional economic linkages;

A mining sector that optimises and husbands Africa’s finite mineral resource endowments and that is diversified, incorporating both high value metals and lower value industrial minerals at both commercial and small-scale levels;

A mining sector that harness the potential of artisanal and small-scale mining to stimulate local/national entrepreneurship, improve livelihoods and advance integrated rural social and economic development; and

A mining sector that is a major player in vibrant and competitive national, continental and international capital and commodity markets.
Africa Mining Vision- Adopted by African Heads of State in 2009

I-INTRODUCTION


The taskforce, jointly established by the African Union (AU) and ECA, also includes representatives from the African Mining Partnership (the intergovernmental forum of African ministers responsible for mining), the African Development Bank (AfDB), UNCTAD, and UNIDO.

The Africa Mining Vision is informed by the outcomes of several initiatives and efforts made at sub-regional, continental and global levels to formulate policy and regulatory frameworks to maximize the development outcomes of mineral resources exploitation. These include the Johannesburg Political Declaration and Plan of Implementation [chapter 46 and paragraphs (f and g) of chapter 62 (Sustainable development for Africa)] of the World Summit on Sustainable Development, the Yaoundé Vision on Artisanal and Small-scale Mining, the Africa Mining Partnership’s Sustainable Development Charter and Mining Policy Framework, the SADC Framework and Implementation Plan for Harmonisation of Mining Policies, Standards, Legislative and Regulatory Frameworks, UEMOA’s Common Mining Policy and “Code Miniere Communautaire”, the Summary Report of the 2007 Big Table16 on “Managing Africa’s Natural Resources for Growth and Poverty Reduction” jointly organized by ECA and the AfDB, the work of the International Study Group to Review Africa’s Mining Regimes (ISG), to name a few. Annex 1 provides a list of all the initiatives that were taken into consideration during the process of formulation of the Africa Mining Vision.

16 The Big Table is an initiative designed by the Economic Commission for Africa (ECA) to promote frank and constructive dialogue between African sectoral ministers and their OECD counterparts. The format and agenda are designed to allow for maximum interactive dialogue, with no formal statements. The event is organized by ECA in collaboration with the African Union and the African Development Bank.
In establishing a timeframe to implement the Vision, it is important to take into consideration the long gestation period of mining projects, which makes it a relatively special industry. Equally important is the local context and development trajectory. Therefore, the Vision will be implemented in a phased manner (Fig 1). However, the various phases of implementation are not mutually exclusive. Where possible, they can be implemented concomitantly.

**Figure 1: Schematic Resource-based African Industrialisation Phasing**

(relative economic importance)

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource Exploitation</td>
<td>Resource Beneficiation (value-addition, market access)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource Infrastructure</td>
<td>Densification/generic (SDP) Infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unskilled resource labour</td>
<td>Increasing skills intensity (HRD) &amp; capacity building</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource rents (tax)</td>
<td>Rents from Resource diversification industries</td>
<td>Diverse tax base</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource Inputs production &amp; Lateral migration (diversification)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Import of Resource Inputs</td>
<td>Resource R&amp;D. high level skills and tech development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VII</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Import of Resource Technologies</td>
<td>Policy space, Complex regulation, M&amp;E, governance</td>
<td>Contract Law</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contract/license resource &amp; infra (PPP) governance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**II-BACKGROUND**
Harnessing natural resources endowments: Key to Africa’s development

Africa is the world’s top producer of numerous mineral commodities (Table 1) and has the world’s greatest resources of many more, but most of Africa still lacks systematic geological mapping which could bring to light a much greater resource base. Unfortunately, most of Africa’s minerals are exported as ores, concentrates or metals, without significant value-addition. There is thus a large potential for mineral beneficiation. Africa also has significant known resources of fossil fuels (oil, gas and coal) and has large biomass and bio-fuels potential (ethanol, bio-diesel), especially in the tropics. In addition, it has massive hydro-electric potential (e.g. Inga 45GW, Congo River 200GW) and largely un-assessed geothermal potential along the Great African Rift Valley.

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Production</th>
<th>Rank</th>
<th>Reserves</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGMs*</td>
<td>54%</td>
<td>1</td>
<td>60+%</td>
<td>1</td>
</tr>
<tr>
<td>Phosphate</td>
<td>27%</td>
<td>1</td>
<td>66%</td>
<td>1</td>
</tr>
<tr>
<td>Gold</td>
<td>20%</td>
<td>1</td>
<td>42%</td>
<td>1</td>
</tr>
<tr>
<td>Chromium</td>
<td>40%</td>
<td>1</td>
<td>44%</td>
<td>1</td>
</tr>
<tr>
<td>Manganese</td>
<td>28%</td>
<td>2</td>
<td>82%</td>
<td>1</td>
</tr>
<tr>
<td>Vanadium</td>
<td>51%</td>
<td>1</td>
<td>95%</td>
<td>1</td>
</tr>
<tr>
<td>Cobalt</td>
<td>18%</td>
<td>1</td>
<td>55+%</td>
<td>1</td>
</tr>
<tr>
<td>Diamonds</td>
<td>78%</td>
<td>1</td>
<td>88%</td>
<td>1</td>
</tr>
<tr>
<td>Aluminium</td>
<td>4%</td>
<td>7</td>
<td>45%</td>
<td>1</td>
</tr>
</tbody>
</table>

Also Ti (20%), U (20%), Fe (17%), Cu (13%), etc.

*PGMs: Platinum Group Minerals

Africa’s dire need to industrialise is universally acknowledged. The structural transformation of our economies must be an essential component of any long-term strategy to ensure the achievement of the Millennium Development Goals (MDGs) in Africa, eradicate poverty and underpin sustainable growth and development across our continent. The key issue, however, is in the formulation and implementation of workable industrialisation strategies based on our continent’s unique strengths, rather than the emulation of strategies that may have been effective in other contexts. A resource-based African industrialisation and development strategy must be rooted in the utilisation of Africa’s significant resource assets to catalyse diversified industrial development, as was successfully implemented by several erstwhile resource-based economies in the developed world such as in Finland, Sweden,
German (especially in the Ruhr region), and the US over a century ago and to some extent in more recently in middle income countries Malaysia, Brazil and South Africa (Box 1).

Resource-based development and industrialization strategies are not a new mantra. The vision that mineral resources could be used to catapult Africa to modernization has been articulated in many African plans and development strategies at national and regional levels (e.g. Lagos Plan of Action, SADC Mineral Sector Programme, Mining Chapter of NEPAD, and, most recently, the Africa Mining Partnership). However, most of those plans and strategies were centred in developing ambitious and grandiose projects designed with a very narrow “mining box” mentality. The projects were very capital intensive and dependent on foreign inputs. Most collapsed because they were inefficient and unsustainable given the low level of infrastructure development, market imperatives and weak knowledge base in the recipient countries.

The experience of resource-based development and industrialization in the Nordic countries reveals that the sustainability and success of this strategy depend on favourable external and internal factors such as natural resources endowments and proactive and deliberate actions from key stakeholders, particularly governments. Specifically, action is required to:

- Facilitate and nurture human resources development and skills formation in tandem with the development of resources technological clusters through the facilitation of research and development (R&D) and the building of knowledge networks and niches involving academia, industry, the government and other players;
- Provide supporting infrastructure including roads, rail ports, energy and water and telecom;
- Encourage the establishment of strong instruments of collaboration (industry/professional associations, Chambers of Mines, cluster councils, incubator/technology packs) and foster agglomeration effects and learning processes by the establishment of a critical mass of key similar, ancillary, related and associated industry players that share information, collaborate and compete to improve the initial factor advantages, enhance competency, reinvention, innovation, technology evolution and spillovers, and diversification;
- Promote local beneficiation and value addition of minerals to provide manufacturing feedstock;
- Promote the development of mineral resources (especially industrial minerals) for the local production of consumer and industrial goods;
- Establish an industrial base through backward and forward linkages;
- Encourage and support small and medium-scale enterprises to enter the supply chain;
- Improve the quality of the business environment, increase private sector confidence and participation, and reduce entry barriers and operating costs to achieve external economies of scale;
- Ensure compliance of industry players with the highest standards of corporate governance, and environmental, social and material stewardship;
- Harness the potential of mid-tier resources that may not necessarily attract major international companies but high net worth individuals, including local entrepreneurs;
• Establish the requisite enabling markets and common platforms for services (raising capital, commodity exchanges, legal and regulatory support, marketing support and know-how);
• Harness the potential of Public Private Partnerships (PPPs); and
• Promote regional integration and harmonization to facilitate factor flows.

Continued innovation and human resources development are key to reducing the dependence on the initial factor endowment (natural resources) and to building and sustaining a locally embedded, competitive and diversified economy. Conversely, where there is underdeveloped human, knowledge, physical and institutional capital, as well as governance deficiencies, insufficient innovation systems, low rates of technology awareness and progress, and inefficient economic and business organization, it is impossible to turn the initial factor endowment into a platform to build successful clusters and diversified economies.

Lessons learnt from experiences in Nordic countries, suggest that it is important to have a shared strategic vision, deliberate and proactive government-led collective action, timely interventions and coordination of public, private and community interests at all levels in order for a resource-based development and industrialization strategy in Africa to be brought to fruition at the continental level. In addition, there is a need to identify, at national and regional levels, anchor projects that would underpin the strategy.

However, Africa is now in a very different historical and socio-economic environment than the one the Nordic countries confronted. Africa has to face different entry barriers, which are compounded by the weight of the continental debt, its levels of poverty and capacity dearth. In order to realise its significant resources potential, Africa needs to overcome its severe infrastructure constraints. In addition, to avoid the resource “enclave” resources development of the past, Africa needs to ensure that the numerous resource and resource-based economic linkages are realised locally, within the continent.

As a first step in achieving these, an African Spatial Development Programme (SDP) has been proposed, consisting of a network of key Development Corridors across Africa to realise the continent’s resources and associated potential. The SDP aims to synchronize infrastructure provision with users to enhance investment potential and to provide economic rigour for infrastructure investments. It helps to vet projects using solid economic/business rationale, thus achieving an effective investment prioritization of infrastructure projects.

For the SDP to be successful there is need to create opportunities for local participation, particularly in the provision of good and services. These opportunities can be discerned if the minerals industry is unbundled to identify entry-points for (i) increasing local upstream support (supplier/input industries) sectors; (ii) enhancing downstream industries based on increased local beneficiation and value addition of goods; (iii) facilitating lateral migration
of mining technologies to other industries; (iv) increasing social, human, knowledge and institutional capital (which can be used in other sectors); (v) promoting the development of sustainable livelihoods in mining communities; and (vi) creating small- and medium-sized enterprises and a more balanced and diversified economy with greater multiplier effects and potential to create employment.

The role of regional cooperation and integration in reducing transaction costs, establishing intra-regional synergies, enhancing competitiveness and realizing economies of scale that would catalyse minerals cluster development should not be underestimated. However, for goods, services, capital and other factors to freely flow in the regional spaces, there is need to expedite intra-regional harmonization of laws, regulations and fiscal regimes, among other critical factors.

Such a Resource-based African Industrialisation & Development Strategy (RAIDS) based on using Africa’s significant resources endowment (comparative advantage) to catalyse growth in other sectors could provide a viable component of an integrated and sustainable growth & development strategy for Africa. It would maximise the resource sector linkages by building integrated resource industrial clusters (up-, side- & down-stream linkages) and the development of high-level skills within the clusters, through accelerated investment into Human Resource Development (HRD) and Research and Development (R&D), to enable Africa to incrementally build a sustainable competitive advantage off its resources comparative advantage. Such a competitive advantage would ultimately be independent of our resource endowments.

**Box 1: Finland: The mature forestry industrial cluster 1997**

- **Backward Linkages**
  - Specialized inputs
    - Chemical and biological inputs (for production of fibres, fillers, bleaches)
  - Machinery and equipment
    - For harvesting (cutting, stripping, haulage)
    - For processing (for production of chips, sawmills, pulverization)
    - For paper manufacture (30% of the world market)
  - Specialised services
    - Consultancy services on forest management
    - Research institutes on biogenetics, chemistry and silviculture

- **Natural Comparative Advantage**
  - Abundant forestry reserves and plantations (400-600m3 per capita)\(^b\)

- **Forward Linkages**
  - Roundwood
    - Sawmillwood
    - Plywood (40% of the world market)
  - Wood products
    - Furniture
    - For construction
  - Wood pulp
  - Paper and cardboard
    - Newsprint
    - Art paper (25% of the world market)
    - Toilet paper
    - Packaging
    - Special products

**Related activities**
- Electricity generation
- Process automation
- Marketing
- Logistics
- Environment industries (paper)
- Mining industry (sulphuric acid)
- HRD

\(^a\) Generates 25% of Finland’s exports; \(^b\) Compared with 25-30m3 per capita in the rest of the world.

Source: Ramón 1998 p.111

(CEPAL Review, #68, 12/1998);
**Commodity booms: Traps or windows of opportunity?**

Many African states have recently shown strong growth after several decades of stagnation due to the recent commodities boom provoked by strong demand from China and, to a lesser extent, other emerging economies such as India and Vietnam. Many African states have significant potential for commodities production, especially minerals and consequently, FDI\(^\text{17}\) into Africa has displayed a marked upturn since 2002, mainly into the mineral resources sector (Figure 3).

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\(^{17}\) FDI: Foreign Direct Investment
The resource boom took off in 2003 with dramatic increases in the prices of minerals which was followed by rises in the prices of agricultural bio-fuels feedstock in 2006 and finally other agricultural commodities in 2007 (Figure 4). The price-depressing effects of OECD/developed world agric-subsidies, combined with the mineral supply inelasticity, most probably caused the lag in the price response of agricultural commodities to Asian demand. However, although improved global prices for African commodities is a welcome development for the bulk of the continent’s rural-based communities, urgent strategies are needed to ameliorate the impacts of high food prices on Africa’s urban poor and vulnerable rural populations. Equally important is to develop local capacity to manage commodity price volatility. The most recent commodity price crash has revealed how seminal this issue is:
Until recently, commodity prices were experiencing a boom characterized by a consistent increase of prices and demand for mineral products, particularly during the period 2002-early 2008. Currently, we are witnessing a severe commodity price correction, mainly fuelled by the credit crunch and financial meltdown, economic slowdown in the United States, and the spectrum of a global economic recession. This has dampened demand for commodity and push prices down. On the medium to longer term though, there is a good possibility that demand for mineral resources will pick up. Key to this will be growth in China and India.

The underlying driver of mineral demand is the metals intensity of global GDP growth. The following graph (figure 5) displays the steel intensity (which is a good proxy for metals intensity) in a unit of global GDP.
The global steel intensity of GDP shows three distinct phases since WWII:

1. Phase I (1950 to 1984): high intensity - Post WWII developed world reconstruction and increasing buying power within the developed world, resulting in strong minerals demand and prices. Negligible impact in the developing world.

2. Phase II (1984 to 2000): low intensity – developed world infrastructure installed, move to services (only Asian “tigers” in high intensity phase, but too small to impact on global trend). This resulted in over-supply and low prices for most minerals. This gap reflected a failure of continuous global growth due to developed world hegemony over international trade regimes, and widespread use of subsidies (e.g. CAP & steel).

3. Phase III (2000 to present): High intensity (higher than Phase I) as the developing world takes off and trade rules are increasingly revised, reflecting a partial loss of developed world hegemony over global trade systems. Period of high demand and prices. (Figure 6)

Global metal intensity would have been on a continuous increasing trend if global growth had been diffused to more of the world’s people in the 1980’s, instead diffusion was only to the Asian “tigers” with a population of less than 80 million. The diffusion of global growth (and intensity) finally only occurred 20 years later (BRICs\textsuperscript{18} et al).

\textsuperscript{18} Brazil, Russia, India and China
Many African states were still colonies during Phase I and, on gaining independence, established strongly “statist” natural resources exploitation regimes, just before the onset of the low intensity of Phase II, and concomitant weak demand and low prices. This promoted a widespread revision of natural resources regimes in the 1980’s and 1990’s (generally initiated by the World Bank) to attract FDI from the TNCs, typified by low conditionality, low state share of resource rents and low linkages of the resources sector into the domestic economies. Given the new global scenario, these regimes are in urgent need of revision, for the current “boom” to catalyse sustainable development in resource rich African states.

Figure 6: Steel Intensity per Capita

This graph seems to indicate that, at around $16k/capita (2006 US$), the metals intensity of GDP growth tends fall off, no matter when the initial metals consuming “lift-off” phase occurred. Given that China (PRC) is only at about one-third up this high intensity phase, that India is at about a third that of China, and given that they have a combined population approaching three times that of the developed World, it would then be reasonable to assume that the current global high metals intensity phase could continue at least as long as Phase I (see, Steel/GDP graph) or roughly 30 years (1950 to 1980)! This assumption excludes growing intensity from other emerging economies such as Brazil, Vietnam, Indonesia, etc., which if included could make this a 30 to 50 year high intensity Phase.
Thus, provided that the above fundamentals remain robust and hold and unless there is a serious worldwide recession, demand for minerals could grow and a price upturn could occur. This could be driven also by low inventories and supply side constraints generated by the long gestation periods of mining investments, production problems, rising prices for inputs and shortage of skilled labour. The current credit crisis could also drive prices up because restrictions on capital access would mean development of fewer new mining projects, as well as slowing down, postponement or abandonment of expansion projects, which in turn would affect production, and tighten inventories and the supply chain. Most likely, the prices would not reach the historic peaks experienced in early 2008, but would certainly be higher than the low prices of the late 1990s. The big questions are how much recent events affected the overall investment appetite for the sector, how long the crisis will last, and when the upturn will occur. Notwithstanding, Africa should learn from the current collapse in commodity prices and devise tools to minimize its impacts on local economies. These include instruments to better manage revenue volatility, strategies to reduce dependence on commodities and diversify the economies, and efforts to develop internal markets for mineral products with a view to hedging against the vagaries of external markets.

**An evolving mining sector: historic enabler of progress in Africa**

Africa has long exploited its mineral resources. In fact, the oldest mines in the world are to be found in Africa such as the Ingwenya mine in Swaziland, which was exploited 20000 years ago for iron ochres, for rock paintings. In addition, there are thousands of ancient gold and base metal mines across the continent. In general these mines were integrated into the local pre-colonial economies, providing essential raw materials and high value goods for trade (gold, copper). With European colonial conquest, African mining became integrated into the economies of European countries, providing raw material for their industrialisation.

With independence, Africa’s leaders became preoccupied with enhancing the contribution of the minerals sector to the economic and social development of the continent. In the 1960’s and 70’s, inline with the then prevailing strong assertion of national sovereignty as a follow-up to the end of colonialism, the dominant thinking was that this development could be achieved only if the state had significant or, indeed, full ownership of mining enterprises. That thinking led to the nationalization of large private companies. In a number of countries, such as Ghana, Guinea, and Zambia, the State took over control of the industry. Hopes were raised that the nationalized sector would be the engine of growth and rapid industrialization, which would provide more significant economic benefits to the nation and improve livelihoods of the people. However, among others, the following factors contributed to the stagnation and, even, decline of the nationalized mining industry: Political interference in business decisions; lack of or inadequate respect for managerial and technical expertise; low reinvestment leading to capital consumption; inability to access finance; and depression of mineral prices.
By the late 1980’s, much of Africa’s mining industry was in a state of crisis and under-performance. This forced government attitudes to change. There was a fundamental paradigm shift and redefinition of the role of state, from 100% ownership and control, to deregulation and almost complete withdrawal. Many African countries embarked on a radical reform process with the aim of attracting foreign direct investment to rehabilitate their moribund minerals and mining sector. To this end, state enterprises were privatized and efforts and resources were deployed to improve the investment climate. New mineral policies, and legal, regulatory and administrative frameworks more favourable to private investors were formulated and established. Emphasis was put on security of tenure and strengthening of mineral rights. Comprehensive packages of incentives for the mining investor in terms of reduced taxes and royalties were also approved. Associated with a rise in mineral prices, this resulted in a mining boom, increased foreign direct investment and an influx of mining capital, technology and skills.

However, by the late 1990s and at the start of the 21st Century, critics started to argue that the resource boom and the ensuing efficiency gain and rise in export earnings in many mineral economies in Africa were producing questionable welfare gains and development outcomes. They considered most reforms narrow minded and more geared towards attracting foreign investment and promoting exports and less towards fostering local development. It was further argued that the reforms were sectoral-centred and did not take into consideration macro-economic objectives that could spur broader developmental objectives and that they only favoured FDI over local capital development.

Others pointed out that although the benefits of mining to certain national economies could be evident, local costs (environmental impacts and social and cultural disruptions) associated with mining especially to local communities were not being adequately compensated for. Criticism was also vented on the magnitude of special incentives offered to mining companies, which arguably reduce the share of rent on which African governments depend to fund their social and development programmes. There is also the argument that mining has not fulfilled its poverty reduction role and poverty reduction has not been mainstreamed into mining policies, often due to weak linkages into the local, regional and national economies.

The fact that most of the reform process was government-centered has also been a cause of concern. It has been argued that as a reflection of asymmetrical power relations, processes for communication, consultation and decision-making would tend to favor bi-polar initiatives (government and private sector) and outcomes and would not be sufficiently representative and participatory. Thus, development outcomes could be narrow-minded and only take into consideration government and mining companies’ perspectives, without due regard to the views and aspirations of local communities and civil society at large.

In response to new pressures on the minerals industry for an equitable share of benefits and maximization of local impacts for sustainable development, the minerals industry has started searching for a new social contract for mining that could result in integrated development, with diverse economic linkages and
increased social well-being, livelihood security and reduced vulnerability of poor communities, but bearing in mind the localised nature of mineral endowments which requires the balancing of local benefits with sustainable national poverty alleviation strategies.

New contractual arrangements and legal instruments to facilitate increased participation by local communities and other stakeholders, as well as new revenue (derived from royalties, income tax, land tax and lease rents, etc) distribution mechanisms for sharing, at local level, portions of centrally collected rents, are being considered as responses to the challenges posed by this new development paradigm. With the same objective, tri-sector-partnerships involving government, the private sector and local communities are being tested to improve government, private sector and local community relations and the social and development outcomes of mining at local level. The same applies to public participation to secure consent for government and industry actions. However, within any polity, a delicate balance has to be struck between resource rent disbursements to resource-rich and resource-poor regions. Ultimately, both are served through investment into physical and human infrastructure, to underpin future national competitiveness.

Some mining companies are departing from their previous approaches to development and community relations, variably characterized as “Strictly business”, and “Practical partnerships” to adopt “less instrumentalist and more holistic” corporate social responsibility charters and development approaches that have a better potential to significantly uplift and empower local communities. Also, there seems to be a broader understanding that sustainable development in the mining sector means that mineral development around the globe should be sustainable in environmental, economic and social terms, taking into consideration market dynamics, technological innovation, community involvement, health and safety, environmental impacts, and institutional set-ups.

Thus, it is beginning to be understood by the corporate world that successful mining companies and industries will be assessed according to a triple bottom line, namely financial success, contribution to social and economic development, and environmental stewardship. This principle guided the Global Reporting Initiative (GRI) in preparing the mining and metals sector supplement of its reporting guidelines. The GRI guidelines for mining were completed in 2004 and contain social, environmental and economic indicators that cover several aspects including revenue capture, management and distribution; value-added disaggregated to country level; compensation payments to local communities; employee benefits beyond those legally mandated; and, description of equal opportunity policies or programmes, to name a few. However, they are generally silent on the integration of mining into the local and regional economies through making the critical up-, down- and side-stream linkages.

III-WHY THE AFRICA MINING VISION?

The decolonisation of Africa unfortunately coincided with a drop in the global metal intensity of use, as mentioned above. Since gaining independence, most African countries has made little progress in integrating their mineral sectors into their local economies, with a few notable exceptions. This was due in part
to falling prices and inappropriate policies. The Asian boom provides a new opportunity for Africa to integrate its mineral sector into the local economies through creating the critical linkages. However, this will not happen automatically and will require an African Mining Vision and a set of appropriate strategies and interventions for the realization of that vision.

The key elements to an African Mining Vision, that uses mineral resources to catalyse broad-based growth and development need to be, from looking at successful resource-based development strategies elsewhere, the maximisation of the concomitant opportunities offered by a mineral resource endowment, particularly the “deepening” of the resources sector through the optimisation of linkages into the local economy.

The principal resource endowment opportunities are:

- Resource rents: The use of resource differential and windfall rents to improve the basic physical and knowledge infrastructure of the nation through investment in physical infrastructure and social & human infrastructure.
- Physical infrastructure: The collateral use of the high-rent resource infrastructure to open up other resource potential (such as agriculture, forestry and tourism\(^{19}\)), to access zones of economic potential with lower returns (e.g. agriculture) that cannot afford their own requisite infrastructure.
- Downstream value addition: The use of the locational advantage (CIF-FOB) of producing crude resources to establish resource-processing industries (beneficiation) that could then provide the feedstock for manufacturing and industrialisation.
- Upstream value-addition: The use of the relatively large resources sector market to develop the resource supply/inputs sector (capital goods, consumables, services).
- Technology/product development: Resources exploitation technologies generally need adaptation to local conditions (e.g. climate, mineralogy, terrain), which provide opportunities for the development of niche technological competencies in the resource inputs sector. This sector tends to be knowledge-intensive and accordingly needs “priming” through investment in resources HRD and R&D. However, several studies have shown that it has the capacity to later “reinvent” itself outside the resources sector through the lateral migration of technological competencies to produce new products for other (non-resource) markets.

**IV-CRITICAL CONSTRAINTS AND SUCCESS FACTORS FOR REALIZING THE VISION**

The seminal question appears to be why the bulk of African states have not been able to take advantage of these resource endowment opportunities to make these critical linkages in order to underpin diversification, growth & development? Dealing with each in turn, the failures include:

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\(^{19}\) In most African states tourism potential is based on natural resources such as fauna, flora and geomorphology (beaches, mountains, etc.), rather than man-made attractions.
• **Resource rents:** As per the extensive “resource curse” literature, this is the classical diversion of rents into short-term (imported) consumption and, often clandestine, forex\textsuperscript{20} outflows, resulting in low levels of reinvestment. However, the root cause is weak governance, particularly the lack of or ineffective appropriate institutions. This often also impacts on the state’s share of the resource rents to the extent that African states with weak governance generally fail to impose resources tax regimes that ensure an equitable share of the rents, particularly windfall rents, due either to a lack of state capacity or the subversion of that capacity to produce overly investor friendly outcomes.

• **Collateral use of resource infrastructure:** To some extent, this is taken advantage by most resource-based African economies, but the development of the other sectors, particularly commercial agriculture, along and within the resource infrastructure “catchments” is often severely constrained by the macro-economic impacts of a resource boom (strong currency or Dutch Disease) and by the failure to invest in and maintain the necessary feeder infrastructure linking to the resources infrastructure.

• **Downstream value addition:** The reasons for this failure are numerous and include the non-availability of other critical inputs, besides the crude resources, necessary for competitive beneficiation, such as energy, as well as the high entry barriers (economies of scale) of many beneficiation process (e.g. iron & steel, alumina/aluminium & copper) and the global corporate beneficiation strategies of the TNCs, who often prefer to send crude resources to a central beneficiation facility in another country, or have a policy of keeping to their “core competence” of resource extraction, and then only make the semi-processed resource available to the local market at a monopoly price (import parity price\textsuperscript{21}), if they have a monopoly or oligopoly position in the country concerned. This is arguably also a governance failure to impose minimum levels of beneficiation in the mineral extraction agreement, or to establish an effective competition authority/regulator.

• **Upstream value addition:** The main failures here are the centralised purchasing strategies of most resource extraction TNCs, the lack of a domestic business sector with the requisite capacity and access to capital to take up these opportunities and the lack of local human resources and technological expertise to establish these, generally knowledge-intensive, industries. Here again good governance is critical in ensuring local content minimums in the resource contracts/licenses and investing in the appropriate HRD and technology development.

• **Technology/product development (lateral migration):** This is closely linked to the previous point, in that, in order to leverage off the resource sector, targeted investment in HRD and R&D is needed by the state and the resources companies. However, the resources TNCs generally centralise their R&D in Minority World countries (often their home bases), which generally have the necessary human resources and R&D infrastructure, including state support/incentives for technology and product development. Yet again this is arguably principally a governance failure to impose HRD and R&D conditions on the resource companies and to facilitate this process through state investment in technical HRD and R&D incentives.

Artisanal and small-scale mining represents a special challenge, which requires a separate discussion and different and tailor-made approaches to address the challenges.

\textsuperscript{20} Forex: foreign exchange

\textsuperscript{21} Import Parity Price (IPP) is the alternative imported price of the resource (CIF) in a particular country
Overall, the key strategy in optimising a resource endowment is around the resource regulatory regime, which directly determines the relative “division of the spoils” and indirectly influences the deepening of the sector through down and upstream linkages to the local, national; and regional economies. In this process there are at least five crucial intervention points:

1. **The level/quality of the resource potential data:**

The less that is known about the potential value of a resource the greater the share of the rents that the investor will understandably demand, due to the high risk of discovering or dimensioning the resource, which may be turn out to be sub-economic. This applies mainly to mineral and energy resources, but also influences the deals struck for other resources such as agricultural terrains, forestry, fisheries and tourism attractions.

Most African states lack basic geological mapping or, at best, are poorly mapped. This increases the risk for investors who consequently demand extremely favourable tax regimes for any operation that may result from their blue-sky exploration. Possible methods for an African state to tackle this “knowledge infrastructure” challenge, include:

- **Increased investment in improving the resources knowledge infrastructure.** There have been numerous studies that have clearly shown extremely high returns to the state from investment in basic geological surveys. In addition to investing in physical infrastructure, Africa and its bilateral & multilateral donors need to also consider investments in their resource knowledge infrastructure. It stands to reason that the more a state knows about the potential value of a resource the greater will be its ability to strike an equitable deal on the division of future rents and benefits accruing from the exploitation of the resource.

- **Self-adjusting resources tax regimes,** which augment with increasing profitability and thus allow the state to garner windfall rents during commodity booms, are preferable for resources than straight tax as a percentage of profit systems. Such rate-of-return (ROR) or profitability based fiscal regimes, are based on profit as a percentage of turnover or revenue rather than straight profit, but are more commonplace in oil & gas regimes than mineral regimes. One drawback is that they are perceived to be more complicated to determine than straight profit based systems, but this should not be overly problematic for commodities with terminal markets (constant international price fixes) as turnover would simply be a function of volume and a transparent price. The room for creative bookkeeping is mainly in the determination of the profit, which is common to both systems.

- **Competitive auctioning** of prospective resource “blocks”. This is commonplace in oil & gas, fisheries and forestry/logging regimes, but seldom used in mineral regimes. Most African mineral regimes tend to have attractive nationally applicable minerals tax systems in order to attract investors into the exploration of high-risk unknown terrains, no matter the relative prospectivity (“one size fits all” problem). However, there is generally a virtually automatic conversion from an exploration license to a mining license, meaning that once the exploration license is issued, the state has little control over the mining tax regime, no matter how profitable/rich the deposit. In general, mineral investors will tend to have a much better
idea of the value of the prospective block than the state and competitive auctioning would, in some circumstances, be an effective method of achieving fair value. However, where there is little or no geo-data, an auction is unlikely to flush out fair value and these terrains would be best governed through a transparent rate of return tax system.

- **Differentiation of resource terrains** based on potential. Following best practice in the oil & gas sector, this system would divide a country into areas of high risk (low geological-data) and areas of low risk over known metallogenic terrains (such as the African Goldbelts, layered complexes, coalfields, the Zambia/Congo Copperbelt, etc.). A fixed rate-of-return based tax system could apply to the former (exploration terrain), whilst the latter (delineation terrain) would be auctioned off as blocks and the state tax-take (rent share) would be the main bidding criteria, in order to flush out the optimal deal for the state. With increased investment in resource mapping (geo-survey) and geo-data acquisition, areas would be reclassified from high risk (exploration: low conditionality, ROR tax system) to low risk (delineation: high conditionality, bid tax system) and vice-versa.

However, there will always be a grey area between known assets (auction) and unknown assets (exploration license) of partly known (indicated) resources. This gap could possibly be best dealt with, by allowing a form of PPP exploration (geo-survey), where, if a viable resource is delineated, the private exploration company is guaranteed step-in rights, when the resource is eventually auctioned. This is done in oil & gas exploration, where seismic survey companies are recompensed partly or fully with step-in rights to any blocks later auctioned in the survey area. The size of the “earned” step-in rights (5% to 20%) would be determined by the cost and extent of the exploration programme, as well as the prospectivity of the terrain.

The determination of “known” and “unknown” mineral terrains needs to be transparent and objectively based on sound geo-data. In this regard, existing resource classification systems could be used such as JORC (Australia) and SAMREC (South Africa) that require sign-off by a “geo-auditor” (competent person), but Africa should look to the establishment of a continental system, or “AMREC” (African Mineral Resource Classification) under a continental professional body (such as an expanded Southern African Institution of Mining & Metallurgy: SAIMM).

**Contracts negotiating capacity:**

The second critical intervention is to improve the capacity of African states to negotiate with the resource TNCs on the resource exploitation regime. Generally these negotiations are extremely asymmetrical, where the TNC is highly resourced and skilled and the state poorly. Thus, one of the most critical interventions of some donors in recent years has been the effort to correct this asymmetry through the contracting of world-class consultants to support the state in these crucial contract/license negotiations and the concurrent development of the state’s own capacity. The African Development Bank is establishing a legal advisory capacity to support its member states in such complex long-term contract negotiations.

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22 PPP: Public-Private Partnership
Oftentimes, a government would rather take no decision (or delay) on important resource exploitation deals, rather than conclude a bad deal, due to its cognisance of its own weak technical & legal negotiating capacity and fear of botching the deal (with obvious political consequences), which serves neither the African state nor the TNC. These resource exploitation contracts generally tend to have a very long tenure of 20 to 30 years (mining license), making it all the more pertinent to get the optimum deal at the outset. In this respect, it is important to introduce self-adjusting mechanisms that cater for all phases of resource cycles and attempt to put in renegotiating triggers/milestones within the tenure, to adjust for unforeseen developments.

The state’s ability to optimise the leasing (licensing) of its natural resource assets is concentrated at the outset (conclusion of the exploitation contract) as it is difficult to fundamentally renegotiate contracts at a later stage without sending negative signals to investors on the certainty of contracts, with resulting increased negative investment risk perceptions. It is therefore important to identify all the critical resource linkages at the outset (in the resource exploitation contract/lease/license), even if the local economy is not yet in a position to take advantage of such opportunities. The most important aspects in this regard include:

- Equitable share of the resource rents;
- Flexible fiscal regime which is sensitive to price movements and stimulates national development;
- Third-party access to the resource infrastructure (particularly transport, energy and water) at non-discriminatory tariffs;
- The development of the local resource supplier/inputs sector where feasible (particularly capital goods, services & consumables), through the use of flexible local content milestones;
- The establishment of resource processing industries through the use of flexible value-addition (beneficiation) milestones & incentives and the upfront stipulation of competitive pricing of resource outputs/products in the domestic market, for the life of the project;
- The development of local requisite human resources and technological capacity through stipulated investments in training and R&D, preferably in partnership with the state (joint or matching funding); and
- Provisions that safeguard transparency and good governance as well as enforce internationally acceptable safety and health standards, environmental and material stewardship, corporate social responsibility, and preferential recruitment of local staff.

3. **Ongoing African resources development and governance capacity:**

The third critical intervention area is in creating African capacity for ongoing auditing, monitoring, regulating and improving resource exploitation regimes and developing the resource sector linkages into the domestic economy. This could be facilitated through ensuring that there is a skills transfer dimension in all contracted consultancies during the lease/license negotiations as well as a targeted strategy around the development of such an ongoing resources governance capacity. Given the dearth of people with these skills in Africa, consideration could be given to the pooling of resources with neighbouring states through cross border resources infrastructure regulation (transport authorities, power pools, water catchment bodies, etc),
possible joint management of cross-border resource occurrences and the creation of a regional capacity within the regional economic communities. This capacity could also be enhanced through accession to continental and international resources monitoring and oversight bodies such as the African Union’s APRM\(^{23}\), the EITI\(^{24}\) and the Kimberley Process for diamonds certification.

Whilst such African capacity is being built, consideration could be given to the outsourcing of some of the regulatory, audit and monitoring functions, such as the auditing of resource company tax returns, but with skills transfer provisions.

The key element in determining whether or not a resource endowment will be a curse or blessing, is the level of governance capacity and the existence of robust institutions. However, this could be a “chicken and egg” situation for African states, in that they are underdeveloped precisely because they have weak governance and institutions. There are clearly no short cuts out of this conundrum, but it can be argued that the international environment has improved for breaking the resource curse cycle. Some elements of this are:

- The world is increasingly globalised, with increasing global monitoring and regulatory systems, such as the WTO, the Kyoto Accord (UNFCCC\(^{25}\)) and the Equator Banking Principles;
- Corruption of African governments is now an offence in most developed countries (it used to often be tax deductible);
- The end of the Cold War has given the major powers less reason to prop up corrupt African governments for political (“anti-commie”) reasons;
- There is much greater oversight of resource TNCs activity in African states by civil society and most now produce a “sustainable development report” based on the Global Reporting Guidelines (GRI);
- There is much more space for local communities, unions and local government to participate in the resource exploitation process and oversight under the new reporting standards (triple bottom line- “sustainable development report”, SIA\(^{26}\) & SAP\(^{27}\));
- There are new global resource and resource rent monitoring systems such as the EITI, Kimberley Process and the recently launched COST (construction industry transparency initiative) for African states to accede to;

\(^{23}\) APRM: Africa Peer Review Mechanism
\(^{24}\) EITI: Extractive Industries Transparency Initiative
\(^{25}\) UNFCCC: United Nations Framework Convention on Climate Change
\(^{26}\) SIA: Social Impact Assessment;
\(^{27}\) SAP: Social Action Plan.
• There are new regional and sub-regional monitoring and governance assessment systems such as the African Union’s APRM that countries can accede to; and

• The rise of China and India as resource markets and investors has given African states more options than available under the old “Western” colonial and neo-colonial hegemony.

It is clear that there is no “one size fits all” strategy for strengthening African resource governance and institutions. Nonetheless, there are a few broadly applicable strategies such as accession to international protocols (e.g. APRM, EITI) and the establishment of critical institutions to facilitate the optimal exploitation of natural resources, including:

• Independent judiciary and the use of regional and international protocols;

• Independent competition authorities and integration into regional economic blocks (FTAs, customs unions) to increase market size and the ability of the market to self-regulate competition;

• Infrastructure regulators (transport, energy, water, telecom) and the pooling of limited national resources through cross-border regulators (catchment bodies, transport authorities, power pools, etc.);

• Autonomous Higher Education Institutions (HEIs: universities, colleges) and the linking of these institutions with other regional and international institutions;

• Technology development institutions (R&D) together with the private sector (PPPs). Here again, regional R&D projects with neighbouring states would assist in accumulating a critical mass in technology/product development;

• Local independent capital markets (banks, stock exchange) and commodity markets. Here again regional institutions would increase viability by increasing the market size;

• Local DFIs (Development Finance Institutions), particularly for SMME\textsuperscript{28} support (access to capital & skills), though the experience of African DFIs has not been particularly positive. Regional or continental institutions might make more sense in terms of pooling resources, attaining a larger market and improved oversight;

• However, the most important institution is the resource exploitation licensing/contracting body, which would benefit from national, regional (RECs), continental (AU-APRM) and international (EITI, KPC) oversight.

\textsuperscript{28} SMME: Small- Micro- & Medium-scale Enterprises
The Resources TNC “Trade-off”

In order to rapidly acquire capital and skills, most African states have opted to encourage foreign capital rather than to predominantly rely on the indigenous development of local resource companies. However, ultimately, a resource sector dominated by foreign capital (TNCs & JRCs\(^{29}\)) is likely to be politically unsustainable or, at least, problematic. In addition, local capital is generally more likely to make the critical resource sector linkages into the local economy due to:

- A better knowledge of local supply opportunities and markets, due to better local networks;
- The lack of a global purchasing network (as per the TNCs) which encourages the local company to find local supply opportunities, such as lime and activated carbon (from coconut shells) for gold processing (these are generally imported by the TNCs in gold producing African states, despite the availability of local limestone and coconut shells);
- The lack of global resource processing (beneficiation) facilities (as per TNCs) necessitates investment by local capital into local facilities to realise value-addition, as occurred in some of the Nordic countries;
- The lack of a corporate strategy of resource exploitation (“dirt digging”) “core competence” (as per most of the TNCs & JRCs) that focuses exclusively on resource extraction and denies the African state the opportunities of resource beneficiation and supplier industries. This is partly due to the fact that, in the early stages of economic development, there is a tendency for the growth of diversified conglomerates (in order to build the requisite corporate capital base for large projects) in many developing countries, such as the “zaibatsu” in Japan, the “chaebol” in Korea, the “Bombay Club” in India and the diversified “Mining Houses” in South Africa and Zimbabwe. Over time, these tend to break up into specialised industry-specific companies. This disaggregating is often accelerated by the re-listing of diversified Majority World companies on to the major Minority World stock markets where, with greater international (institutional) stock holders, they come under immense pressure to “unbundle” and dispose of non-core activities, to realise stock holder value;
- The lack of technology and human resource development capacity (R&D and HRD) outside the African state in the Minority World (as per the TNCs) obliges domestic capital to develop technology (R&D) and skills at local institutions or in-house; and
- Finally, sometimes, an inherent willingness to develop the local economy: The element of “patriotic” capital (often underpinned by greater state and public influence on local companies).

The African state is, for a wide variety of often country-specific reasons, generally typified by an extremely weak domestic business sector. This, more often than not, renders it unable to effectively realise its numerous resource sector opportunities (both within the resource sector and in its “linkage” sectors). In

\(^{29}\) JRC: Junior Resource Company
most cases, focussed, country specific, strategies for growing local capital to take advantage of the resource endowment opportunities urgently need to be developed, but there also are a few generic strategies that are worth a mention:

- Access to capital (credit) is probably the most widespread constraint experienced by African businesses and, in addition to facilitating an independent and robust banking system, local and regional Development Finance Institutions (DFIs) could play an important role. DFIs with a clear shareholder mandate and non-political interference in day-to-day running have had a positive impact on the development of local capital. However, it is probably preferable to establish a specialised exploration DFI with the requisite earth science skills to partner local JRCs in high risk exploration projects, such as was done in Quebec in the 1960’s where a specialised DFI was established (Soquem) to build local French-speaking mining capital;
- Partnerships with multilateral and donor agencies as well as philanthropic organisations are becoming increasingly common as risk capital and skills providers in Africa, particularly for SMEs;
- Macro-economic stability gives greater predictability and lowers the cost of capital for new entrepreneurs and is often facilitated through regional integration in the form of common monetary areas and customs unions as well as constitutional provisions that make it difficult for future regimes to negate or override;
- Access to skills for both the entrepreneurs and the staff of new local enterprises is critical and could be enhanced through partnerships with multilateral institutions (World Bank group, UN agencies), neighbouring states and appropriate donor agencies;
- Access to technology is important and could be facilitated by local/regional HEIs (Higher Education Institutions) and R&D bodies and through technology partnerships with the local TNCs facing similar technological challenges;
- Access to the requisite infrastructure is also important and would be enhanced through open-access provisions on infrastructure developed through DFI (TNCs); and
- Finally, arguably the most important vehicle for building local capital are the foreign resource investors (TNCs) who have the requisite capital, skills and expertise, but are not naturally inclined to facilitating the growth of local competitors. Therefore this needs to be built into the exploitation contract license through provisions such as those contained in the South African “Mining Charter”, which include:
  - Local skills development (HRD);
  - Local professional and managerial staff complement targets;
  - Local purchasing targets;
  - Local minority equity (ownership) targets;
  - Local beneficiation targets/milestones;
  - Local R&D targets and incentives; and
  - Establishment of local venture capital funds.
As mentioned, the ability of the State to impose conditions is concentrated at the beginning of the process (when the exploitation license is granted). Therefore it is of seminal importance to get it right from the outset, to avoid messy renegotiations at a later stage.

4. **Improving the capacity to manage mineral wealth:**

One of the mechanisms by which host countries have, in the past, sought to capture mineral rent has been through the establishment of state mining enterprises. Although no longer a preferred instrument, some still exist. In many countries, they have been privatized or dismantled. It is often argued that Government investment in mining projects subject public funds to unnecessary risk and that host Government shareholding in mining companies, even if free, does not offer significant benefits if dividends are not regularly declared. This decision, as to what to do in any particular instance, must be made in the specific context, rather than dogmatically or as a matter of following fashion.

Wholly state-owned mining projects are now becoming rarer and rarer in Africa and in most of the developing world. It is now much more common in mining regimes for the state or a community to take a minority interest by in a mining project. Sometimes, such interest is paid for either up front or from dividends when declared. In other instances, no direct payment is made and the allocation is simply part of the overall division of benefits. Here again, it is necessary to assess concretely whether equity participation is merely a piece of symbolism (sometimes an expensive one) or yields meaningful benefits. In particular such participation ought to be compared with other fiscal instruments such as royalties. Many States now agree that most of what they wish to achieve through ownership in mining projects can be achieved through the regulatory process or policy and fiscal instruments. This view is based on the assumption that the state has no difficulty attracting private investors, but is unable to raise the required finances and does not have people with the requisite management and technical skills to embark in mining directly. But, if on the other hand, a state possesses the required resources, then it is possible to invest in a profitable and purely commercial operation as in the case of Debswana, a diamond company equally owned by De Beers and the Botswana government. Similarly, the Royal Bafokeng Nation (RBN) in South Africa provides an example of a community, which appears to have done exceedingly well with its participation in mining operations conducted on its land.

Accounting for revenues paid to governments from mining projects has become an important issue of governance. The “Publish What You Pay Campaign” launched by a group of NGOs and the “Extractive Industries Transparency Initiative (EITI)” sponsored by the British government are notable initiatives which are currently keeping this matter in the forefront of the international agenda. Both are now supported by a number of governments, multilateral agencies, companies and civil society groups. However, at the same time, it should be noted that many African governments are still only timidly embracing the EITI principles and related campaigns.
Whilst the attention of national policy makers has traditionally focused on the fairness of the allocation of benefits between mining investors and the host country as a whole, increasing attention is now being paid to the benefits derived by the communities where mining operations take place to ensure that local and national-level concerns and interests are balanced. The benefits to the local community may come in various forms including revenues which accrue to the community because of its location (property rates and land rents); benefits which are the community’s share of central government revenues from mining and non-income benefits such as employment for local residents; assistance to community health and educational institutions; access to the use of mine infrastructure by the general public, etc.

A major concern for mineral policy makers in developing countries relates to arrangements for allocating portions of central government mineral revenues to local mining communities, and the management of monies so allocated. The most important issue to address concerning the revenues that go back to the communities (as indeed for revenues retained by central government) is how to utilize and manage the monies. Since mineral deposits have finite lives the economy of any local community, which depends substantially on mining, could in time grind to a halt if the use and management of the community’s share of revenues is not planned properly. Economic diversification to avoid creation of mining communities, which degenerate into ghost towns after exhaustion, is a major challenge. Particular care needs to be taken to train these communities in managing revenues and to strengthen their capacity to engage in meaningful negotiations with both government and private sector and to invest in post-mining economic activities and enabling infrastructure.

Various schemes for managing host country or community mineral revenues exist in a number of countries. Examples of such schemes are the Alaska Permanent Fund (based on oil revenues) and Trust Funds established in the island of Nauru, funded from phosphate revenues. The scheme for the allocation, management and monitoring of revenues to Chad from the Chad – Cameroon Pipeline Project incorporates the idea of setting aside portions of government revenues “for the benefit of future generations”. There are two other aspects of the scheme which could provide a model for other African mineral projects – (a) allocating a percentage of revenues to fund defined priority sectors of the national economy; and (b) having an oversight committee (with membership from the public service and civil society) to manage and monitor revenues paid into the fund. The project has only just commenced operations and it would be interesting to see how the scheme works out in practice.

There may be special arrangements and understandings between mining companies and respective local communities that can significantly promote development of the communities. These include agreements for general public access to certain mine facilities and infrastructure (power lines, roads etc); assistance in the construction and operation of educational and health facilities; and agreement on preferential employment of local labour and on contracting of services from indigenous local companies. For example, mining companies in the Lake Victoria Goldfields in Tanzania have entered into these types of community development arrangements with local authorities. A mining company may also agree to provide some infrastructure for the community in return for a tax credit.
Other major challenges that policy makers have to contend with include how to: (i) create and sustain mineral wealth without compromising environmental, social and cultural considerations, and ensuring a regulatory framework that encourages mineral creation; (ii) invest mineral revenues to ensure lasting wealth; and (iii) improve governance and macroeconomic policy, to address problems such as the Dutch Disease, rent seeking and corruption, the impact of natural resources exploitation on conflict and externalities such as unstable commodity prices.

A resource boom often has several negative impacts on the local economy, which are generally termed the “Dutch Disease” after these were observed following the natural gas boom in Holland in the 1960’s. These include:

- The strengthening of the current account through boom provoked increased resource rents, which tends to strengthen the local currency, causing other sectors to become less competitive, particularly manufacturing which contracts, leading to possible de-industrialisation.
- The sucking in of limited local capital and human resources to the resource boom sector, leading to the underdevelopment of other sectors and consequential increasing macro-economic dependence on the resource boom sector.
- Fiscal instability caused by sudden drops in state revenues (boom/bust resource rents) at the end of the cycle which cannot be matched by concomitant contractions in state expenditure, which in turn results in state deficits, increasing recourse to debt and inflationary pressure on the local currency. This is a fairly accurate picture of what happened in Zambia in the 1980’s, with the fall in copper prices.

A commonly used strategy is to keep windfall rents in an offshore “stabilisation” or “future” fund and not to rapidly expand state expenditure in line with the increasing resource revenues. These funds are then generally invested in a diverse basket of investment instruments (equity, bonds, currency markets, etc.) that will provide reliable revenue streams in future years, such as the Norwegian “Future Fund”. However, for countries that lack basic infrastructure, a proportion of these funds might well be better allocated to long-term infrastructure provision projects (roads, rail, ports, energy, water, telecoms, etc.) that would underpin the competitiveness of other sectors (diversification). This would “drip-feed” the boom rents back into the economy over a 10 to 20 year period and could in theory ameliorate the “shock” effect of large forex inflows both on the balance of payments (current account) and the national budget. However, it is extremely difficult for a poor state to resist the demands of its people for immediate, but unsustainable, poverty relief. Therefore such fiscal policies need to be enshrined in law with provisions to make it difficult for a future populist government to use the offshore funds to buy short-term popularity.

Such stabilisation or future funds would also go some way in providing “inter-generational equity” over non-renewable resource extraction, as future generations would be the beneficiaries of the investments into improving the national infrastructural platform. The drip-feeding back of boom revenues would also give time for the development of local infrastructure contracting companies (construction and engineering) as well as supplier companies (cement, rebar, equipment, etc.), rather than exclusively relying on foreign contractors and suppliers (imports).
For African states with insufficient opportunities for long-term infrastructure provision, part of the offshore funds could be reinvested in regional and continental investment funds (such as the Pan African Infrastructure Development Fund - PAIDF\(^{30}\)) which would provide future revenues to the state as well as facilitate the growth of regional markets for the country’s products and lower cost regional products and logistics for its future imports.

5. **Addressing Africa’s infrastructure constraints:**

A Resource-based Development Strategy is generally severely constrained in many African states by the lack of the requisite infrastructure (especially transport & energy) to realise the natural resources potential. This is particularly true for land-locked countries and, in general, Africa’s relative logistics costs are about 250% of the global average because:

- Africa is the highest continent (has few navigable rivers) and 93% of Africa is in the tropics (ITCZ\(^{31}\), high precipitation), resulting in a greater cost of infrastructure provision and O&M\(^{32}\);
- Incoherent European balkanisation resulted in many African states being landlocked (14);
- Africa has only 10% of land within 100km of coast (cf. 18% OECD & 27% Latin America); and
- Only 21% of its people live within 100km of coast (cf. 69% OECD & 42% Latin America).

Due to this constraint, the resources of many African states are “stranded” and cannot currently be exploited, as individual projects cannot afford to absorb the huge costs of the necessary infrastructure due to insufficient rents. Nevertheless, groups of projects or a few high rent projects (generally minerals & energy) could often collectively underpin the infrastructure investments through “use-or-pay” contracts with infrastructure providers. Such pooling of usage usually requires cross-border collaboration as resource terrains seldom follow political boundaries.

Consequently, the huge resources potential of Africa could conceivably be realised through integrated multi-state Development Corridors (Annex 2), rather than another colonial “scramble for resources”.

6. **The case of artisanal and small-scale mining (ASM):**

**ASM: A complex profile**

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\(^{30}\) The PAIDF has been established by a group of African state pension funds to develop the continent and provide future revenues to the pension funds.

\(^{31}\) ITCZ: Inter-Tropical Convergence Zone – high precipitation (ppt)

\(^{32}\) O&M: Operations & Maintenance.
ASM provides 13 to 20 million jobs worldwide while a further 80-100 million depend on it for their livelihoods. In Africa, about 3.7 million are directly engaged in this sub-sector and about 30 million depend on it. It is an expanding sub-sector predicted to triple by 2012. Increasing numbers of people turn to it to seek alternative livelihoods, particularly in marginal areas with limited economic alternatives. In many cases, this is impelled by growing economic crises, (which increases unemployment), and decreasing rural livelihood choices, exacerbated by natural (mainly droughts and floods) and man-made disasters (e.g. conflicts). The possibility of striking it rich quickly, serves as a magnet for some miners; the majority are just trying to escape poverty.

ASM is labour-intensive and provides more employment than large-scale mining. Between 15 to 20% of the world's non-fuel minerals, approximately 18% of Africa's gold and almost all of the Africa's gemstones, except diamonds, are produced by ASM. Furthermore, ASM is a precursor to large mines and allows the exploitation of deposits that are not amenable to large-scale mining.

ASM is also an important factor for income generation. Revenues derived from ASM can increase local purchasing power and have the potential to catalyze SME development and foster local economic multipliers. For example, in Tanzania, where ASM miners are said to earn ten times more than farmers, income from ASM is invested in shops, taxis, bars, guesthouses, and farming. ASM also contributes to foreign exchange earnings, and helps reduce rural to urban migration of the youth.

Despite its positive impacts, the ASM sub-sector is beset with problems of sustainability. The sub-sector has been neglected both locally and in the international development agenda and it does not feature in most national and local poverty alleviation strategies. Much of this is due to the negative perceptions of ASM, which tend to outweigh its positive impacts. Working from a low capital and asset base, most ASM activities are of a rudimentary nature, with little mechanization (Shovels, hoes, picks and wheelbarrows are the tools commonly used). Where there is mechanization, equipment and techniques are inefficient and hazardous to the environment and to the miners. In consequence, productivity, ore recovery and yields are low and income remains at subsistence level. This hinders re-capitalization and upgrading of mining operations and keeps small-scale miners in a vicious cycle of poverty.

The poverty cycle is aggravated by legal and regulatory failures, including failure of governments to recognize and formalize the sub-sector. Where, there have been efforts to regulate it, the legal frameworks are not adequate and preference is still given to large-scale mining. Most ASM miners do not have security of tenure or access to high-quality and mineable resources. Because of this, they cannot generate adequate income or use their mineral rights as security for funding or to enter into joint ventures with other more capable partners. To this, one can add poor access to financial resources caused by the reluctance of banks and other financial agencies to provide loans and other financial assistance to an unregulated ASM sub-sector. The problem has been worsened by the HIV/AIDS pandemic. Other problems include substance abuse, prostitution, child labour, and gender inequality.

The quest for solutions
The critical challenge for those working in and with the ASM sub-sector is to mitigate its negative consequences and enhance its positive benefits to transform it and maximise its contribution to poverty reduction and creation of resilient communities. For this to happen, there is need to improve the understanding of ASM issues on the policy, regulatory, environmental, health, cultural, society, and economics domain.

There have been notable attempts to develop and deploy appropriate assistance to the ASM sub-sector in several parts in Africa, but most were technology-oriented. Some of the programmes have contributed on a micro scale to improving productivity and reducing localized impacts to the environment. However, results at a macro level were less encouraging. Several reasons could be advanced for this poor performance.

Many past interventions in ASM were top-down, short, ad-hoc, lacked continuity and adequate funding. The focus was mainly on gold and gemstones and less on industrial minerals, which have greater potential for integration with other sectors of the local economy. In addition, there was poor understanding of the nature of the problem of ASM and its finite and poverty-driven trait. Resource constraints of many governments and organizations limited the scope of their interventions, particularly efforts to formalise the sub-sector, and provide education, training and appropriate technology to ASM miners. Lack of local infrastructure to support research, development and innovation of appropriate technology; and inadequate framework for technology diffusion and assimilation also affected impact. More important however, was the fact that the attempts were isolated and very technical-oriented in nature. Other important societal and techno-economic variables were very often ignored.

Alternative policies are needed to render the sector more sustainable. There is need of a pluralist, holistic and multi-pronged approach that goes beyond providing technology options. It is important to recognise that ASM is both a poverty-driven and a poverty alleviating, finite activity. To raise the profile of ASM and draw more attention and resources to it, there is a need to exploit the sub-sector’s broader linkages and identify its entry points to broader development agenda, including the MDGs.

To stop the poverty cycle, the approach should be broadened to include the development of diversified and alternative livelihoods to ASM (artisan training on alternative skills such as carpentry and brick laying, diversifying income sources and broadening non-mining incomes), which would facilitate ASM transitions from artisanal to small-scale mining; from gold and gemstones to industrial minerals; from mining to farming and other businesses; and ensuring that ASM miners “Don’t make their sons/daughters also miners, they save and invest in their education, health and knowledge”. This should result, respectively, in some miners abandoning mining altogether; fewer miners per unit of area mined; more income for the remaining miners; and ultimately less pressure on the limited resources. This needs to be done in direct consultation and with input from the ASM miners.

The Yaounde Vision
The Yaounde Vision on ASM was adopted during a joint ECA/UNDESA Seminar on “Artisanal and Small-scale Mining in Africa: Identifying Best Practices and Building Sustainable Livelihoods of Communities”, held in Yaounde, Cameroon from 18 to 22 November 2002. The Vision represents one of the main frameworks for the development of this sub-sector in the continent. It has been adopted by CASM-Africa18 and provides a blueprint, which will continue to be relevant in the future. The Vision recognizes ASM as a key poverty-driven and poverty alleviating activity for many African rural economies, with very little entry barriers and frames its development problematic in the broader context of the MDGs. It further recommends that ASM should be integrated into local and regional economic development and land-use plans and strategies, specially the Poverty Reduction Strategies (PRS). The Vision also urges that the mining policies and laws of member States should be reviewed to incorporate a poverty reduction dimension in ASM strategies.

**The road ahead**

There is no sufficient evidence yet to inform how effective the Yaounde Vision has been in transforming the ASM sub-sector, for, very few countries, if any, have implemented the Vision in its entirety. Notwithstanding, a combination of the measures described above, including the provision of specialized training to miners and adoption of simple strategies for dissemination of technology will certainly yield better results and impact than current practices. Active participation of small-scale miners in the planning, designing, implementation and evaluation of small-scale mining methods and policy is a crucial element for success. It is also important to identify and empower leaders in the ASM communities who can be agents of the change process.

To improve the impact of ASM programmes there is need to improve typification of the sub-sector, and government, donors and CSOs’ knowledge on ASM, in particular on local socio-economic and cultural peculiarities and context; differentiation among small-scale miners; the human, social, financial, natural and physical capital assets of ASM “miners”; and other dynamics in ASM communities.

Beyond this and equally relevant, there is need to provide ASM miners with analytical skills and training on sound business management. This can facilitate the transformation of ASM from a transitory and shock-or-coping-responsive activity that takes places in “marginal enclaves” into a serious business and change ASM communities from vulnerable and marginal enclaves of unorganized groups of miners and other actors into integrated and functionally sustainable and resilient communities.

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18 The inaugural meeting of the Communities and Small-scale Mining (CASM) Africa initiative (CASM-Africa took place on 10 August 2005 at the United Nations Conference Centre (UNCC) in Addis Ababa, Ethiopia. Members of CASM-Africa agreed that the new organisation will function as a regional partner of the multi-donor CASM (Global) network whose secretariat is hosted by the World Bank in Washington DC, USA. CASM (Global) and CASM-Africa share an urgent commitment to enhance the positive contribution that the ASM sector can make to development processes in many countries. Its role is to develop and share knowledge, build networks, facilitate projects, provide an advisory and review function on ASM with the goal of transforming ASM into profitable enterprises within sustainable communities.
Some of the critical areas that require more work include: mainstreaming ASM in PRS; establishing functional and effective financial schemes for ASM miners; opening-up market opportunities for ASM; enhancing the formalization and the level of organization of ASM miners; improving the delivery of cost-effective and results-oriented ASM services in a context of limited resources; raising the profile of the sub-sector and galvanising interest of the development community; empowering women and eliminating child labour; and addressing environmental and human health issues, including HIV/AIDS and occupational hazards in a more effective manner. This is a huge agenda, which requires an effort at a continental level. CASM (especially CASM Africa) is well positioned to provide leadership in this. CSOs have also been very active in delivering practical and ground-based support to ASM miners. Their contribution is vital and should be mainstreamed.

VI-WAY FORWARD
The approaches described above offer hope that the legacy of mining in Africa can be improved. However, more needs to be done to achieve change. Policies, legal and regulatory frameworks to facilitate equitable participation by local businessmen, communities and other stakeholders in mining activities need to be refined, as well as tools to improve revenue (derived from royalties, income taxes, land taxes, lease rents, etc) distribution at local level. Transparency and efficiency in the management of revenue paid to various governmental authorities has become an important part of the mineral policy agenda. Mechanisms for enhancing these are still in the early stages of implementation, but have significant potential for improving the public benefit in many resource rich African countries. They need to be coupled with efforts to strengthen institutional capacities and competencies at government and other levels for efficient long-term planning, prudent management and smart spending, saving and investment of mineral wealth. The Africa Mining Vision has been developed to provide a credible blueprint to addressing the challenges listed above. It hinges on developing a new integrated development approach to mineral resources exploitation rooted on strong political will and commitment, capable and visionary leadership, strong administration, a good understanding of Africa’s advantages and the dynamics of mineral commodities, maximizing the potential of regional integration, and building partnerships for change. To succeed, it needs champions.

AMV Annex 1: Initiatives in Search of a New Social Contract to Mine
The beginning of the 21st Century saw a flurry of initiatives to improve mining development outcomes. A non-exhaustive list of the most important ones is listed below. The outcomes of these initiatives informed the formulation of the Africa Mining Vision:

- The Second Conference of African Ministers Responsible for the Development and Utilization of Mineral and Energy Resources in Africa, held from 21-22 November 1997 in Durban, South Africa, adopted the “Durban Declaration on the Sub-regional and Regional Cooperation for the
Development and Efficient Utilization of Energy and Mineral Resources in Africa”, which among others committed the continent to deepening the on-going reforms and to creating a conducive environment to enhance the flow of domestic and foreign investment to the minerals and energy sectors.

- The Kimberley Process began in May 2000 in Kimberley (South Africa) as interested governments, NGOs and industry groups sought to come up with a practical way to prevent illicit diamonds from entering the legitimate diamond trade. It is a unique initiative by government authorities, the international diamond industry and NGOs to stem the flow of so-called ‘blood diamonds’ – rough diamonds used by rebel movements to finance wars against legitimate governments. These have contributed to fuelling devastating conflicts in a number of countries in Africa. The Kimberley Process is now composed of 43 participants, comprising states and regional economic organizations, including the European Union.

- In November 2000, UEMOA member States agreed to adopt a common mining policy and legislation, including a harmonised fiscal code in an effort to foster sub-regional harmonisation. The main objectives of this policy are:
  - the institution of an attractive environment for mining investments;
  - the diversification of mining outputs;
  - the transformation of minerals where they are produced;
  - the co-existence of industrial mines and small informal mining; and
  - the preservation of the environment.

- The World Summit on Sustainable Development (WSSD) held in Johannesburg, South Africa, from 26 August to 4 September 2002 introduced a section on mining/metals in the Johannesburg Plan of Action (JPOI). These efforts resulted in paragraph 46 of the JPOI on mining/metals. It recognizes that mining/metals can contribute to sustainable development when relevant issues are properly addressed, i.e. with good governance. The focus of the paragraph covered the whole life cycle from mining to metals in recognition of the fact that issues that occur at any stage of the life cycle also have consequences for the other stages.

- The Extractive Industries Transparency Initiative (EITI) was launched by UK Prime Minister Tony Blair at the World Summit on Sustainable development in Johannesburg, September 2002. Its aim is to increase transparency over payments by companies and revenues to governments in the extractive industries. The EITI supports improved governance in resource-rich countries through the full publication and verification of company payments and government revenues from oil, gas and mining.

- In November 2002, a joint ECA and UNDESA Seminar on “Artisanal and Small-scale Mining in Africa: Identifying Best Practices and Building Sustainable Livelihoods of Communities”, held in Yaounde, Cameroon, adopted the Yaounde Vision on Artisanal and Small-scale Mining. The Vision Statement reads: “Contribute to sustainably reduce poverty and improve livelihoods in African artisanal and small-scale communities by the year 2015 in line with the Millennium Development Goals”. The key strategies to realize the vision include formalizing and reflecting artisanal and small-
scale mining (ASM) issues in national legislation and codes and integrating ASM into rural community development programmes and Poverty Reduction Strategies.

• The MMSD report, “Breaking new ground”: Mining, Minerals and Sustainable Development was published in 2002. This report analyses the role of the mining sector in the transition to sustainable development and provides a basis for a strategic and ongoing process for the implementation of sustainable development principles in the mining and minerals industry.

• In 2003, UEMOA adopted a Common Mining Code (Code Miniere Communautaire), which contains a unified legal framework for minerals exploration and mining in the territory. The Code sets forth the mineral ownership, the types of minerals subject to regulation and their legal regime, the access to mineral rights, the rights and obligations of the mineral title’s holder, the special incentives granted during exploration and exploitation stages, and the settlement of disputes.

• The Extractive Industries Review (EIR) initiated by the World Bank Group to discuss its future role in the extractive industries with concerned stakeholders was completed in 2003 and EIR recommendations were published in the final report entitled “Striking a Better Balance”. The aim of this independent review was to produce a set of recommendations within the context of the World Bank Group’s overall mission of poverty reduction and the promotion of sustainable development.

• In 2003, the International Council on Mining and Metals (ICMM) adopted the ICMM Sustainable Development Framework. It is a key tool to assist members to improve their sustainable development performance. The Framework is made up of four elements – 10 Principles, supported by public reporting, independent assurance, and sharing good practice. The Principles seek to cover “important aspects of sustainable development”, including corporate governance, health and safety, human rights, responsible product design, environment and biodiversity, social, economic and institutional development, appropriate materials choice, public engagement and independently verified reporting arrangements. These Principles are:

  - Implement and maintain ethical business practices and sound systems of corporate governance.
  - Integrate sustainable development considerations within the corporate decision-making process.
  - Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.
  - Implement risk management strategies based on valid data and sound science.
  - Seek continual improvement of our health and safety performance.
  - Seek continual improvement of our environmental performance.
  - Contribute to conservation of biodiversity and integrated approaches to land use planning.
  - Facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products.
  - Contribute to the social, economic and institutional development of the communities in which we operate.
Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders

- In February 2004, thirty African mining ministers and/or their representatives launched the African Mining Partnership (AMP), with the aim of championing and coordinating mining and mineral-related initiatives under the auspices of NEPAD. The ministers identified mining programmes and projects in six key areas: Artisanal or small-scale mining; harmonisation of mining policies; environment and sustainable development; beneficiation and value addition; human resource development; and promoting foreign investment and indigenous participation in mining ventures. AMP’s current efforts to formulate the “African Mining Policy Framework” and the “Sustainable Development Charter for Africa’s Minerals and Mining Sector” are of key relevance to mineral policy formulation on the continent.

- In 2004, a multi-stakeholder working group co-convened by the GRI and the ICMM developed the Global Reporting Initiative (GRI) Mining and Metals Sectors Supplement to accompany the GRI 2002 Sustainability Reporting Guidelines. The supplement together with the guidelines contains indicators to allow tracking of performance against the ICMM SD Framework. By identifying and targeting economic, environmental, and social performance issues and indicators specific to the mining, minerals, and metals industry, the supplement assists companies to address these issues in a common fashion, producing more relevant, meaningful and comparable reports.

- The 2007 Big Table on “Managing Africa's Natural Resources for Growth and Poverty Reduction” was co-organized by ECA and the African Development Bank on 1 February 2007, in Addis Ababa, Ethiopia. The objective of the 2007 Big Table was to promote frank discussions on the challenges of effectively managing Africa’s natural resources for growth and poverty reduction and frame an agenda for future action. The issues discussed included natural resources governance; ownership, participation and inter-generational equity; bargaining power, value and the role of emerging global actors; environmental stewardship; and capacity, partnerships and regional integration.

- SADC Mining Ministers adopted a framework for the “Harmonisation of Mining Policies, Standards, Legislative and Regulatory Framework in Southern Africa” in March 2007. An Implementation Plan, to translate the framework into an operational programme of activities, has also been developed. The Harmonisation Implementation Plan has eight themes or areas of work based on categories of related activities. This was endorsed by a SADC meeting of experts from both the private sector and Senior SADC government officials and is due for approval by the Ministers of Mines in August 2008. The themes and their objectives, as prioritised by the SADC experts are as follows:
  - **Policy, Regulations and Administration**: the aim is to adopt similar objectives for national mining policies and align administration procedures in the sector;
  - **Geological and Mining Information Systems**: this aims at standardising geological data as well as increasing the availability of geological information to stimulate investment in the industry;
Human Resources and Institutional Capacities: this seeks to improve the quality and quantity of available skills, and standardise qualifications as a basis for the free movement of skills in the region;

Safety, Health and Environment: focuses on developing and implementing a common set of health, safety and environmental standards across the SADC mining industry;

Investment promotion: aims at institutionalising SADC-wide mining investment forums, providing investment related information and targeting infrastructure development in potential mining areas;

Value Addition, Innovation and Research and Development: to promote downstream value creation through the assembly of information on tariffs and market opportunities and developing a system of innovation to increase the competitiveness of SADC mineral value chains;

Artisanal and Small-Scale Mining: this targets the upgrading of the knowledge and skills of small-scale and artisanal miners, as well as providing information and services to address their traditional lack of access to such services; and

Social Issues and Gender: this seeks to encourage linkages between communities and mineral developments, and uplift the role of women in mining.

• The International Study Group to Review Africa’s Mining Regimes (ISG) was established in October 2007 by the United Nations Economic Commission for Africa (ECA) following the 2007 Big Table with a view to conducting a review of Africa’s current mining regimes and proposing recommendations on how the transformational potential of the mining sector can be enhanced. It comprises leading African and international academics and practitioners of natural resources law, economics, public policy and management.

• In February 2008, the Tenth Ordinary Session of the Assembly of Heads of State and Government of the African Union adopted a Decision on the Action Plan for the Accelerated Industrial Development of Africa and a Declaration on Africa’s Industrial Development which recognized the role that Africa’s mineral resources can play to promote development and the industrialization of the continent.

• The EITI ++, was launched by the World Bank in 2008 with the objective of supporting selected countries, mainly in Africa, to formulate and implement polices and adopt measures throughout the entire mineral resources value chain by addressing upstream and downstream issues (such as licensing, procurement, ownership, corporate social responsibility, sustainable development, etc.).

• In 2008, as a follow-up to the 2007 Big Table, the African Development Bank (AfDB) established the African Legal Support Facility (ALFS). The key objective of the ALSF is to eliminate the asymmetry of expertise and imbalance of knowledge in addressing the challenges posed by vulture funds and in complex commercial transactions, especially relating to natural resources. The facility will have two main programme areas, namely (i) the establishment of legal advisory service, and (ii) capacity enhancing and capacity building programme.

AmV Annex 2: African Development Corridors (DCs)
Development Corridors (DCs) were first implemented in Southern Africa under the South African sponsored SDIs (Spatial Development Initiatives) after their liberation in 1994.

The NEPAD Secretariat and the African Development Bank have recently adopted DCs as an important tool for configuring, prioritising and promoting inter-related infrastructure and large-scale economic sectoral investments in defined geographic areas (also referred to as Spatial Development Initiatives) as a means to:

- Promote trade and investment led economic growth;
- Optimise the utilisation of infrastructure;
- Encourage value-added processing (beneficiation); and
- Enhance the competitiveness of African economies.

The DCs contemplated under the NEPAD SDP strategy are informed by experience with “SDIs” in the southern African region, the first of which was the successful Maputo Development Corridor (MDC) between South Africa and Mozambique in 1995.

The MDC was first conceptualised in 1994 as a rehabilitation project on an already existing but non-operational transport corridor by the transport departments of the two cooperating governments, but was expanded into the first DC (SDI) by incorporating all the economic sectors into the SDI. As a successful initiative it provides useful lessons both positive and negative. On the whole however, it provides a demonstration effect for other development corridors (SDIs) in Africa and elsewhere, particularly for states, like Mozambique, that have inherited non-existent or destroyed infrastructure.

The MDC initiative has to date helped facilitate over $5 billion in private sector investments into regional infrastructure development, industrial development and natural resources exploitation and beneficiation. Key infrastructure investments included the N4 Maputo Toll Road, the management agreement with Liverpool’s Merseyside Docks and Harbour Company to upgrade and operate the Maputo Port, improvements to the Lebombo Border Post, the construction of two high voltage electricity lines from Duvha (SA, near Johannesburg) to Maputo through a SA-Mozambique electricity utilities JV (Motraco) and the development of the Pande/Temane gas field in Mozambique and the construction of a pipeline to SA\(^{33}\) by Sasol (SA) and ENH (Mozambique).

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\(^{33}\) SA: South Africa
Focusing scarce investment resources to achieve maximum impact, the African SDP provides a means to facilitate integrated economic development platforms based on the promotion of key large-scale anchor (usually in minerals beneficiation) investments & related upstream and downstream investments. They also provide a strategy to catalyse sustainable sectors (agriculture, tourism, resource-processing) and in doing so, provide a tool for introducing a spatial focus to planning for Africa’s infrastructure and economic development. DCs, however, cannot provide a panacea to substitute for other development strategies, especially those required for social delivery.

The SDI model provides a practical way to achieve a regional approach to development which goes beyond the limitations of multi-country projects, encouraging a sustained process of integrated development within a region defined by its economic potential rather than its political boundaries.
An African DC desktop study has shown the potential of continent-wide network of development corridors, examined. It makes the case that Africa’s physical and social infrastructure needs are so large that they cannot be met in any reasonable timeframe without substantive contributions from the private sector. Given the current high prices being obtained globally for Africa’s mineral wealth, Africa needs to harness this opportunity to achieve the modernisation of its own economies on the back of this global demand. Further, mineral resources exploitation should be used to finance infrastructure
through sustainable revenue streams. In this way infrastructure could be made available and affordable to allow for the additional exploitation of private investment opportunities in agriculture, agro-processing, forestry, tourism, etc.

**Collective Self-Reliance**

Development Corridors could be configured to strengthen African governance through “collective self-reliance” by establishing cross-border institutions both for the DC itself (Heads of State Multilateral body) and the associated infrastructure and facilities, such as:

- DC governing organ (Heads of State Multi-lateral);
- DC investment promotion an smooth operation agency (the latter is embodied in the Maputo Corridor Logistics Initiative, MCLI35, by the private sector DC users);
- Cross-border electricity energy entities (e.g. the Motraco JV36, between the South African and Mozambican utilities, and the Gas Pipeline PPP between SASOL and the two governments);
- Cross-border transport concessions (PPPs) such as the MDC highway (TRAC37);
- Joint border post administration (to facilitate rapid transit) such as the planned “one-stop” MDC border post;

Such a strategy of “collective self reliance” through DCs could pool the meagre resources of participating states as well as broaden the ownership of the DC utilities which would militate against unilateral intervention by any one participating country. It could also draw on the resources of a DC member country with stronger governance capacity, whereby a MIC (Middle Income Country) could indirectly support governance in the neighbouring participating states, such as the role of South Africa in southern Africa. Furthermore, as DCs are regional initiatives, they could draw on governance support from the regional economic communities (RECs), such as SADC, COMESA and ECOWAS, where appropriate.

In the longer term, DCs will inexorably draw the participating countries into greater regional economic integration which could have positive governance impacts through the sharing of best practice and the dilution of the impact of a negative political shift in any one of the partners.

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34 The term “collective self-reliance” was first popularised in establishment of the SADCC by the Frontline States (in the struggle against apartheid) in 1980.
35 MCLI: www.mcli.co.za
36 Motraco: www.motraco.co.mz
37 TRAC: Trans-African Concessions, www.tracn4.co.za
Resource-based Development Corridors provide concrete expression of a resource-based African industrialisation & development strategy and are the integrating mechanism for the critical deepening of the African resources sector through up-, down- and side-steam linkages into the local, national and regional economies.

However, such a strategy requires a high level of commitment from neighbouring African states and a concomitant willingness to work together for the common good of their respective peoples.

Possible DC Implementation Structure & Processes
DCs are clearly “owned” by the participating states and oversight would generally be by the Heads of State multilateral. However, the day-to-day running of a DC would be by the Project Manager (PM) and his/her team. The PM could be “housed” in:

a) A dedicated DC structure, set up specifically to establish DC and which could later evolve into the ongoing DC investment promotion capacity;
b) The REC;
c) AU through its NEPAD implementing agency;
d) A DFI (regional or national, such as the housing of the Mtwara DC PM in the Tanzanian NDC, or the SA SDI programme in the DBSA).

The DC PM could be supported by the AfDB (and other local, regional and international DFIs), AUC-NEPAD and “International Partners” (ADCP concept). This is captured in the indicative organogramme below:

A DC establishment follows a series of sequenced steps or phases, though adaptations generally need to be made to cater for specific local circumstances or characteristics.
Appendix 7: Requisite short-term changes to the MPRDA

Note: The suggested amendments to the MPRDA that follow are short-term actions without other interventions such as the creation of a Minerals Commission (will require its own Act) or the consolidation of resources and economic ministries.

Introduction:

Mineral resources must facilitate growth in the economy that will allow increased employment and rising standards of living. In South Africa this is absolutely critical. There is an urgent need to develop sophisticated mineral governance systems that maximise the developmental impact of mineral assets through optimising the main five seminal mineral economic linkages:

1. Fiscal Linkages (capture and deployment of resource rents)
2. Backward Linkages (supplier industries)
3. Knowledge Linkages (HRD and R&D)
4. Forward Linkages (value-addition- beneficiation)
5. Spatial linkages (collateral impact of mining and mineral infrastructure)

Mineral exploitation or environmental sustainability within a shrinking and impoverishing economy cannot be contemplated.

This section essentially deals with the critical and urgent problem of optimising the developmental impact of mining whilst the resources are still extant. Minerals offer a time-limited window of opportunity to launch wider industrialisation and employment opportunities, but in doing this we must not lose sight of the other equally critical aspects of price competitive mineral feedstocks supply. This can be summarised as follows:

- Establishment of an effective and sustainable (over time) macroeconomic model that defines the roles and responsibilities of the public and private sectors. This is a macroeconomic policy and institutional model that involves complex public private partnerships.
- The establishment of an efficient, cost-competitive strategic mineral feedstocks supply to the economy. This requires complex and efficient minerals governance systems to be established. Economies that can mobilise their strategic mineral resources to catalyse growth and development are in a very favourable position. However, they need to ensure that they can maintain the security and stability of supply of those strategic mineral resources, at competitive or developmental prices, as well as constantly optimising the economic linkages opportunities for all mineral
exploitation. To do otherwise is a disastrous abnegation of societal responsibility. South Africa is in an exceptionally favourable position. We have almost all the mineral resources to underpin equitable growth and development. However, in the case of “strategic” minerals (for manufacturing, energy, infrastructure and agriculture) we need to take urgent steps to secure their sustained and affordable supply into the domestic economy. This is the subject of this section.

- Establish environmental sustainability - South Africa is a relatively large contributor per capita to global emissions mainly due to its particular resource endowment leading to the growth of energy intensive beneficiation (metallurgical) industries and accordingly should begin to implement and research alternative mining and beneficiation technologies that are less energy intensive as well as cleaner coal power generation technologies. Accordingly, securing our primary energy supplies of coal and nuclear minerals is essential to our diversification programme and the economic sustainability of our energy system.

- Finally mineral feedstocks security requires an economically sustainable system that takes these complex determinations of mineral security into account. This is no simple task since economic sustainability requires the ability to fund investment, apportion risk and reward and ensure that mineral feedstock prices promote economic competitiveness. Whilst South Africa is in a very favourable position as regards its mineral endowment we are failing to make the seminal linkages to underpin growth and development and are running into funding problems for the major requisite infrastructure (transport and energy). We are in effect moving away from rather than towards such economic sustainability. However, it is achievable with some well defined changes to the current dispensation.

**Strategic Minerals**

- The immediate problems that need to be addressed in this section are the supply conditions of our minerals under the MPRDA. If the South African economy enjoys the massive resource endowment of having world scale mineral reserves (of an appropriate quality range) then it should translate that resource endowment into a secure comparative advantage for the development of our country. Given the importance of job-creating growth in our economy today, to do otherwise is to seriously mismanage our natural resources to the disadvantage of our citizens. Consequently we need to ensure that mineral feedstocks are supplied at competitive prices that stimulate growth and job creation.

- The resource endowment of a mineral can only be translated into a comparative advantage for the national economy if it is accessible to domestic users at a domestic cost plus reasonable rate of return related price, or at least a competitive price (EPP38). Reasonable rate of return is that which ensures adequate levels of investment in the mining and processing of the primary minerals in question (the complexity of global markets make this

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38 EPP export parity price
reasonable rate of return a dynamic and even volatile number so the more complex issue of when the state may have to step in to ensure that investment occurs is not dealt with here but it is essential that it is dealt with urgently).

- The current mineral supplier position is a mixture of a few multinational corporations that are dominant and many smaller BEE and JRC companies that are vulnerable. The former are making investment decisions based on their global portfolio, which may not accord with a national objective of translating a resource endowment into a national economy competitive advantage. In fact differing sales and linkages strategies are evident, which points to differing strategic objectives in relation to SA on the part of the dominant suppliers. In short, market dominant forces will lead both supplier groups to adopt commercial strategies that may conflict with South Africa’s objective of maximising the mineral economic linkages. It is important to understand that there has been a market liberalisation over the last two decades where most of the domestic mining houses have relocated abroad and have restructured around their so-called “core competence” (mining) at the expense of developing up and downstream linkages. This has been generally unfavourable, emphasising the underlying issue of strategic mineral feedstock supply and the realisation of the linkages opportunities. Accordingly a balance between investor and national needs has to be fashioned urgently.

- South Africa’s mineral exports generally display a significant price differential between domestic and export prices due to the widespread use of monopoly pricing (Import Parity Pricing- IPP) in the domestic market. This practice has arguably destroyed hundreds of thousands of potential job opportunities and requires decisive and urgent remedies.

- Taken together the position is critical since it could erode a basic competitive advantage of the economy (through a migration to monopoly pricing), reduce current linkages and threaten the national growth and development that derives from stable, secure and economically sustainable mineral supply to our national economy.

**The Proposed Solutions**

Given the urgency of the situation we have to consider those solutions that can be implemented within a short time period. This proposal takes the view that a legislative intervention is the only reliable means of addressing the issue in the short term. Once this legislative intervention is decided on it will be necessary for government to announce its intention so as to forewarn investors who are contemplating alternative strategies. The proposed nature of the legislative intervention is set out in the next section.

However, to really ensure lasting strategic mineral feedstocks security over the next decades it is necessary for two other major interventions to be initiated. These are:
• To develop a more **efficient mineral infrastructure system** (transport, power and water) so as to allow more cost effective alternate points of supply and reduce the very costly impact on roads.

• To ensure reserved resources for State intervention to ensure adequate investment, supply, and linkages. This should have three dimensions to it – a **State Mining Company**, a **Minerals Development Fund** (finance by a Resource Rent Tax) and the overhaul of the mineral rights allocation system, through the creation of a **Minerals Commission**. These are complex issues which are dealt with in more detail in the main SIMS report.

**Legislative Intervention**

The basic architecture of the proposal is to establish cost-competitive supply of strategic minerals for domestic industry and power generation as well as the maximisation of the linkages, as basic objectives of the MPRDA. This has the effect of creating an obligation to supply local industry and power generation at reasonable prices before exports are allowed. The MPRDA provides sufficient powers to the Minister to ensure that miners must fulfil these domestic obligations to supply and integrate as a term of their mining rights.

The most complex part of the legislative intervention is the contracting dimension of this domestic obligation. Price controls and other quantitative restrictions are likely to be distorting with differential impacts on miners. This could have the perverse effect of strategic mineral security through reducing the level of private investment and placing an unsustainable burden on the State.

The basic objective of the contracting system is to allow parties to contract but within a framework that relates to costs of production over time plus a real rate of return that is reasonable for continued investment, with the upside being in exports. An acceptable method of apportioning risk would also have to be developed. Given this complexity the contracting guidelines should be a matter for regulation (also possible inclusion in the Mining Charter) and appeal provisions, using the Minerals and Mining Development Board, should be allowed for.

The suggested modifications to the MPRDA are as follows:

**Preamble**

“**Affirming** the State’s obligation to protect the environment for the benefit of present and future generations, to ensure ecologically sustainable development of mineral and petroleum resources, **to secure strategic mineral feedstocks for the economy** and to promote economic and social development;”

**Section 1**
Incorporate a definition of strategic minerals which would include PGMs, coal, uranium, and thorium, iron ore, copper, cement, NPK, and certain grades of limestone. Probably need to allow for regulation to add to this as other minerals like lithium come into new technology range:

1. **Definitions** - add

   "strategic minerals" means a mineral so designated under Section 58 (1)(a)(iv)

Section 2

2(e) “promote economic growth and development through maximising the mineral economic linkages, energy security and mineral and petroleum resources development in the Republic”;

Note: the concept of strategic mineral security could be reinforced in 2(h) as well, since this refers to ‘justifiable social and economic development’.

2(h) “give effect to section 24 of the Constitution by ensuring that the developmental impacts of nation’s mineral and petroleum resources are maximised and that they are developed in an orderly, economic and ecologically sustainable manner while promoting strategic mineral security, justifiable social and economic development.”. The constraint of orderly and economic – imply that a long term industrial and energy plan is required to enable the reservation of critical mineral feedstocks for the benefit of future generations, but must develop the resources in a way that is economic – i.e. fair returns for miners.

2(i) “ensure that holders of mining and production rights contribute towards the socio-economic development of the areas in which they are operating and contribute to national human and technology development” This change is to allow the Minister to attach HRD and R&D provisions to the mining license.

Section 3

3(3) – The following should include “......within a framework of national environmental policy, norms and standards and strategic minerals security while promoting economic and social development.”

Note: this isn’t optimal as it inserts mineral feedstocks security into something that is specific to environmental norms and standards, so it should be assessed whether in fact this is necessary here or whether a later addition in 23 (2) will cover it.

Section 23

23(1) propose the introduction of a new 23 (1) i – which states explicitly that in the case of strategic minerals, including energy minerals, the miner includes details of supply arrangements with domestic consumers – detailing the qualities, quantities and the pricing formula for domestic supply.
23(2) this will be important as the link to Sect 26 will essentially set in the domestic obligation to supply by expanding Sect 26 to include provisions for primary energy minerals.

23(6) “..... the terms and conditions stated in the right and the prescribed terms and conditions as indicated in the regulations ......”. This seems to allow the Minister to set terms and conditions in relation to strategic minerals. It might be that the clause could be strengthened by adding ‘including those relating to strategic minerals in Sect 26’, however I don’t think this is needed on the basis of the fewer the changes the better.

Section 24

24 (2)(d) provide a report on supply contracts to domestic consumers and on export contracts where the mining right relates to strategic minerals.

24(3)(e) requirements in the case of strategic minerals to meet reasonable domestic supply requirements.

Note: this will require some polishing to ensure that 24(3)(e) was consistent with definitions and other parts of the Act.

Section 25

25(2)(d) “…comply with the relevant provisions of this Act, any other relevant law and the terms and conditions of the mining right, including in the case of strategic minerals provisions related to mineral feedstocks security;”

Section 26

New heading to be:

“Mineral Beneficiation, Local Content and Strategic Mineral Security”

A section that carefully defines what obligations the strategic mineral right holders has, regulations covering this issue is proposed which will enable the proclamation of strategic minerals periodically as well as issues of minimum supply for consumers in South Africa and some guidelines on domestic prices relative to export parity prices. Section 28??

Section 26
26.(1) The Minister may initiate or prescribe incentives and/or Mineral Right conditions to promote the beneficiation of minerals, the local content of mining purchases and strategic mineral security in the Republic.

(2) If the Minister, acting on advice of the Board and after consultation with the Ministers of Trade and Industry and of Economic Development, finds that a particular mineral can be beneficiated in the Republic, that the local content of mineral sector purchases can increased or that strategic mineral supply security can be enhanced, the Minister may promote such activities, subject to such terms and conditions on the Mineral Right as the Minister may determine.

(3) Any person who intends to beneficiate any mineral in the Republic outside the Republic or replace local labour through mechanisation based predominantly on imported capital goods, may only do so after written notice and in consultation with the Minister.

(4) If the Minister, acting on advice of the Board and after consultation with the Ministers of Trade and Industry and Economic Development, finds that a particular mineral or mineral product is being offered to local consumers at monopoly prices, the Minister may issue a notice to the offending mining licence holders that their mining right will be suspended if corrective action is not undertaken within thirty days.

The Minister, acting on advice of the Board and after consultation with the Ministers of Trade and Industry and of Economic Development,

(2) (c) ......., the charter contemplated in section 100, (and )the social and labour plans and report on domestic strategic mineral resources supplies.

Section 33

33(c)(iv) “...in the case of a strategic mineral result in a threat to domestic supply security.”

Section 47

Note: it appears that if domestic supply obligation is incorporated the in the earlier proposed amendments then 47 gives the Minister and the Department the powers to intervene and ascertain abuse.

Section 49

49 (1) “...by notice in the Gazette, having regard to national interest, strategic mineral security, and the need to promote...” Not totally essential but keeps a consistent theme on mineral feedstocks security of supply.
Section 51

51 (1) “...that a continuation of such practice will detrimentally affect the objects referred to in sections 2(e) and (f)”

This could be one of the most powerful changes as it compels the miner to mine the resource optimally in line with the objectives of the Act, not its own business objectives. This will stop miners from prioritising exports and sending local customers discards.

Section 54

54(5) “... may detrimentally affect the objects of the Act referred to in section 2(c), (d), (e) or (g) …”

Chapter 5

New title:

“STRATEGIC MINERALS AND MINING DEVELOPMENT BOARD”

58 (1) (a) insert new:

(iii) “the maximisation of the growth and development impact of mineral exploitation in the Republic”

(iv) “which minerals should be designated as strategic minerals in terms of both critical feedstocks into the economy and minerals where the Republic has a dominant share of global resources that could be leveraged off to facilitate the establishment of backward and forward linkages to such minerals.”

(iv) “the orderly and optimal exploitation of strategic minerals to satisfy national requirements and demand”

Renumber old (iii) and (iv) accordingly

(b) “must, in consultation with the Mining Qualifications Authority and the Department of Science and Technology, ensure the promotion human resources development and technology development in the Republic in the minerals and mining industry; and”

Section 58
Note: it seems that dispute resolution (see 58(1)(a)(iv)) in regard to contracting and any obligation for domestic supply can be referred to the Board. It may then be useful to provide for more regular meetings and for the establishment of a Board disputes sub-committee.

propose the inclusion of 58 (1) (vii): “In the case of strategic minerals, matters affecting national strategic minerals security”

59. (1) “The Board consists of no fewer than 15 and no more than 19, and must reflect the gender and racial contribution in the Republic, but with due regard to the necessary competencies required to execute the Board’s functions”

59. (2) “The Minister, in consultation with the Minister of Trade and Industry, must appoint as members of the Board:

(c) four persons nominated by the Minister’s of Trade and Industry, of Economic Development, of Finance, of Energy and of Science and Technology”

Section 63

63 (1) – it may be useful to provide for regular meetings so that the Board can take on more work in regard to strategic minerals.

63. (9) “The Board shall meet at least once every four months and at least three time per year”

Section 100

(b) “To ensure the attainment of Government’s objective of full employment the Minister must, within three months of this amendment, expand the Charter to maximise the growth and development impact of minerals exploitation through measures that facilitate the following mineral linkages:

(i) Backward linkages into the local supply of mining capital goods, consumption goods and services;

(ii) Forward linkages into the beneficiation (value addition) of minerals;

(iii) Spatial linkages through the provision of infrastructure at competitive tariffs for other economic activities;

(iv) Knowledge linkages through technical and scientific human resource development and through mineral exploration, exploitation and processing technology development.

The expansion of the Mining Charter should set a framework, timetable and targets for effecting such mineral linkages.”
Section 107

107 (1)(a)(ix) “the monitoring and auditing of any strategic mineral supply obligations.”

Note: It appears that 107(b) and (c) would allow for regulations that would deal with contracting (see word disposal in b) and appeals respectively.

Note

These tentative legislative amendments need to be reviewed by legal professionals
Appendix 8: Section 25 of the Constitution

25 Property

(1) No one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property.

(2) Property may be expropriated only in terms of law of general application-

(a) for a public purpose or in the public interest; and

(b) subject to compensation, the amount of which and the time and manner of payment of which have either been agreed to by those affected or decided or approved by a court.

(3) The amount of the compensation and the time and manner of payment must be just and equitable, reflecting an equitable balance between the public interest and the interests of those affected, having regard to all relevant circumstances, including-

(a) the current use of the property;

(b) the history of the acquisition and use of the property;

(c) the market value of the property;

(d) the extent of direct state investment and subsidy in the acquisition and beneficial capital improvement of the property; and

(e) the purpose of the expropriation.

(4) For the purposes of this section-
(a) the public interest includes the nation's commitment to land reform, and to reforms to bring about equitable access to all South Africa's natural resources; and

(b) property is not limited to land.

(5) The state must take reasonable legislative and other measures, within its available resources, to foster conditions which enable citizens to gain access to land on an equitable basis.

(6) A person or community whose tenure of land is legally insecure as a result of past racially discriminatory laws or practices is entitled, to the extent provided by an Act of Parliament, either to tenure which is legally secure or to comparable redress.

(7) A person or community dispossessed of property after 19 June 1913 as a result of past racially discriminatory laws or practices is entitled, to the extent provided by an Act of Parliament, either to restitution of that property or to equitable redress.

(8) No provision of this section may impede the state from taking legislative and other measures to achieve land, water and related reform, in order to redress the results of past racial discrimination, provided that any departure from the provisions of this section is in accordance with the provisions of section 36 (1).

(9) Parliament must enact the legislation referred to in subsection (6).
Appendix 9: Stakeholder Workshops Report

STATE INTERVENTION IN MINERAL SECTOR 1-4 August 2011.

The Reef Hotel, Johannesburg

Stakeholder’s workshop

SIMS organized a four day stakeholder’s workshop to elicit the views and vast input of key actors in South African economy. The workshop ran successfully and all proposed views were documented to ensure that this groundbreaking research becomes a sound success and assist in coherence of policy making. More importantly, the overall impression given by stakeholders through this interaction gave a research team a boost and confidence in a way. Most stakeholders seem highly satisfied with suggested draft of the research and its wider approach rather than simply researching nationalization. In essence, there are still written submissions to be made until end of August. As we move forward as a research team, we are cognizance of some issues raised in this meaningful consultation that we had.

Day One: 1st August 2011

Morning Session: Political Organizations

African National Congress (ANC)
Economic Transformation Committee, (ETC)
SIMS Reference Group
Youth League (ANCYL)
Women’s League (ANCWL)

Opening of workshop: Comrade Enoch-

- ANC NEC appointed Research team to conduct a study –Neutral without any political influence
Study looking at wider interventions
- Terms of Reference (TOR) Reference Group Headed by Com Enoch to oversee the work of research
- Research team today is presenting suggested structure of the report and will hear organisations input after.

**Presentation of Suggested Draft Report by: Dr Paul Jourdan**

**Floor opens for Input:**

**Fred Gona:**

- Structure very comprehensive
- Vision in ensuring that society benefits?
- Infrastructure Element
- Kzn Smelter shut-down
- Status quo not sustainable-not feasible- as it benefits a few
- Address Poverty around mines-Local Economic Development (LED)
- Beneficiation- Stop exportation of minerals and import finished goods?

**Veterans League: Fanele Mbali**

- Considerations of Obstacles be included

**Veterans League: Com Mtubela**

- Called for deeper scrutiny of the land question especially private ownership and its bearing on state intervention in the minerals sector. Land distribution
- Countries that had extensive state intervention in the economy such as Russia need to be given special consideration

**National Union of Mineworkers (NUM)**

- Options for state intervention and their financial implications must be highlighted as part of the report
- Sustainability of mining and its future-linkages
- State Mining vehicle needed
• How does mining ultimately contribute to poverty
• Look into mining industry transformation- Impact of Mining Charter and other instruments of transformation
• Is nationalisation a short route to reverse failures of mines?

ANCWL

• Areas that need to be considered also: land issue, transport foreign ownership of mines.
• Taxation (fiscal linkages)-split of resource rents

ANC

• **Case Studies**: Look failures- Countries where state intervention failed should be looked at, and where there is success of nationalised economies –Failures in Soviet Union and Zambia
• Polokwane reference- Mixed economy resolution
• Look at SA performance on managing state-owned enterprises-IDC&Transnet
• Why mining sector in isolation?
• **Africa**: Mainly unexplored
• **Regional Dimension: SADC** -add to NGP –National Gross Product

Veterans League

• Ongoing work of New Growth Path (NGP) and National Planning Commission (NPC)
• Legislation-(Acts)
• Constitutional Implications- MPRDA and Section 25 of the Constitution
• Constitutionality and also ANC Mineral Policy- How is it going to be dealt with some clauses that may impede implementation of recommendations?
• Management Area- Human capacity

Dr Paul Responses:

• Status quo not fine that is why we have research
• We follow Polokwane Resolution and all ANC policy documents


- Constitutionality Detrimental: A major issue-circumvent or change constitution
- Knowledge linkages are very important as part of the research
- Obstacles/detriments and options will be considered
- We are going to look at Mine failures in Zambia and why it failed.
- Freedom Charter
- China also nationalised resources but not a failure
- We agree Africa mainly unexplored

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### Day One: Afternoon Session –Alliance Partners

- Congress of South African Trade Unions (COSATU)
- South African Communist Party (SACP)
- National Mineworkers Union (NUM)
- National Union of Metalworkers of South Africa (NUMSA)
- SANCO
- ANCYL

**Opening by: Cde Enoch**

**Presentation of Terms of Reference and Suggested Draft Report by Dr Jourdan**

**Floor Opens for Input**

**Floyd: ANCYL**

- The ANCYL raised the view that the NGC Economic Transformation resolution referred to the mines and other strategic sectors of the economy and yet the SIMS work only seems to be concerned only about mining to the neglect of other strategic sectors of the economy. The ANCYL also took issue with the Terms of Reference.
- ANCYL also lamented that the ETC Reference Group has not yet met despite its centrality to the SIMS project and the workshop itself
ETC Reference Group Response

The response from the ETC Reference group is that other strategic sectors may fall outside the scope of the expertees of the SIMS researchers. Other sectors would have to be looked at separately. There would also be space in the NEC and ETC to iron out issues about the Terms of Reference. NUMSA: We insist that all sectors be researched not only mining and deliver mode of nationalisation good for us.

- NUMSA also raised questions about how far the research has gone
- Technical questions about the research process were also raised
- NUMSA pointed out that the country modelling would have to specifically point out the good experiences and the bad ones

Research Team- Options shall be given at the ultimate point of the research.

Due to dissatisfaction of ANCYL, NUMSA, SANCO on terms of reference, the ETC Reference Group had to make the appeal to these organisations that, debate on Terms of Reference shall be well discussed with NEC not researchers, since Terms of Reference are given by NEC to researchers.

ANCYL:

“We need to resolve the political part first, be addressed by NEC, solve disputes first and then have this ‘stakeholder’s workshop after’.”

NUM

- Tensions like these of disagreeing on whether research to move forward or not will always be there.
- Research must find options and judgments must be made thereafter.

Terms of Reference were disputed in this session and some organisations that came declared this workshop as ‘not meaningful consultation for them’.
The ETC Reference Group proposed that ETC will give the ANC Alliance a floor and ANCYL a floor to remedy their disputes on Terms of Reference.

Comrade Enoch closed the Workshop.

Day Two: 02\textsuperscript{nd} August 2011

Morning Session: Government Departments

EDD,  
Department of Trade and Industry (DTI),  
Department of Treasury (TREASURY),  
Department of Public Enterprises (DPE)  
DEPARTMENT OF MINERALS (DMR),  
Department of Energy (DOE),  
Department of Environmental Affairs (DEA),  
DEPARTMENT OF PUBLIC SERVICE AND ADMINISTRATION (DPSA),  
Department of Higher Education & Training (DHE & T),  
Department of Science and Technology (DST),  
MINTEK  
TRANSNET,  
Industrial Development Corporation (IDC),  
ESKOM,  
Development Bank of Southern DBSA,  
LANDBANK

Opening by: Prof Pillay

Presentation of Terms of Reference and Suggested Draft Report by: Dr Jourdan

Inputs and points of clarity:
Eskom

- Is the study going to include Canada?

Mintek

- Why MPRDA omitted as Terms of reference—as the basis of everything in mining?
- How much stake does the IDC have in mines and what is its influence in SA mines?
  - Concede that the ground is fertile for nationalisation Proposed State mining company: 100% state Holding company.
  - Local economic development(LED) must be enhanced rather than undermined

IDC

- Critical role of SOE’s?
- Instrument of industrial policy
- Leveraging resources
- Presidential Review Commission

Treasury

- Fiscal-Expenditure on mining
- Transparency and governance
- What is impact on investment?
- Is a state mine company (holding) a good idea?
- Funds: Local communities must benefit
- Environment conservation
- Infrastructure challenges

Department of Rural Development

- What is the problem statement? We have to have problem statement first.
- Informal sector near mines be looked at
- Tripartite Alliance-social forum- Business –Government and social movements to avoid conflicts- Agric-villages be supported to produce food and sell at the mines

**Eskom:**
- As suppliers of energy they agreed that; their relationship with mines is crucial since they need coal for generation of energy that mines utilises.
- Slide Presentation- SA energy future shall or may be dependent on minerals; coal, limestone and uranium (for nuclear fuel)
- Future regulation in the minerals sector-pricing of coal for Eskom
- Coal costs-logistic costs
- Eskom not allocated coal resources
- 3types of coal constraints: 1)Cost plus-reserve given to mining 2) Tradeoffs between export 3) Short term constraints-resource allocated to other companies-high cost including export of ESKOM type-coal to India
- After 2018 big coal shortage need 20-30 new mines
- New contracts want (a) export linked prices, (b) on international linked returns
- Coal supply risks very high 50% of electricity costs
- In Indonesia: coal –‘domestic first policy’
- Need instrument for Export restrictions

**Department of Rural Development**
- We need strategy in mining
- Do we look as Nationalisation as strategy or principle?
- Since 1993 :Given the conjuncture of global economy at that time, did not favour nationalisation as strategy
- Questions to ask: Can we afford to manage these things?
- Why do we have IDC in mining while IDC can do other things and isn’t there other entities to take over? Since we inherited these institutions set-ups.
- Social economic requirements must dealt with.
- Objective also must be ‘Energy Sovereignty’
- Strategic decisions on resources that are down stream
- How do we outsource with Transnet?
DBSA:
- Why state need to intervene in mineral sector?
- Shall Eskom benefit?
- Shall it address poverty and unemployment?

DTI
- Bad status quo- mineral assets not maximised
- Short-term inflows JSE into resources-Overvalue currency
- Need to leverage mineral assets to maximise growth and development-Use Asian Boom.
- Mining Rents-Contestations-Risks Dutch Disease
- Mineral linkages and multipliers- outcome(Growth and Development)
- Fiscal-Downstream-Upstream
- Pricing is the problem

DPSA
- Need TOR to get energy costs down

NUM
- Local Economic Development –need revisiting mining charter
- Maybe extra tax for LED to municipality
- Eskom must get cost effective coal but must also comply with its development objectives-not only ask for price tariffs increases
- SA need to look at other energy sources
- Slush funds

DMR
- Eskom had mineral rights which they disposed off???
- Corporate change-Mining houses not as dominant as before-there are many new (smaller) players.
Need to ensure Eskom’s supply for 100%
Ensure sustainability of coal supply to Eskom

**Enoch: Reference Group**

- How does SIMS tap into the resources in other departments and SOE’s? We need submissions to ensure policy coherence
- Problem of monopoly pricing - Distortions
- Private sector critical partner in development
- Competition Commission be strengthened
- Beneficiation strategy - we have talked about it for long time. Why can’t we do it?
- Lack of good governance of SOE’s
- Striving for developmental state – now ANC policy.
- We need to look at our experience of state intervention-transformation delivery
- Treasure not the problem but rather failure of is of collective governance

**Public Enterprises**

- Problem of state taking the decisions-coordination-governance-need strategy in decision making - must have the will e.g control of SOE’s
- Beneficiation be implemented for jobs creation

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**Afternoon Session: DAY 2 Business Community**

Chamber of Mines
Business Unity South Africa (BUSA)
South African Mining (SAMDA)
Opening by: Dr Chitiga

Presentation of terms of reference and suggested by Dr Jourdan

Discussions and points of clarity:

BUSA –Business South Africa concerns

- Are submissions welcomed?
- Made a commitment to submit a written submission

Chamber of Mines

- What have you looked at in all countries visited and whom did you talk to?
- Submissions
- Structure very comprehensive
- Social spending that mines have
- Local economic development important
- Financial linkages- how will the resources be utilized
- Support innovation and Partnerships
- Investment and technical research –give support to academics
- How private sector get involved and investors from outside-did you have consultation with them?

SAMDA -South African Mining Development Association

- How shall bilateral relations impact on minerals trade-say China?
- Mining Charter has failed in its objectives and is a disaster
- Strong support for state intervention in mining, especially strategic minerals (listed in the SAMDA presentation)
- Historical imbalance
- Mining Industry sliding back
- Not certain with word nationalization since the state has been involved in the mining sector. E.g. Through IDC
- Resources are still foreign owned
• Use advantage to create enterprises
• Transformation of Mining industry crucial and there needs to be a way to support companies that are based in SA and contribute revenue to the SA fiscus. Foreign ownership and delisting is a huge challenge in mining
• Beneficiation Strategy a very crucial issue-jobs through it
• Miners health-Conversion of Compounds into family units
• Foreign Mining companies take all revenues abroad.
• Implats is one of the examples of mining companies that invest in the SA economy and made significant contribution.

Day Three: Morning Session 03\textsuperscript{rd} August 2011

BANKS AND Financial Services Sector

LIBERTY LIFE,
METROPOLITAN LIFE,
OLD MUTUAL,
SANLAM,
ABSA,
CAPITEC,
FIRST NATIONAL BANK (FNB),
INVESTEC,
NEDBANK,
STANDARD BANK,
BOARD OF EXECUTIVES (BOE),
HONGKONG & SHANGHAI BANKING CORPORATION LIMITED (HSBC)

Opening by Prof Pillay

Presentation of TOR and suggested draft report by Dr Jourdan
Discussions:

Nedbank

- Is there further chance for written submissions or engagement?
- Relative Country competitiveness leads to growth-how are we going to increase country competitiveness?
- Reality: the world we live in today is dominated by capital which is fearful of nationalization
- Our challenge: as country that imports more than it exports-impact on fiscal deficit?
- South Africa should play by the rules of the world to avoid bad consequences
- Downstream effect of SIMS to people?
- What is the current mining contribution to tax?
- Poverty alleviation by innovative ideas
- Capital Appreciation-sustainable capital injection for business
- Energy sector critical for growth of mining industry
- Consequences of any outcome must be approached critically

SANLAM:

- Linkages –assets management
- Balance of payments –Fiscal linkages need scrutiny
- Look at Current account on exports
- Capital account
- Impact on capital inflows
- Overall the presentation is comprehensive since the study is wider.
- Beneficiation must be included
- Manufacturing sector-Minerals on manufacturing sector
Ned bank

- Very comprehensive structure
- Study must also look at the pros + cons of every option
- Based on challenges of unemployment, state intervention is quite crucial
- Reality: SA faces poverty and high inequality and need social cohesion for society to move forward
- Question lingers: Will nationalisation of mines contribute substantially in reduction of poverty and unemployment? Shall it address these challenges?
- Model Construction for SA - How are we going to measure poverty reduction?

Team Response:

- We are looking at optimal state intervention; use array of instruments and nationalization is one of them.

STANDARD BANK:

- Evidence Based Approach
- Developmental impact of minerals in SA is unpacked.
- Regulatory policy
- Current mineral regime performance
- Sustainability: Must grow the sector commitment
- 3 areas state must address: Growth, Jobs and Poverty reduction
- State mining company
- Infrastructure development
- Linkages: Engineering business

ABSA

- What are the constraints and did you quantify them?
- Electricity supply, rail and road transport the major areas of concern also
• Skills development: Engineers shortage
• Technical base skills
• Is the Mining Charter part of the TORs? Old fashioned document

DAY 3: Afternoon Session: FEDERATIONS

FEDERATION of UNIONS of SOUTH AFRICA (FEDUSA),
NATIONAL COUNCIL of TRADE UNIONS (NACTU),
NATIONAL PROFESSIONAL TEACHERS ORGANISATION of S. AFRICA
SOLIDARITY
CONFEDERATION of S.AFRICAN WORKER’S UNIONS (CONSAWU)
INDEPENDENT FEDERATIONS

Opening by Dr Chitiga

Presentation of TOR and Suggested structure of Draft Report- Dr Jourdan

Discussions: SOLIDARITY

• Submissions allowed or not?
• Pointed out that the debate has been misconstrued to mean nationalisation at all cost, especially coming from the ANCYL which made the call a “principles” call.
• Is there a need to trace the role of the state in the minerals sector from the 1990s and not just focus on the present period?
• What is the plan on media distortions with regard to the study
• The Study must look at legal implications (constitution and different acts)
• Why is Canada not one of the countries to be visited by the Research Team? Is there any other option except nationalisation?
• Is the Mining Charter going to be changed or not?

FEDUSA:
• The major concern is unemployment in SA
• SIMS must strive to increase employment
• Alleviate Poverty and develop communities

NACTU:
• HRD is very crucial
• Employment the major concern by mineral sector
• Types of skills that we will need to drive mining sector
• Growth and development—in SA we are having jobless growth—how are we going to answer this problem?
• NGP-neo-liberal like GEAR
• What is guiding the research-ANC policy documents and resolutions?
• Beneficiation-major problem for South Africa

Team Response:
• The team is guided by ANC policy documents
• Engineers cost for us: we import high paid engineers from European population
• The research will present Options and ANC will make its judgement
• Legislation: government shall look at that
• We will visit developmental state such as China with successful assets nationalism—Malaysia nationalised but developmental state
• Canada No but instead Australia—Canada has a federal approach to state intervention with different states adopting different approaches
• Submissions are welcome until end of August

Day Four: 4th August 2011
Morning Session with Research Organizations
COUNCIL for SCIENTIFIC and INDUSTRIAL RESEARCH (CSIR)
HUMAN SCIENCES RESEARCH COUNCIL (HSRC)
NATIONAL SCIENCE of TECHNOLOGY (NSTF)
STEEL and ENGINEERING INDUSTRIES FEDERATION of SOUTH AFRICA (SEISFSA)
HIGHER EDUCATION SOUTH AFRICA (HESA),
ACADEMY of SCIENCE of SOUTH AFRICA (ASSF)
AGRICULTURE RESEARCH COUNCIL (ARC)

Opening by: Dr Chitiga

Presentation of the Draft Report by: Dr Jourdan

CSIR: Propositions:

- Draft incredibly Comprehensive
- Research should also look at Monetary Issues and regulation
- The role of the state in Safety, Health and Environment (SHE) issues. The CSIR made the observation that this regulatory and enforcement role is currently very weak

National Science & Technology Forum (NSTF)

- Is this research a radical departure?
- Did the research look at Opportunity Cost of Mining?
- Shall it include majority Shares?
- Capacity to run governmental business in terms of managerial capacity?
- Context: State intervention if worked in Chile shall it work for South Africa?
- Linkages: Water and minerals must help SA economic growth-fund education
- Why state should own mines and not regulate them and take profits
- It might be useful to re do the Colorado school of mines study on the cost of nationalisation talk in the 1990s

Dr Jourdan Response:
All this issues are addressed including:

- HRD in South Africa: Tankiso is gathering Data of Production of Engineers Density
- Fact: Crude evidence: SA needs more engineers for optimizing minerals consumptive capacity.
- Capacity in evaluating dropouts, engineering graduates?
- Private sector: may not be interested in development but maximization of profits-May not be trusted.
- Monopoly Pricing: Want to optimize profits such as: Mittal, Sasol.
- Need to strengthen Competition Commission.

CSIR Suggestions:

- Skills Development insufficiency
- Retention of skills-Market competition of engineers (How shall SA Address that?)
- Intellectual Property offsets
- Fuel issue
- Citizens dividends (Alaska Case)
- Fund for R&D and education?
- “The state should: (i) Build education system that produces highly-skilled technologists, engineers and scientists; (ii) Support local innovation and industrialization, and (iii) regulate and monitor the sector with respect to Health, Safety and Environmental impact”.

Dr Jourdan Responses:

- Knowledge Linkages Important- Need overproduction of Engineers.
- State Ownership and efficacy-(Looked at).
- Why dramatic reduction on R&D expenditure included.
- CSIR-Shall provide with figures on R&D expenditure.
- The research looks at Best Practice- which one did it work or not? Which practice can we go for that can address socio-economic challenges-40% of our people unemployed.
- Options, Impact and Costs.
Conclusion: Prof Margaret – Vote of Thanks and timelines for written submissions until August 31.

Report Compiled by Mr. Tankiso Pitso and Ms Phindile Kunene

Terms of Reference

The Following were highlighted as Issues that must receive special focus and emphasis in the Terms of Reference. None of them fall outside the scope of the TOR.

Fiscal Linkages

- Citizens Dividends (Deployments)
- How much of their profits do mining companies (foreign and local/ nationalized and privately owned) invest back into production and how does this stimulate the SA economy and create jobs
- Balance of Payments
- Asset Management

Knowledge Linkages

- Skills Retention – how to keep scarce skills like engineers in the country
- How the state can participate in R&D funding and development, noting declining funding by mining houses.
- Intellectual Property offsets
- Researchers must consult professional skills bodies for reliable statistics on skills profiles

Spatial Linkages

- Sustainability and Climate Change

NOTE: Stakeholder Submissions are presented in Appendix 10
Appendix 10: Executive Summary of “Minerals and Africa’s Development”

The International Study Group Report on Africa’s Mineral Regimes
Africa Union & UNECA, Addis Ababa, 2011

THIS REPORT ON Africa’s mineral development regimes was prepared by the International Study Group (ISG) established in 2007 by the United Nations Economic Commission for Africa (UNECA). It analyses African mining from a number of complementary perspectives, driven by a search for new directions based on the African Mining Vision (AMV) which African leaders adopted in 2009. The processes which led to this Report started in 2007, at the peak of the expansion in global demand and rise in the prices of minerals and metals before the onset of the global financial and economic crisis in 2008. Even as the surge in demand and prices fuelled the best period of growth in Africa for thirty years, the developments also provoked reflections about the experiences of two decades of continuous expansion of mining across Africa.

The report is based on the central premise of the African Mining vision (AMV) that the structural transformation of African economies is “an essential component of any long-term strategy to ensure the attainment of the Millennium Development Goals (MDGs) ..., eradicate poverty and underpin sustainable growth and development”, and that this requires “a strategy ... rooted in the utilization of Africa’s significant resource assets”. It recognizes that a central challenge which must be addressed by any long term strategy is how to overcome the historical structural deficiencies of the mining industry. Mining’s contribution as a supplier of strategic minerals to industrialized countries, the focus of policy on those minerals that play that role, the inadequate returns to the continent and the enclave nature of mining industries have, since colonial times, been and remain central features of the African landscape today. Early post colonial attempts to transform the colonial bequest of an enclave industry failed for a variety of reasons discussed in the Report.

From the late 1980s, the inauguration of extensive liberalizing reforms of regulatory and legal frameworks, on the basis of World Bank prescriptions, drew a line under the nationalist reform efforts. Over the past two decades, the favourable environment the reforms created aided the revival of foreign investment in Africa’s mining industry. While foreign investment has regenerated and expanded mineral production and exports, its contribution to social and economic development objectives has been far less certain and has even been contested in many countries.

In many mineral-rich African countries a very visible civil society movement, protesting about the costs and questioning the benefits of the revitalized mining sectors, has emerged. The report examines the costs and benefits of Africa’s contemporary mining regimes and offers proposals about how to optimize the continent’s benefits from the exploitation of its mineral resources while reducing the direct and indirect costs and negative impacts. These issues are grouped and discussed in chapters on: the history of mining in Africa; current global trends and the opportunities and challenges they pose; how
best to manage the environmental, social and human rights impacts of mining; how to better support and integrate artisanal and small scale mining; the nature and status of corporate social responsibility initiatives; capture, management and sharing of mineral revenues; the optimization of mineral-based linkages; the implications of international trade and investments rules for mineral-based industrialization; the important role of institutions and regional strategies for mineral policy harmonization.

A number of chapters discuss a range of issues that have a bearing on how African countries approach the challenge of moving the mining industry beyond a focus on extracting and exporting raw minerals and sharing the resultant revenue to it being a strategic part of a process of industrialization and structural transformation. A number of these issues are highlighted below:

The building of mineral-based linkages is central to the transformation of the mining enclave. However as the report makes clear there are a number of difficulties such as trade and regional market constraints and the limited availability of requisite technical skills. Other challenges include limited access of domestic business sectors to capital, the centralized strategies of resource extraction multinational firms and the poor state and stock of infrastructure across the continent. The steps that can aid successful linkage development are also discussed. These include the creation of an enabling business environment and of capable public sector institutions. Also needed are policies that set conditions and provide incentives for investors to structure projects in ways that deepen the links between mining projects and the rest of national and regional economies;

The current international trade and investment regime constrains the ability of African countries to use the full range of instruments that were exploited by now industrialized countries as part of their industrialization strategies.

While pointing out what space still exists within the international trade and investment regime for policies that promote industrialization, the report draws attention to the capacity challenges that African countries face in the negotiation of international agreements and how these can be addressed; Progress with African regional integration and the creation of regional and continental economic spaces out of the many small economies will remove some of the intra-African barriers to mineral-based industrialization. Regional markets will also facilitate the development of linkages based on minerals capable of domestic and regional use by enhancing the viability of enterprises producing for national and regional markets; The AMV recognizes Spatial Development Initiatives (SDIs) through natural resource-based Development Corridors (DCs) as representing a particular regional approach to mining linkages development with the region defined by economic potential rather than political boundaries. Preliminary studies have identified thirteen possible DCs, such as the Gulf of Guinea Coastal, Maghreb Coastal and Bas Congo, which could link a number of countries through investment focused in integrated economic development projects which encourage value added processing and optimize the utilization of infrastructure and which can also catalyse other sectors; and The global trends of growing investment in Africa’s mining industry and demand for Africa’s minerals from Asian and other countries, particularly China and
India, is seen as an opportunity which could be exploited by African countries for more development oriented partnerships in mineral production and value added processing, development of infrastructure as well as the establishment of related industries.

Favourable outcomes are however not guaranteed and much depends on how clearly African countries define their interests and replace competition for investments with cooperation in the face of the new “scramble for Africa”. The importance of creating a level playing field in the sector anchored on a development-oriented minerals sector is emphasized in the report.

The social and environmental impacts of mineral exploitation have been the focus of protests and the flashpoint for conflicts between mining firms and communities in mining areas. The report acknowledges that while progress has been made in environmental impact assessment, major weaknesses and deficiencies still persist, particularly in evaluating and regulating less visible environmental impacts while strategic impact assessment is at a rudimentary phase across the continent. There is usually a mismatch between the expression of public participation rights in formal instruments and its implementation.

There is a need to redress the weight of existing power relations, especially for marginalized and vulnerable groups, to address deep-seated authoritarian elements of local cultures and some public institutions and reduce the resource constraints (human and material) of public institutions and those affected by or actively pursuing public participation.

Revenue transparency is an issue on which all stakeholders are agreed in principle. The portion of revenue obtained by African governments from mineral exploitation is however a matter of controversy. However, since the beginning of the current mineral commodity price boom the sense that African countries have not been obtaining commensurate compensation from the exploitation of their mineral resources has intensified and become more widespread across the continent. The Report emphasizes that development options should be one of the factors that should inform fiscal policy in the mining sector. It offers proposals about how African countries can capture more mineral revenue through the use of a variety of measures. These include: the application of methods for price discovery to set a fair market value for mineral resources, in appropriate circumstances; the use of various tax instruments including windfall taxes; caution in the use of stability clauses; the closing off channels for the abuse of fiscal incentives by firms; and vigilance on issues as transfer pricing and the use of tax havens. The Report takes the view that the allocation of mineral revenues to communities in mining areas should be designed to ensure lasting benefits beyond the life of the mine.

The quality of minerals sector governance is an issue which runs through the Report – the quality and role of institutions; the capture, management and sharing of mineral revenue; policy coherence within countries and coordination among countries are some examples. Others are negotiating capacities; the management of and support for artisanal and small scale mining and the management of impacts. The importance of the quality of institutions and of the
requisite governance is underlined by the report which highlights an all round need across the African continent for capacity enhancement in many areas. It also suggests that the promotion of linkages between mining and other sectors must be a critical part of national and regional institution building.

This Report and the African Mining Vision propose that Africa face up to the challenge of working for new directions founded on not taking the enclave nature of mining as an inevitable part of the continent’s destiny but rather as a product of a particular phase of history; as something which can be overcome. The Report sets out some of the most important issues that have to be addressed and suggests they can be approached in striving towards the realization of the AMV.
Appendix 11: Stakeholder Submissions

(separate zip file)